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JULY
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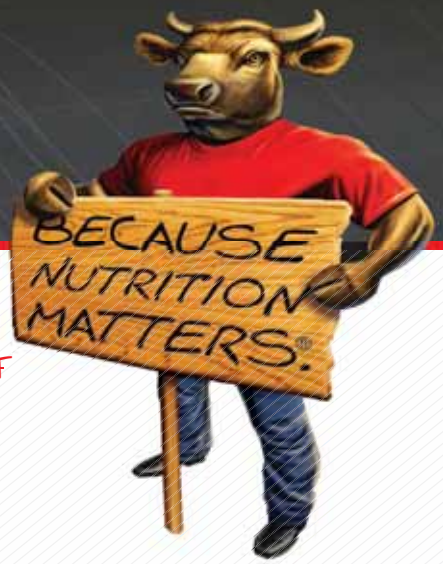

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The Australian Dairyfarmer

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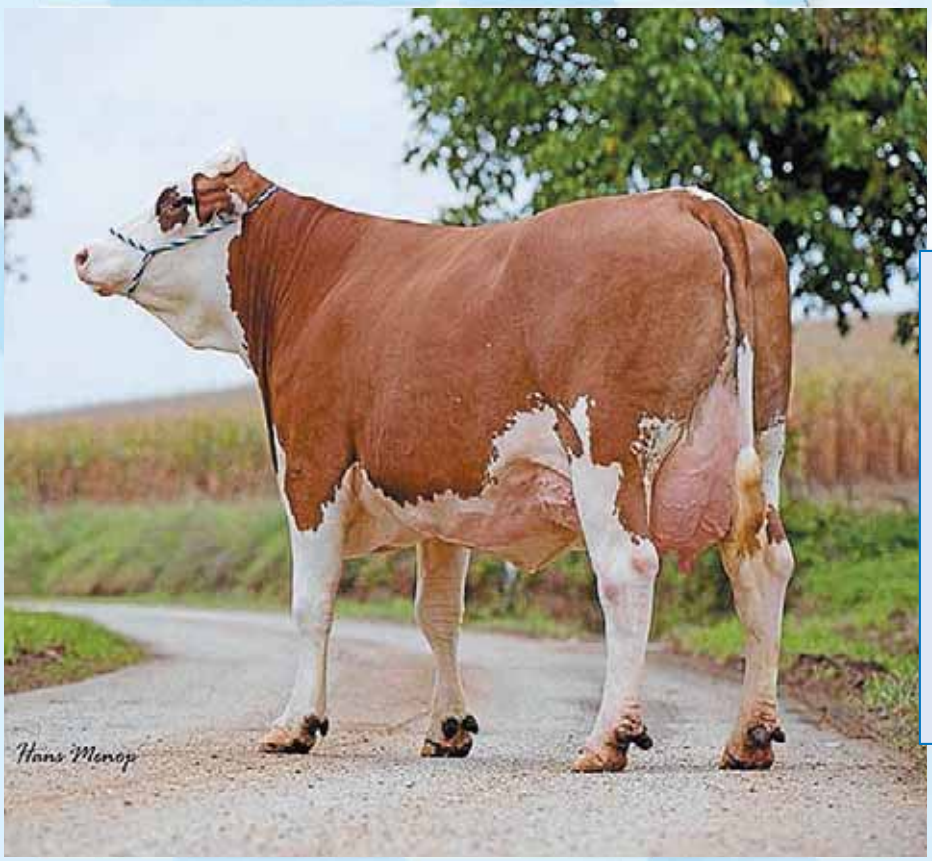
Tasmanian farmers hit by record flooding last month are slowly getting back on track. See story page 46.

Picture by Cordell Richardson

Fleckvieh from Bayern Genetik for Fertility, Longevity and Lifetime production



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The heart of the matter

TRANSPARENCY is at the core of the challenge facing Australian industry as it attempts to recover from another mid-season step down in price.

The industry has moved from one dominated by co-operatives to one dominated by corporates and partially listed co-operatives.

This has created a culture clash. It's a clash between having an open and forthright relationship with suppliers or treating milk as simply an input. A clash between profit and milk price.

Typically, dairy corporates try to minimise the biggest cost in their business — raw milk price — to maximise profit, aiming to receive only as much milk as they can process into product for which they have a market.

Dairy co-operatives do the opposite: they aim to accept all the milk their suppliers can produce, extract maximum value from processing it and return the profit to suppliers as a higher milk price.

Trust and open communication are central to a co-operative's relationships with its farmer suppliers.

But as dairy processing has increasingly moved into the hands of corporates and as co-operatives have moved to extract capital from sharemarkets (as both Murray Goulburn in Australia and Fonterra have done in recent years), the relationship between farmers and their processors has changed.

The processors are now increasingly exposed to the short-term cut-and-thrust of the stockmarket — where long-term returns and strategies seem to play little part. The stockmarket also has stringent requirements about how information can be released that could impact the share price.

But the future of the industry relies on processors re-establishing more transparent relationships with farmers.

Farmers invest for the long term — a decision to expand the herd starts two years before it happens when a farmer chooses to retain heifers.

Farmers need to trust that their processor is keeping them fully informed about what is happening in the market and what is likely to happen with price.

Farm supply officers need to be able to advise their farmer clients and help them work out realistic budgets.

'... the future of the industry relies on processors re-establishing more transparent relationships with farmers.'

Changes to pricing structures or bans on clawback provisions in contracts won't make a difference unless the fundamental relationship between farmer and processor is right.

The removal of clawbacks, for example, might prevent what happened this year happening again but if the relationship is not right, eventually some other contract provision will be exploited by a processor.

Dairy production is unique: milk is produced every day on farms and it cannot be stored unless it is processed into something. This creates a symbiotic relationship between farmer and processor: the farmer can't survive without someone to buy their milk and the processor can't survive without farmers supplying it with milk.

We need to make sure we always remember this. At the heart of the matter is establishing a mutually beneficial, respectful relationship where both the risks and spoils are shared equally.

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Carlene Dowie

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The Australian Dairyfarmer

The Australian Dairyfarmer is published on the 15th of every second month, in July, September, November, January, March and May, for the Australian Dairy Farmers, Level 2, Swan House, 22 William Street, Melbourne, Victoria, 3000.

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PRODUCTION

Fairfax Media Australian Community Media production hub

Circulation: *The Australian Dairyfarmer* is supplied free to all registered dairyfarmers in Australia.
For a change of address, contact ADF Reception
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Editorial contributions: Editorial contributions are welcome, but no responsibility can be taken for their loss. Copy is preferred by email. Deadline is two months before publication.

Printed by: Rural Press Printing.
Published by: Fairfax Agricultural Media (Agricultural Publishers Pty Ltd)
ABN 55 000 560 430.

ISSN: 0814-4494
CAB Audit Figure: 11,861 (Sep 2014)

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Fighting to support farmers

Key points
- ✔ Addressing immediate challenges
- ✔ Looking to long-term solutions
- ✔ Leadership consolidated

By **David Basham**
Australian Dairy Farmers acting president

IN our industry, we work within often difficult climatic conditions and global market volatility and adapt our businesses to better manage this.

The combination and timing of the issues we now face, including extreme flooding on the south-east coast and Tasmania in June, has compounded this pressure well beyond the norm.

The recent dairy market shock is the result of unprecedented circumstances and requires an unprecedented response from our industry.

The timing and retrospective nature of pricing decisions made by some processors, during an already dry season which has put many under strain, has pulled the rug out from under farmers.

It is unfair to expect farmers to continue to accept the financial fallout and carry the weight of the risk across the supply chain.

We are a resilient, efficient industry competing in a global marketplace. We will be productive, profitable and sustainable for the long term. Together we must continue to develop practical solutions to the challenges that confront us, and with the right support from government, consumers and the broader community, we will build a stronger future.

Addressing the immediate challenges

Australian Dairy Farmers (ADF), together with our state members, is fighting to ensure farmers are not put in this position again.

With our industry partners such as Dairy Australia, we are united in working to ensure every Australian dairyfarmer has the capability, tools and support to fully understand their individual business position, and to make decisions about their futures based on sound evidence. Commonwealth and State Government support in Tasmania, Victoria and South Australia has bolstered programs to strengthen pathways for dairyfarmers and enhanced our ability to support the health and wellbeing of our own.

ADF sought interest rate assistance for farmers from the Commonwealth and we believe the adapted concessional loan scheme for dairyfarmers flagged by Agriculture Minister Barnaby Joyce will help address this need to a degree.

We do need more urgency in implementation to support continuity for many farmers — these measures were promised weeks ago — now it is time to deliver.

More resources for rural financial counselling is a significant gain and will help to ensure dairyfarmers are making decisions based on the best available and most accurate information about their business.

Further support for Dairy Australia's Tactics for Tight Times initiative and streamlined access to various government services will also directly benefit farm businesses.

ADF continues to lobby the federal government to ensure these support measures are made available to all affected dairyfarmers, as well as share farmers.

While we understand and support the intent of the proposed dairy price index, we have concerns about how this will work in practice. We are working with the Federal Government to deliver improved transparency.

And in the dry conditions affecting much of Australia's dairy production zone, we will continue to press for the release of Commonwealth-owned environmental water.

David Basham has stepped into the role of acting president of Australian Dairy Farmers.

'It is unfair to expect farmers to continue to accept the financial fall out and risk in across the supply chain.'

The Dairy Farmer Central website lists all of the tools available to help farmers.

Ongoing market volatility into the 2016/17 financial year is likely to extend financial pressures beyond southern Australia.

With opening prices for the 2016-17 well below the cost of production, ADF continues to lobby for assistance measures that are applicable to all eligible farmers, not just those currently impacted.

Working to build a stronger future

ADF's longer-term resolution includes significant policy ambitions. We aren't seeking a return to past days of a highly-regulated market. This is a not viable or practical answer because it does not deliver a solution for our industry on a whole. Instead it would see farmers in non-exporting markets (such as northern NSW, Queensland and Western Australia) subsidising their south-eastern counterparts.

We are strongly advocating for earlier and transparent pricing signals, with a more equitable pricing system that better balances risk along the supply chain. Without this, farmers and allied businesses will remain vulnerable.

Our work with the Australian Competition and Consumer Commission (ACCC) to strengthen mechanisms to mitigate price and input cost volatility is gathering pace. Throughout the election, ADF continued to advocate on key issues that will ensure a stronger future for our industry.

We continue to strongly advocate farmers' concerns regarding competition policy to be heard in Canberra and are pursuing changes including:

- An Effects Test in Section 46 of the Act so the ACCC can take a longer term view and discover the true impacts of decisions and actions of parties with significant market power;
- Higher penalties and harsher remedies to deter and punish misuse of market power;
- An immediate investigation of $1/litre milk for a potential breach of Section 46 with regards to predatory pricing;
- Amending the definition of unconscionable conduct to clarify what is considered unethical, and set a non-exhaustive benchmark for assessing conduct;
- Enacting a statutory duty of good faith to ensure acceptable and ethical business in any commercial relationship; and
- Improved collective bargaining and boycott regimes that reflect the unique nature of agricultural markets.

Support available during tough times

Be certain to take up the support and resources available to help you manage the impact of recent events. Dairy Australia's Taking Stock provides free one-to-one business analysis that can help you prepare for the season ahead — and fill in the necessary forms for government loans and assistance.

The Dairy Farmer Central website lists all of these tools and more.

It also signposts events — some of these events will inform and help you plan for the season ahead, others provide an opportunity to take time out from the farm and get some perspective. These tools are not a silver bullet to restore our businesses but they will help navigate some of the immediate challenges.

Changes in leadership

ADF has consolidated leadership in the organisation to address the immediate issues faced by the industry and ensure long-term strategic goals are met.

Under this new structure, I have stepped into the role of acting president, working with Simone Jolliffe in the role of vice president. Simone and I have significant challenges to overcome together, and we are united in our efforts to do so.

Former ADF chief executive officer John McQueen, now an industry consultant, has stepped into the role of acting chief executive officer, following the resignation of Ben Stapley from the role.

I have every confidence that Mr McQueen will help fulfil ADF's mission to lobby for a stronger future for Australian dairyfarmers.

Know that the small, but dedicated team at ADF is working hard on your behalf to build a stronger future for all dairy farmers.

We continue to work on behalf of all farmers to build a stronger, fairer and more sustainable future. D

Nationwide roadshow kicks off in Tassie

Key points

- ✔ Forums held in different parts of Australia
- ✔ Provide information about policy changes
- ✔ Seek views from farmers

REPRESENTATIVES from Australian Dairy Farmers (ADF) embarked on a series of national roadshows beginning in Tasmania on May 4, in partnership with state dairy-farming members.

Comprised of a series of farmer-focused forums across the course of 2016, the roadshow offers farmers the opportunity to engage with national and state dairy member representatives on the issues most important to them and their region.

The roadshow is also an opportunity to get up to speed on progress and developments that have occurred during the past year, as well as talking through the industry's election priorities for 2016.

ADF policy manager David Losberg said the regional forums would provide farmers with the opportunity to discuss issues of critical importance to their region.

"Our industry is experiencing unprecedented challenges at present and we want our members and the public to engage with us, and ensure their interests are effectively represented," he said.

'Our industry is experiencing unprecedented challenges at present and we want our members and the public to engage with us, and ensure their interests are effectively represented.'

"Our aim, for these forums, is to help provide clarity on the policy support mechanisms secured on farmers' behalf and facilitate opportunities to make recommendations for future improvements.

"Now more than ever it's important that our farmers know who is representing their interests, and that we are tirelessly working on your behalf with minimal resources to gain the results farmers need to be successful in businesses and provide succession opportunities."

Since May, ADF has visited dairy regions in Tasmania, Western Australia and Queensland.

Queensland Dairyfarmers Organisation president Brian Tessmann said the forums were a valuable opportunity for members to air their thoughts and express their needs to the people who represented them.

"The ADF Roadshows are always useful and insightful for our Queensland farmer members," he said.

"The most recent events in Warwick and Maleny were extremely timely and helpful for our members who had a number of national industry questions given the situation down south.

"It is important that we continue to work closely with ADF to continue getting results for our members at a national level, and events such as these ensure that ADF have the opportunity to hear directly from Queensland farmers." D

The next roadshow forum takes place in Western Australia on July 26. For more information on the roadshow schedule or any other details, contact ADF media officer Shona McPherson, email <media@australiandairyfarmers.com.au> or mobile 0447 293 844.

Farmers hear from Australian Dairy Farmers policy manager David Losberg, Queensland Dairyfarmers' Organisation president Brian Tessmann, and ADF former chief executive officer Benjamin Stapley at the Maleny Dairy Roadshow forum in Queensland last month.

Previously only projects on the table in June this year, such as irrigation modernisation projects, were to be included in the Murray Darling Basin Plan targets.

Basin plan ministers take right step

Key points

- ✔ Murray Darling Basin Plan timelines extended
- ✔ Additional projects to deliver savings
- ✔ Socio-economic effects to be considered alongside environmental gains

COMMONWEALTH and State water ministers have promised Murray Darling Basin communities some vital breathing space on water recovery for the environment under the Basin Plan.

The agreement reached at the ministerial council meeting in late April won't relieve the immediate pressures around milk price, drought and high water prices.

Responding to these pressures is the priority for farmers.

Damage to confidence through current market conditions must not be hit further by water policy decisions that can be controlled by ministers. The recent agreement is a significant step to longer term certainty on water for production.

The ministers' agreement for the first time stopped talking about socio-economic effects as an afterthought to be addressed once environmental water targets were met. Instead, socio-economic effects will be considered upfront alongside environmental outcomes.

'More reasonable timeframes are something long advocated by ADF.'

Vigilance is required to ensure Federal Parliament accepts the Basin Plan amendments to implement the ministers' agreement and to ensure these commitments are not compromised in the policy bidding wars of a closely fought federal election campaign.

The agreement delivers vital flexibility for water projects well ahead of the looming June 30 deadline for the Sustainable Diversion Limit adjustment (SDL). Projects to deliver environmental benefits equivalent to 650 gigalitres of water will now be submitted in two stages — June this year and June 2017.

Previously only projects on the table in June this year would contribute towards offsetting the volume recovered from irrigators and through infrastructure savings. That was only 370GL worth, based on Murray Darling Basin Authority assessments at the ministerial meeting. More reasonable timeframes are something long advocated by ADF.

The authority will now model the remaining 22 of the 37 projects submitted by the states so far. The ministers expect all 37 projects will deliver more than 500GL. The states will also scope out additional projects, such as carp control, to deliver the remaining 150GL in offsets by the second deadline in June 2017.

While a further 450GL of 'upwater' remains on the table in addition to the Basin Plan's 2750GL target, the agreement suggests a more rigorous assessment of potential socio-economic effects before any more water is removed.

This sets the tone for future decisions on the Basin Plan — favouring the quality of environmental outcomes over quantity of water, and that the plan doesn't punish a vibrant and productive agricultural sector.

Ministerial decisions such as these do not happen on their own, there is a lot of work, ongoing discussion and consultation with government by the industry to ensure commitments are met and the impact on farmers is acknowledged and acted upon. There is still much to be done and industry organisations will continue to work on improvements to the Basin Plan. D

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Farm profitability drives tighter plan

By **Ian Halliday, Managing Director Dairy Australia**

Key points

- ✔ Strategic plan delayed due to anticipated price and volume impacts
- ✔ Profitability, people and licence to operate priorities
- ✔ Use Tactics for Tight Times resources

AS I write this letter, the Dairy Australia board and management are finalising our next three-year strategic plan.

I know many dairyfarmers follow our planning announcements and would have expected to hear of our proposed three-year strategic plan by now. By mid-April, we had undertaken a lot of consultation and we were thinking we were pretty much on track to finalise the plan. We had talked to a lot of people across the industry over a six-month period.

The delay in finalising the plan has been caused by the extraordinary set of circumstances affecting the industry. The two key drivers of income for Dairy Australia are milk price and milk volume. The very dry seasonal conditions that we've seen in southern parts of Australia led us to expect milk volumes nationally would probably be about two per cent down on the previous year.

Further to that, we conduct a regular confidence survey of 1000 dairyfarmers. In 2015, confidence among dairyfarmers was at 75 per cent. In February this year, confidence had fallen to 65 per cent reflecting the dry seasonal conditions and also what milk prices were looking like for 2016-17 when considering the global price outlook.

Following the sudden milk price cuts in late April, which affected up to 65 per cent of all dairyfarmers, we conducted another survey to get an understanding of changes in farmer confidence. This sample, although smaller, indicated confidence nationally had dropped to 45 per cent.

When we overlay this result with the previously projected reduction in volumes, milk production could be down as much as five per cent next year. It will, of course, depend a lot on seasonal conditions. I note that New Zealand was expecting a 4-5 per cent reduction in milk volumes in the 2015-16 year but finished only about two per cent down because they had a good season.

With the new season's prices coming out now (late June), the board is being extremely cautious. We were originally anticipating income of $61 million-$63 million a year, which would be a combination of two-thirds from farmer levies, which we very much value, and one-third from the Federal Government, for the purpose of matching research and development funding, which we also value.

With the changing circumstances we are now assuming a five per cent reduction in milk volumes. What this means for our strategic plan is that we are now expecting $52 milllion-$53 million in income. This is a substantial reduction.

In light of this, management and the board are reviewing the new three-year strategic plan. We know Dairy Australia has a role to play in helping farmers to improve their profitability through animal performance, plant performance and farm business management; through attracting, retaining and developing people, and in maintaining the industry's licence to operate. These will be priorities in a revised strategic plan for the next three years.

Take advantage of Tactics for Tight Times

Our Tactics for Tight Times program, delivered in collaboration with the Regional Development Programs, is a comprehensive suite of resources, tools and expertise designed to guide and support dairyfarmers in their planning and decision making.

> ***'Our focus is on helping dairyfarmers to achieve profitability.'***

I encourage you wherever you are, whatever your situation, to take advantage of Tactics through your local Regional Development Program.

Although the beginning of a new financial year will have started by the time you read this, finance and business management will continue to be an ongoing challenge through the next 12-24 months, so please make use of the resources available to you.

Key initiatives developed by Dairy Australia to help farmers include Taking Stock, free one-to-one business support available to all dairyfarmers, and DairyBase, a web-based tool that allows farmers to measure and compare their business performance.

I continue to say both to industry insiders and to people outside the industry that if we have profitable dairyfarmers, the growth will come. We haven't made any growth predictions. Our focus is going to be on what we can do from an industry perspective to help farmer profitability.

We've still got a lot to do in ensuring dairyfarmers retain their licence to operate. The sustainability framework we have developed and which has recently received a UN award (see next page) is helping to make sure farmers maintain that right to farm.

In addition we do everything we can to attract, develop and retain people. Everywhere I go around Australia the topic of people comes up. At Dairy Australia we've done a lot of work on developing people. We want to maintain those programs.

To return to the strategic plan, it's important to stress we can only spend what we've got coming in so we've got to have a close look at what we put our funds towards to ensure we are meeting levy payers' needs.

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Dairy Australia Round Up

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UN recognises dairy leadership on sustainability

”Keeping Australian dairy in business for the long term” was the catchphrase of the Australian Dairy Industry Sustainability Framework when it was first endorsed by the Australian Dairy Industry Council (ADIC) in 2012.

“This long-term thinking is especially relevant today,” said the chair of the framework steering committee, Chris Griffin, a Gippsland dairyfarmer.

“The Australian dairy industry is facing unprecedented challenges, yet securing our industry’s triple-bottom-line approach to sustainability remains as important as ever.

“Although the industry’s immediate priority is to support dairyfarmers through the recent step downs, the framework helps us keep an eye on the horizon. Importantly, it tracks our progress and drives practice change where necessary to ensure the industry is sustainable for the long term.”

In June, the ADIC was recognised for its Sustainability Framework by the United Nations Association of Australia (UNAA) with its 2016 Organisation Leadership Award.

Judges said the framework was “exceptional and inspiring, particularly its whole-of-supply-chain focus; rigorous targets and reporting; impacts to date; stakeholder and community involvement; and communication”. They also recognised the framework’s potential to act as a model for other whole-of-industry approaches for an even broader impact.

Further acknowledgement of the value of the framework and support for dairyfarmers’ commitment to sustainable production came from Ian McConnel at WWF Australia, a member of a stakeholder reference group for the project, the Dairy Sustainability Consultative Forum.

Australian Dairy Industry Sustainability Framework steering committee chair Chris Griffin; framework consultant Gabrielle Sheehan, Currie Communications, and Australian Dairy Products Federation executive director Peter Stahle, with the UNAA award.

‘The value of the framework is in helping the dairy industry to know where the pressure points are coming from.’

“The value of the framework is in helping the dairy industry to know where the pressure points are coming from,” Mr McConnel said. “By being ahead of the issues, the industry can better shape its response. When issues do emerge, such as pricing or producer profitability, it can be in more control and shape the conversation.

“It’s not just about the milk. The framework helps Australian dairy to tell the wider story about the industry and its producers.”

The framework is founded on three themes: enhancing livelihoods, improving the wellbeing of people and animals, and reducing environmental impact.

To ensure the framework remains focused on its 11 targets and 41 performance measures, the steering com- ▶

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◀ mittee is undertaking a review of current and emerging issues.

The most critical issues identified by industry stakeholders, such as dairy companies, customers and other peer groups overseas and in Australia, are animal care (including concerns about intensification) and improved health outcomes (including responsible consumption, poverty and hunger). Issues believed to have the most potential to impact the dairy industry are competitiveness and profitability; reduction of emissions; nutrient management on both land and water; and traceability and transparency.

These issues were raised for discussion at a recent consultative forum meeting attended by non-industry stakeholders such as WWF, RSPCA, government groups, retailers, customers and service providers. The forum meets twice a year and provides the industry with feedback on progress, allowing a two-way discussion on emerging issues — both national and international. They also identified the mental health of farmers, water scarcity, transparency in reporting, nutrition and carbon emissions as key priorities for the framework.

All feedback will be considered during a review of the framework targets.

"Whenever a dairyfarmer takes steps to improve their business or their practices, or reduces their environmental impact, they are contributing to the industry's progress on sustainability under the framework," Mr Griffin said.

"The challenge is to make sure we are focused on targets that will deliver the best outcomes for the industry, the community and the environment."

For more information, visit website <www.sustainabledairyoz.com.au/>.

Environmentally integrated trial for liver fluke control

Existing drugs are failing to control the scourge of liver fluke in cattle, a parasitic disease that reduces productivity of Australian dairy herds by up to 10 per cent.

Now, a $340,000 collaborative research effort by La Trobe University and Agriculture Victoria is developing a new approach to dealing with the problem. The work is being funded by the Gardiner Foundation and Dairy Australia.

Recent studies by the joint research team found that the liver fluke parasite had developed widespread resistance against triclabendazole, the most common drug used to combat it.

Co-lead researcher Professor Terry Spithill, said: "With a failing drug, we need a new approach to manage the parasite, particularly in relation to drug-resistant strains, as well as better methods to assess the amount of infection in cattle."

It was important, he said, to find the infective stage of the parasite in the environment, in water, pastures and soil, as this would allow better on-farm management of the problem.

"Our aim is to trial a fluke control system based on environmentally integrated parasite management on affected farms, rather than relying on a chemical drench," he said.

"Once we establish techniques to identify the parasite on farms, we plan to roll out an on-farm control program so dairy industry groups can start to implement it in 2018."

The project follows more than two years' research into liver fluke in the irrigation zones of Victoria.

"We found widespread liver fluke parasite infestation, with up to 73 per cent of herds infected in the Macalister irrigation zone in Gippsland alone," Prof Spithill said.

The project is a collaboration led by Prof Spithill and Dr Travis Beddoe from La Trobe University and Dr Grant Rawlin from Agriculture Victoria. It is being carried out at the Centre for AgriBioscience, AgriBio, on La Trobe's Bundoora campus. Other research team members are Dr Chris Hosking, PhD student Jane Kelley and Honours students, Jaclyn Swan and Genevieve Williamson.

The project has been supported by the Victorian Cattle Compensation Fund, the Federal Department of Agriculture, Dairy Australia, Agriculture Victoria and La Trobe University. D

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Opening milk prices plummet

Key points

- ✔ Opening prices down up to 21 per cent
- ✔ Wide range in prices
- ✔ Poor global markets blamed for fall

SOUTHERN dairy processors have announced opening milk prices for 2016-17 well below last year's price. At the time of going to press, announced prices ranged from $4.40 a kilogram milk solids (MS) to $5.30/kg MS.

The fall follows the price step down by Murray Goulburn (to $4.75-$5/kg MS) and Fonterra (to $5/kg MS) for May and June.

Last year most processors opened at $5.60/kg MS. This year's announced prices are up to 21 per cent lower than last year.

The prices reflect difficult global markets. Prices have not recovered in the past 12 months after plummeting from high levels in 2013.

The prices are significantly lower than the opening price in 2014 ($6/kg MS) and 2013 ($5.60/kg MS) and slightly below the level in 2012 ($4.97/kg MS).

Warrnambool Cheese and Butter (WCB) was the first to announce its price for next season. It said on June 10 its price would open at $4.80/kg MS, a 14 per cent fall on last year's price.

The company's senior vice-president and general manager Richard Wallace in a letter to suppliers said it had brought forward its opening price announcement in recognition of the difficulty the price uncertainty was creating for its suppliers.

> ***'Prices have not recovered in the past 12 months after plummeting from high levels in 2013.'***

"We understand that with lower milk prices and dry conditions earlier in the season, it is very challenging on farm," the letter said. The lower price reflected the global market downturn caused by increased production in the European Union, ongoing trade sanctions by Russia and slowing demand from China.

WCB had taken "a cautious approach in the process" to ensure the opening price reflected its best assessment of market conditions for the coming year.

"In light of recent industry events, it is important that we have confidence that our opening price is deliverable should market conditions deteriorate, with room to move upwards as and when trading conditions become more certain," Mr Wallace said.

The company said it did not expect to see any recovery in the global market until 2017.

Bega Cheese announced an opening price of $5/kg MS, an 11 per cent fall on this season's price.

Bega held its opening price for 2015/16 of $5.60/kg MS, despite Murray Goulburn and Fonterra decreasing their prices.

Bega executive chairman Barry Irvin said lower global market prices were the reason for the price fall.

In particular, he blamed increased global milk supply, Russian sanctions on dairy imports and a slowing in demand in China.

"Farmgate milk prices are ultimately driven by returns we receive from markets both within Australia and globally," he said.

But he said Bega's long-term strategy of building value-added business platforms was enhancing the base value of its products and therefore farmgate milk price.

Burra Foods announced an opening milk base price range of $4.40-$4.60/kg MS but flagged it expected to pay step ups during the season. Its price was $1-$1.20 (17-21 per cent) lower than last year's price of $5.60.

Burra Foods said it had made the announcement earlier than in recent years "to provide its supply partners with the information they need to assist them in making key commercial decisions for the year ahead".

It said the lower price was "set to be sustainable" and provide the potential for step ups. Burra was taking the prudent view that the "no step up years" of the past two seasons "are best left in the past".

Burra said its business had been impacted by the commodity slump in the past 12 months but it had not followed other processors in stepping down its price for 2015/16.

Australian Consolidated Milk announced an opening price of $5.30 a kilogram of milk solids. The northern Victorian based processor has been notifying suppliers at meetings. ACM general manager Peter Jones said $5.30kg/MS was the average price, not a forecast. D

See how the dairy price crisis unfolded, pages 25-31.

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Get the herd-testing basics right

Key points

- ✔ Ensure genetics of herd for longer term
- ✔ Take advantage of free reproduction programs
- ✔ Value experience of AI technicians

By **Carol Millar**

IT is difficult to know what to write at the moment. The dairy industry is reeling and farmers everywhere are assessing the damage and making plans for the future.

Advice is everywhere and, for a change, much of it is free. As a dairyfarmer it must feel as though mountains must be climbed every day just to survive.

There are, however, some key elements to long-term survival that are important to bear in mind.

Know where you are

Above all else, it is vital that each dairyfarmer has a good understanding of how the herd is performing.

Herd testing is one of the best ways of doing this. Know cows, know their performance, and make good decisions based on factual data.

It is easy to succumb to confusion and panic without good records. Which cows are the most profitable? Are they confirmed pregnant? When can they be dried off? Which cows are best culled now? These are facts that every dairyfarmer needs to know.

Herd testing is not a luxury item. It is an investment in knowledge and good decision-making. As the saying goes, "you can't manage what you don't measure".

And today, more than ever, dairyfarmers must manage their cows well. If cost is an issue, speak to the service provider.

Perhaps they can do bi-monthly sampling instead of monthly. There are flexible options available.

'Herd testing is not a luxury item. It is an investment in knowledge and good decision-making.'

Plan to maintain the herd asset

After the farm itself, the second most valuable asset on a dairy farm is the cows. What is the genetic profile of the herd? Genetic gain through the generations is one of the most valuable investments that can be made.

In today's circumstances, there is a strong temptation to "just put the bulls in" and theoretically save some costs. But this is flawed thinking.

The performance of non-artificially inseminated (AI) bred animals is proven to be substantially below animals of higher genetic merit.

Saving a small amount of money now will come back to haunt farmers in three years time when those progeny come into milk.

There is great value being offered in the semen-buying market right now. All of the AI companies are realistic about the current situation and there are some excellent, low-cost AI bulls available. Shop around and find the bargains because they are out there.

Consider using a team of young genomic bulls of high genetic merit. Or use sexed semen on heifers to get sufficient replacements and then use Wagyu or Angus semen on the cows to take advantage of the strong beef prices that are expected to persist for the next few years.

Get advice

Anyone who has never used a mating program before, could consider getting some advice from the vast array of advisors out there.

Breeding a herd of consistently good cows by correctively mating and avoiding in-breeding is a no-brainer. Many AI companies offer this service for free as long as their bulls are used. Why not give this a go this year?

Reproductive programs have become commonplace in recent years. But it is important to work with people who are skilled and experienced in this area.

Value experience

Experienced professional AI technicians are a bit like hens' teeth — pretty rare.

As is happening to the demographics of dairyfarmers, professional AI technicians are getting older and it is difficult to attract new ones into the industry and keep them interested.

Is the farm one that the technician looks forward to visiting because the handling facilities are in good order and the cows are well trained, quiet and in good condition?

Or is the farm the one that expects someone to do a professional job when they are precariously balanced on a plank balanced on two 44-gallon drums?

There is no doubt that times are tough right now.

But if farmers and herd improvement professionals work together, there is a much greater chance of coming through.

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GRAZING CEREALS


Rob Winter
Heritage Seeds Regional Agronomist

HOW TO USE EFFECTIVELY ON DAIRY FARMS

After the past spring and summer, most farms have had very low reserves of fodder on hand and fibre sources have been quite expensive. As a result, there have been increased areas sown to forage cereals on farm, with some people adopting this forage option for the first time in a while. Generally speaking, in Australia we have access to three main types of temperate cereals:

Grain types: **Suit much of the cropping zone, shorter season, upright (spring) growth habit.**
Dual purpose: **Grazing & grain, longer season, useful but low winter grazing yields, fairly prostrate (winter) habit.**
Forage cereals: **Grazing & fodder production, meagre grain yield, improved forage yield & attributes, upright habit.**

Whilst most varieties can offer some grazing, true forage cereals are developed to withstand grazing pressure and can be grazed through winter with minimal loss of total forage yield if grazed correctly. As forage cereals are shy grain yielders, the seed is usually more expensive: the trade-off being the improved forage attributes and recovery after grazing.

Early planted crops (March-April) may offer 3-4 grazings, later crops (May-June) offer around 1-2 grazing opportunities before locking up for silage or hay. In some areas with a longer spring season or backed up with late spring irrigation, there is scope for sowing options through to around September or so. Alternatively, crops may be 'grazed-out' as such as they offer a useful standing feed for many producers through late spring and early summer.

Early planted crops will usually need to be grazed in order to prevent losses from lodging, and the grazing encourages further tillering, thus improving the eventual yield potential. Later planted crops may also be grazed without subsequent yield loss, but the critical things are: keep the plant nutrition up (replace fertiliser nutrients removed from the crop) and watch for the crop development stage. The other thing to consider is that the winter feed is likely more valuable when grazed now, and that a small reduction in fodder yield is outweighed by getting animals fed effectively through winter.

In late winter and early spring, usually between late July and mid-late August, cereals will start the process of going reproductive. If a large proportion of the tillers are eaten down below the joints, the seed head is removed and the tiller will die. Feeling the first lump at the base of the stems is usually too late as the seed head is travelling above that node. The best way is to carefully slice the stems open and look carefully for the developing seed-head.

Occasionally (as has been the case this year), some earlier sown crops may have a tendency for the odd tiller to run-up during autumn. This is not a problem as the majority of the tillers remaining vegetative carry on fine after grazing.

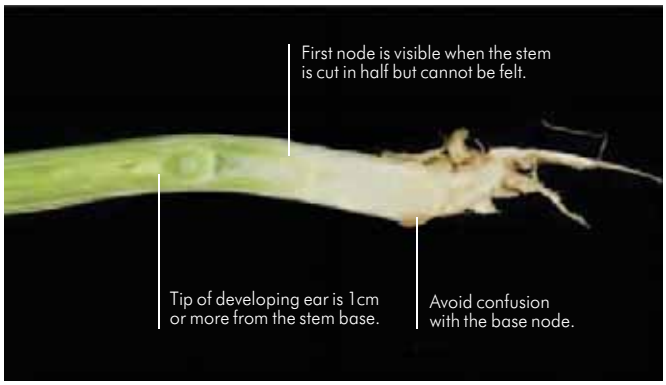
The crop should only be grazed when the roots have developed sufficiently to anchor the plants, generally once the crop has reached around 25cm in height. In autumn and winter, graze crops down to about 5-10cm in height. As with most forages, rotational management with back-fencing is the best way to maximise utilisation, residuals and re-growth potential.

The crop may be re-grazed each time it reaches 25-30cm in height. Tactical applications of nitrogen fertiliser post-grazing are usually beneficial. At a later stage in the year, when the lock-up date is approaching, keep an eye on the crop development, and a residual height of 10-15cm may be appropriate in order to keep the maximum number of tillers especially if the crop will eventually be made into silage or hay.

Grazing when the soil is very wet may result in crown and root damage and crop recovery and total yield will be reduced. On-off grazing in wet going will also help, returning to a rotational pattern when things get drier. If conditions become very dry, grazing to 10cm to remove leaf tissue may aid survival by reducing evapotranspiration, but don't graze too low, as this will likely shed root mass and the crop's eventual capacity to recover.

After the crops are established and initial weed and pest control has been done, there are usually few threats to the crop. Maybe keep an eye on slugs, but trampling through grazing often restricts their impact. Sometimes ducks, geese and other game will be the biggest threat. Make sure that any weeds that are potential problems in your next pasture have been addressed, and as the crop matures towards fodder production, keep a watch for spring pests like army worm caterpillars. Possibly a fungicide may be needed, but that is the exception rather than the rule for modern varieties.

HOW TO DISSECT A CEREAL PLANT TO DETERMINE GROWTH STAGE



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Dairy Australia
Your Levy at Work

On the leadership learning journey

Key points

- ✔ New industry leadership program
- ✔ To help develop communication skills
- ✔ Reflect on roles as emerging leaders

FOURTEEN dairyfarmers met for the first time in Adelaide in April to begin their year-long journey in the new Emerging Dairy Leaders Program (EDLP).

They come from all points of the national dairy compass; they are of varying ages and genders and at different career stages. What they have in common is an extraordinary appetite for becoming better leaders and making more of a contribution to their communities and to the dairy industry.

Maddy Miller from the south coast of New South Wales wants to improve her leadership skills. She has just taken on a one-day-a-week role as the local co-ordinator of the Young Dairy Network Australia (YDNA).

"I'm a bit shy so the first week really helped me," she said. "I found it really opened me up. I met so many different people and I realised my dreams were very small. I can expand them.

"Everyone can dream big."

The successful 2016 participants started the 12-month program with a four-day residential block in Adelaide that included field trips to South Australian dairy regions and an overview of the local industry presented by Dairy SA. During the year, the participants will also visit Victoria and Tasmania before finishing up back in Adelaide next April.

Gippslander, Nick Bermingham, from Nambrok, is involved with several community organisations including the Country Fire Authority (CFA).

"I think the program will help me in talking with others — peers, older, younger — I'm on a number of committees already, not just dairy," Mr Bermingham said. "I want to be able to help our local community.

"The first session was terrific. I didn't know anyone to start with. Now we're all great mates. I talk with others regularly and bounce ideas with them.

"The course itself is very informative. There's a lot of bookwork so I've got plenty to do."

The leadership program began with a four-day residential block in Adelaide that included field trips to SA dairy regions.

'I realised my dreams were very small. I can expand them. Everyone can dream big.'

The EDLP is a new sector-wide initiative to nurture leadership talent. It is jointly organised by Dairy Australia and Australian Dairy Farmers. The EDLP program is being run for the dairy industry by TAFESA, the SA partner in the National Centre for Dairy Education.

During the year-long course, the group will meet inspiring people who are helping to shape the development of the $13.5 billion Australian dairy industry. They will also spend 10 days off farm (plus travel time) in four residential blocks.

Participants will earn a Diploma of Agribusiness Management from the National Centre for Dairy Education/TAFESA using a variety of learning tools such as online self-paced study, webinars, peer discussion, workplace and mentor discussions. "The program will help participants understand themselves and others better while improving their communication skills," Dairy Australia's program manager for industry education, Karen Conrad, said.

Maddy Miller from the south coast of NSW thinks the leadership program will help expand her horizons.

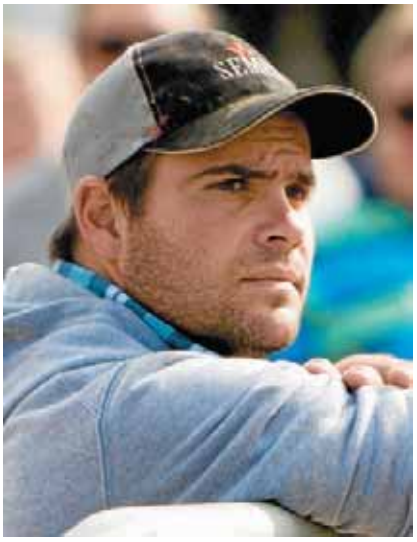
"It's a chance to develop teamwork and build a network of like-minded dairy people with a broad national focus. ▶

"Further, the program helps them explore and reflect on their roles as emerging leaders of their community, industry and environment."

Quite coincidentally, the EDLP participants represent all eight national dairy regions. There is a good balance of men and women and they range in age between 19 and early 50s.

The 2016 EDLP participants are:

- Shaun Beard, 37, from Jancourt East near Warrnambool, Vic. Sharefarmer, milks 430 cows.
- Simone Ross, 40, from Katamatite, Vic. Dairyfarming with her husband for 15 years and they bought the farm from his father a year ago.
- Robert Schloss, 52, from Stanhope (the Legendairy capital of Australia), Vic. In the dairy industry for 20 years and bought his farm four years ago, 300 cows.
- Janelle Fisher, 23, from Irrewillipe near Colac, Vic. She and her partner are sharefarmers, 350 cows.
- Nick Bermingham, 22, from Maffra, Vic. Has been managing parents' farm for five years.



Nick Bermingham from Gippsland expects to improve his leadership skills, particularly around working with a variety of community organisations.

- Nikki Atkins, 38, from Dairy Plains, Tas. She and her husband took over the family farm five years ago.
- Kelvin Matthews, 34, Yarrawalla, near Pyramid Hill, Vic. Part of the Accelerated Change Project being run by Murray Dairy.
- Laura Burn, 31, from South Nowra, NSW. Manages a robotic dairy milking 230 cows. Has been in industry for 10 years, member of the South Coast Highlands Dairy Industry Group.
- Kieran Bourke, 19, from Maryvale, Qld. Doing a Bachelor of Agribusiness at UQ in Gatton and working on family farm milking 500 cows.
- Tim Wright, 29, from Meningie, SA. Managing father's farm, 350-450 cows.
- Maddy Miller, 20, Berry, NSW. YDNA co-ordinator, herd recorder and also works on family farm.
- Roxanne Mostert, 19, Albany, WA. Studying animal science at Murdoch University and working on family farm with father and brother, milking 250 cows.
- Dustin Kemp, 33, Rochester, Vic. Employed on a farm, involved in local discussion group, 300-350 cows.
- Michael Rood, 37, Bega, NSW. Owns a farm with his wife.

Dairy Australia
Your Levy at Work

Looking after people in tight times

Key points

- ✔ Farm Safety Checklist developed
- ✔ Look out for safety of family members
- ✔ Be aware of compliance responsibilities to staff

CONCERN for the health and welfare of people on farms is heightened in difficult times because people are more vulnerable and therefore at risk.

With the rollout of Tactics for Tight Times, the people team at Dairy Australia has designed a 'Farm Safety Essentials' checklist.

"People under pressure get distracted easily, have their mind on other things, become fatigued and don't concentrate on the job at hand," Dairy Australia's program manager — industry workforce planning and action Bill Youl said.

"In these situations it is easy to make mistakes.

"We're urging farmers to take a step back and to avoid making hasty decisions and taking shortcuts. The farm is a dangerous place and hasty actions can be the cause of accidents, injury and even death."

The checklist is designed as a guide that gets farmers to stop and check first, identify issues and make rational decisions about action before taking action. It can be found on the Dairy Australia website at <http://www.thepeopleindairy.org.au/engagement-reward/tightimes>.

'People under pressure get distracted easily, have their mind on other things...'

"We're particularly conscious of the safety of children in the workplace at this time," Mr Youl said.

"When times are tight the whole family has to dig in and lend a hand. Often this means the kids are down at the milking shed when machinery is operating."

The checklist complements the development of the Farm Safety Starter Kit, which was launched recently. Hard copies of the Safety Starter Kit can be ordered at <www.thepeopleindairy.org.au/safetystarterkit>.

As part of the comprehensive approach to supporting farmers through the current difficulties, Dairy Australia and the Regional Development Programs are continuing to add resources to the Tactics for Tight Times portfolio of services.

Changing staff

The current situation may impact on current and future employment within the farm business. "It's important to keep the lines of communication open so your staff feel informed and supported," Mr Youl said.

If a farmer needs to make changes, they need to be aware of their compliance responsibilities as an employer and seek professional advice from their State dairyfarmer organisation.

A fact sheet explaining how to calculate the final pay for an employee can also be found on the People in Dairy website at <http://www.thepeopleindairy.org.au/engagement-reward/tightimes>. Farmers can also take advantage of the resources available at http://www.thepeopleindairy.org.au/. D

Price crisis rocks industry confidence

Key points

- ✔ Murray Goulburn and Fonterra step down from opening price
- ✔ MG CEO resigns
- ✔ Hits farmer confidence

By **Carlene Dowie**

AUSTRALIA'S dairy industry was thrown into crisis in late April when the country's biggest processor, co-operative Murray Goulburn (MG), slashed its farmgate milk price for 2015/16 to $4.75-$5 a kilogram milk solids.

The step-down was from an opening price of $5.60/kg MS.

MG spread the price cut across three years, reducing the price paid for 2015/16 to $5.49/kg MS, with the remainder to be recouped within the next three years from all current suppliers.

Giant New Zealand co-operative Fonterra followed MG's lead, stepping down to $5/kg MS, while National Dairy Products cut its price paid to ▶

Murray Goulburn suppliers shaken

MURRAY Goulburn (MG) suppliers, in particular, were shaken by the milk price drop as the company had been telling them as late as March that it would be able to maintain the $5.60/kg MS opening price.

But it tried to reduce the impact on farmers by introducing a Milk Supplier Support Package (MSSP) to spread the price cut across the next three years.

MG said in an advisory to suppliers in June that the MSSP would be funded from MG's balance sheet, which meant that suppliers were not required to take on any additional debt.

MG would recoup amounts paid under the MSSP plus interest by withholding an amount from milk payments to suppliers in the southern milk region in the next three financial years. This amount is expected to be $0.18-$0.24/kg MS.

Under the scheme, at the start of each financial year for the next three years, MG will advise suppliers in the southern milk region of the estimated amount of the MSSP repayment for the coming financial year, including an estimate of the applicable interest cost.

MG said it also reserved the right to suspend and then resume the repayments or reduce the amount paid under abnormal circumstances such as prolonged drought but it also reserved the right to increase repayments if market conditions were favourable.

The milk supply repayment did not apply to individual suppliers, who could leave the company without further recourse. As the repayment of the MSSP was applied across overall milk payments, suppliers could end up repaying more or less than the actual MSSP amount received in FY16.

All new MG suppliers in the southern milk pool would be required to participate in the repayment of the MSSP amount.

Farmers rally through the streets of Melbourne to highlight the dairy price crisis.

Farmers take to city streets to highlight crisis

DAIRYFARMERS rallied in capital cities in late May to highlight the milk price crisis.

In Melbourne, hundreds of farmers and their supporters gathered at Federation Square before marching through the streets of the city to Parliament House.

The rally, organised by Farmer Power, demanded the government introduce a 50-cent levy on fresh milk sales in Australia to be paid to farmers and to make clawback provisions in contracts illegal.

Farmer Power vice-president Alex Robertson said farmers needed money from a 50-cent levy on fresh milk, not more concessional loans as offered by the deputy prime minister Barnaby Joyce. "We don't need more loans that people can't afford," he said. "That's just kicking the can down the road until it gets worse."

The rallies attracted strong support from city consumers.

Consumers also showed their support of farmers through social media with a #dairylove campaign gathering thousands of followers.

This was also reflected in supermarkets where consumers started boycotting $1 a litre supermarket brands in favour of branded products.

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1. MLA Report B.NBP.0382, 2014. **2.** Taylor LF, Black PF, Pitt DJ *et al. Aust Vet J.* 2006;84:163-168. **3.** Taylor L. The Australian Cattle Veterinarian 2010;57:14-28.

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◀ suppliers and Lion cut prices paid to some of its suppliers.

Murray Goulburn managing director Gary Helou and its chief financial officer Brad Hingle stepped down from their roles in the wake of the price debacle, leaving less than a year after Murray Goulburn's partial float on the ASX, which raised $500 million from investors.

The mid-season step down was the second in a decade but occurred much later in the season than the last cut in 2008-09. This meant it hit autumn calvers particularly hard.

It was also a huge hit to confidence.

Dairy Australia (DA) latest *Situation and Outlook* report released just weeks after the price announcements revealed farmers confidence levels had already declined before the price reductions hit most southern producers.

Dairy Australia senior analyst John Droppert said the National Dairy Farmer Survey (NDFS) conducted in February and March showed the number of farmers feeling positive about the future had fallen from 74 per cent last year to 67 per cent. A supplementary survey conducted after the price cuts revealed this number had dropped to below 50 per cent.

'Why should dairyfarmers pay for the poor management decisions of these dairy processors?'

The debacle also attracted the attention of authorities, with the Australian Securities and Investment Commission investigating whether Murray Goulburn had misled investors and the Australian Competition and Consumer Commission investigating the legality of the 'clawback' provisions in the price contracts.

Law firms also looked at launching class actions on behalf of farmers and investors.

Industry assistance packages put in place

The crisis prompted the introduction of a range of support packages and programs for farmers. This included the Tactics for Tight Times program run by Dairy Australia (see further details pages 90-95).

The Victorian dairy industry and the State Government set up an $11.4 million support package, including more funds for the Rural Financial Counselling Service and funds for two full-time equivalent support workers at the United Dairyfarmers of Victoria to assist farmers.

The Federal Government, in caretaker mode before the election, promised Dairy Recovery Concessional Loans worth up to $500 million across the next three years for Murray Goulburn and Fonterra suppliers.

But some questioned why the loans were restricted to suppliers of only those companies, while others said the loan criteria excluded many from accessing them.

Price system change

The crisis also prompted calls by farmers and others for a change in the pricing system for milk.

The Coalition promised to implement a transparent milk price index if re-elected, to avoid a repeat of the dairy industry viability crisis.

It promised $2 million to be allocated to establish a commodity milk price index.

The United Dairyfarmers of Victoria president Adam Jenkins said it wanted MG and Fonterra to review and ultimately remove claw-back clauses from their supply contracts.

"Why should dairyfarmers pay for the poor management decisions of these dairy processors?" he said.

The UDV wants the current milk

Fonterra follows MG's lead as it looks to cut Australian losses

FONTERRA, which had been warning that the price paid to Australian farmers was too high, looked to cut losses from its Australian operation by following MG's lead. Fonterra has an agreement with most of its suppliers through the Bonlac Supply Company to pay the "benchmark" price in Australia, which is the MG price.

Fonterra chief executive Theo Spierings said he was expecting a more positive result for the co-operative's Australian operation now that the market had a more realistic milk price. At a farmer meeting in NZ, Mr Spierings said he had "severe questions" about the sustainability of the milk price being offered under the opening price.

The reality farmers faced when the price eventually dropped was "very sad for farmers". "We cannot and will not pay more than what we have earned in the market," Mr Spierings said.

But Fonterra had to backpedal on its initial announcement and spread some of the cuts into the new season as it was clear it had hit its autumn calvers particularly hard. A week after its initial announcement, it said it would pay its autumn-calving suppliers more in July-August by redistributing base rates for all farmers in 2016-17 to spread the load of this season's price cut.

Fonterra Australia offered its suppliers an interest-bearing support loan of up to 60c/kg MS that is linked to a supply commitment.

Fonterra suppliers with autumn-calving herds, were furious the "unfair" milk price cut had left them thousands of dollars in the red.

David Conheady and family milk 350 autumn calving cows on the dryland farm at Noorat, Vic. Mr Conheady said before the price downgrade, the family was going to be paid $6.05/kg MS for milk produced in June.

Mark Billing: We think of autumn as our bill-paying months, so the step-down has decimated our budgets.

"It's now back to $1.91/kg MS if we don't accept the loan from Fonterra," he said. "But it means if we accept the loan, we'll take on $105,000 of debt and be locked into supplying Fonterra for another four years or until the debt is repaid."

He said they had little choice because they were determined to remain in dairy and had in the last half of the lactation spent heavily on re-seeding, fertilising and buying in feed to set the operation into winter, and its traditional peak production. "Without the loan we can't survive — our cost of production is $5.26/kg MS," he said.

Mark Billing, who farms at Larpent, west of Colac, Victoria, said they were just getting back on their feet after a difficult spring and summer when the price cut was announced. "The rug was pulled out from beneath us," he said.

Dairyfarmers around Colac traditionally calve their cows down in autumn because it suits the grass production.

As such, May and June have always been two of the Billing family's biggest income months. "We think of it as our bill-paying months, so the step-down has decimated our budgets," Mr Billing said.

"It seems Fonterra followed suit after Murray Goulburn cut its milk price, to ensure it made money for shareholders in New Zealand," he said. "Announcing it so late is unfair because spring-calving herds can dry their cows off but we don't have that option."

with Fairfax Media staff writers

pricing structures offered by dairy processors to be reviewed.

"We need a pricing system that builds resilience, not one that makes farmers more vulnerable," Mr Jenkins said.

"We want to restore confidence in the dairy industry and work towards a sustainable profitable future." D

Hard questions for MG board

Dear Editor,
In 2015 I ran for a position as a director on the board of Murray Goulburn Co-operative Co. Ltd. In the past few weeks, I have had many comments — mostly "you dodged a bullet".

But I don't see it that way. Hindsight is a wonderful thing but I wonder if maybe, just maybe, I would have asked the right questions at the right times.

As an 'average' dairyfarmer I know what we need to survive. I didn't make millions overnight when the units listed on the Stock Exchange. I don't have other businesses to 'prop up the farm'.

As I said in my campaign — "no two farms are the same, but all farmers deserve the same respect and representation. Transparency and accountability are of the utmost importance".

I do not believe this has been the case of late and now the whole dairy community is suffering.

On May 1, 2015, suppliers were advised that the opening price for FY2015/16 would be $5.60 with an anticipated final price of $6.05.

Gary Helou continued with those figures at the supplier's meetings in the second week of September 2015 but reiterated that they were dependent on two factors.

The first being that the average valuation of the Australian dollar stay at or below USD$0.76 for the duration of FY2015/16 (even though on May 1, it was at USD$0.79); and the second that the world price for dairy commodities would begin recovering in late 2015, as was the expectation when the opening price was set.

The dollar rollercoastered, but trended upward from September until it crept over 74c in March. While it was still under the 76c mark, its upward trajectory was concerning.

The world price for commodities had been steadily declining during July and August, and then again in November, and was then lower than it had been on May 1 when the opening price was announced.

If these two factors were crucial to the continued support for the opening farmgate milk price of $5.60, let alone a closing price of $6.05, then why wasn't the question asked in November: "is this price truly sustainable?".

Murray Goulburn's commitment to its suppliers regarding the integrity of the board and its corporate governance policy is summarised on the website as:

"Our governance framework and adherence to that framework are fundamental in demonstrating that the directors are accountable to shareholders and are appropriately overseeing the management of risk and the future direction of Devondale Murray Goulburn."

What happened to all the checks and balances associated with this commitment? Who was assessing the risks?

When I ran for the director's position I agreed to participate in the inaugural Candidate Assessment Program instigated and conducted by the MG board. I felt at that time that there was a lot of change needed to the structure of the interview for future assessments. The result of this interview was that I was not endorsed by the board as a candidate, but I could still run.

The board was returned with endorsed members who apparently had the skills and experience required by Murray Goulburn to fulfil the above commitment.

Where did that get us? It seems they still didn't see this price discrepancy coming until mid-April.

Neither did either of the two special directors — one of whom has more than 40 years of experience in banking and finance, as well as current and previous directorships with major Australian companies including BHP (NZ), ING, Westpac, Mirvac, Liberty Financial; and was the managing director of ANZ (NZ). He is also a fellow of the Australian Institute of Company Directors (AICD), a senior fellow with the Financial Services International (Australia) (FISA), and more.

The other is also a fellow with the FSIA, a fellow of CPA Australia, and has experience in international business and finance with positions at Brambles Ltd, Coca-Cola Amatil Ltd, CSR Ltd, and more.

Others on the board have degrees

Raelene Hanratty on her dairy farm in Gippsland.

'Transparency and accountability are of the utmost importance.'

in accounting, agriculture, agricultural science and public policy and management. Still others are Nuffield Scholars, members of the AICD and some have held positions on various regional dairy groups.

So again, where did all that experience and good corporate governance get us? Even the 'average' farmer could see the opening price was looking unsustainable.

We held on to the assurance that the board and senior management were adhering to the governance and risk policies.

Any concerns from suppliers were dispelled at the March supplier's meetings when the end-of-year FMP was reduced to the opening price of $5.60. Not the $6.05 that we hoped for, but supposedly sustainable for the rest of the financial year.

So what went wrong? We have heard nothing from Gary Helou or Brad Hingle and the board continued to suggest that even with hindsight they would make the same decisions.

We are now faced with the situation whereby we have four vacant board positions.

We need to find a new managing director and chief financial officer.

Our price has been slashed to an unsustainable level and there is anger and resentment among our suppliers. Not a good place to be when looking towards the future.

But wait... there's more.

There is a belief among our board members, and others within the fraternity, that we should decrease our 'farmer representative' supplier director numbers from nine to six — effectively reducing the overall board member numbers from 12 to nine.

I disagree.

By comparison, of Australia's top 10 companies, seven of them have boards made up of 10 members or more.

Murray Goulburn is a co-operative owned by farmers and as such must adhere to their statement "the board's principal objective is to create and enhance shareholder value in a manner which is consistent with the co-operative objective of maximising supplier returns".

I don't believe that reducing the number of supplier directors is in keeping with this principle.

I do believe that this objective (maximising supplier returns) was sidestepped in the last 12 months while trying to realise the forecast dividends advertised in the supplementary prospectus (May 29, 2015) at a range of 15.5 to 18.1 cents per share/unit. A very ambitious goal.

However, suppliers/investors were forewarned that things could go wrong in sections 1.3 and 1.4 of the prospectus (May 1, 2015). Of the possible 24 risks noted in the prospectus as having adverse reactions to MG investors, at least 14 of those risks have now occurred. It seems that MG got that right.

It is not unreasonable to suggest that Murray Goulburn continue with the 12-member board that has served the co-op successfully up until now (we must remember that MG has been, and it seems, still is the price-setter).

Before voting, ask your candidates whether or not they support a reduction in the supplier member numbers represented at the boardroom table.

Just how the make-up of the board unfolds is in the hands of the suppliers. Little comfort, I know, but empowering none-the-less.

Raelene Hanratty,
Upper Maffra West,
Victoria

New resource to boost herd health

Key points

- ✔ On-farm health data now available to industry
- ✔ Top four diseases: mastitis, reproductive disorders, lameness and metabolic disorders
- ✔ Health breeding values expected in five years

By **Alexandra de Blas**

FOR the first time in Australia, a national database of dairy cow health information is being developed that will help farmers to breed healthier, longer living more productive cows.

The two-year project, Health Data for Healthy Cows (HDHC), has just finished delivering a range of powerful outcomes that will underpin genetic and technological developments to improve cow health.

Lead scientist, Dr Jennie Pryce, from the Department of Economic Development, Jobs, Transport and Resources (DEDJTR), said: "Within five years we expect to see breeding values for a range of health disorders."

'With this project we have shown that there is enough data out there and we can get a lot of information out of it.'

This project had laid the groundwork for that.

The HDHC project was funded by the Gardiner Dairy Foundation with in-kind contributions from Dairy Australia, Holstein Australia, the Dairy Futures Co-operative Research Centre (CRC) and DEDJTR.

The research

Before this study it was assumed that there was insufficient on-farm data for researchers to develop health-related breeding and management decision-making tools, but the project dispelled this myth.

Project manager, Dr Mary Abdelsayed from Holstein Australia, collated health data from 100 "Ginfo" (genomic information) herds to assemble the health data that is being collected on farms. This involved the health records of more than 30,000 cows from representative herds across the country. She then summarised the data, estimated the incidence of disease and determined whether it would be possible to create breeding values for health traits.

"With this project we have shown there is enough data out there and we can get a lot of information out of it,"

Project manager Mary Abdelsayed, and Holstein Australia's Liz Weaver, at work on John and Vicki Lillico's Ginfo farm at Broadmeadows, Tasmania.

Dr Abdelsayed said. "It can be utilised for genetic progress and we can give these breeding tools back to farmers.

"Many of the farmers thought that their health data was already being collected and that the industry was using it, but there were a lot of herds where the data was just sitting on their computers."

She discovered about 40,000 treatment records like this, which she then collected manually.

The biggest limitation Dr Abdelsayed found was that health data recorded through software, such as Easy Dairy, Jantec and Dairy ID, weren't automatically exporting the health records off farm into the data-processing centres and then into the industry databases. Cloud-based software, however, exported information more successfully.

Recording disease events

The top four diseases impacting Australian herds were found to be mastitis, reproductive disorders, lameness and metabolic disorders. The majority of antibiotics were used for the treatment and prevention of mastitis.

It also became apparent that while farmers were reporting the use of antibiotics for treatment and for disease prevention, they often failed to record the disease event that triggered the drug use. This showed up when herds with a low incidence of reported disease were found to have higher than expected somatic cell counts.

For example with mastitis, a lot of herds recorded the antibiotic treatment for quality assurance purposes but failed to note that mastitis was the illness. Some of the software programs also lacked the data entry capacity for this. Disease event information would be useful at an industry level.

Dairy Australia program manager — genetics and data Matt Shaffer said: "We don't want farmers to collect data for data's sake, it needs to have a benefit for them.

"This first exploratory work has framed our thinking on how we can provide farmers with useful reports back."

Improving the ease of data recording is a focus for the next 12 months to ensure that information automatically transfers into the central industry data system.

From there it could feed back into any of the farmer's software. By pooling farm data, the plan is to develop a convenient decision-making tool to help farmers make informed decisions about treatment and management.

"It might be an app on a phone or tablet," Dr Shaffer said.

"If they have to treat a cow, the app may inform the farmer that he/she has already treated this cow twice for mastitis this quarter and ask, 'Do you want to treat her again or to cull her?'."

Dairyfarmer Pat Glass from Gundowring, Victoria, owns one of the 100 Ginfo herds studied in the Health Data for Healthy Cows project.

The project manager for Health Data for Healthy Cows is Mary Abdelsayed.

Health traits for breeding values

The heritability of health traits was found to be quite similar to that of the fertility traits as seen in the Fertility Breeding Value in the *Good Bulls Guide*. Heritability is low, but there is a lot of genetic variation, which means cows with better health genetics can be selected.

Dr Pryce said developing health breeding values would be "incredibly worthwhile".

"Farmers routinely use fertility in all of their bull selection decisions and it is now a major part of the national selection indices," she said.

"It is not an option to ignore health traits into the future because we know if we do that health traits will probably deteriorate."

In the next five years, DairyBio, which took over from the Dairy Futures CRC, will embark on an exciting program of works to develop health breeding values for a range of traits. This will ultimately improve the indices in the *Good Bulls Guide* helping farmers to breed more productive, healthy and long-lived herds.

Gardiner Dairy Foundation chief executive Mary Harney said: "The Health Data for Healthy Cows project has laid important foundations for future herd health research and the development of management tools for farmers which will improve animal welfare, productivity and profitability.

"I would also like to congratulate the projects manager Dr Mary Abdelsayed who, with this work, was a finalist in the CRC Association's *Showcasing Early Career Researcher Competition* this year. It was hotly contested by students and researchers from 30 CRC's nationwide," Ms Harney said. D

Contact: website <www.gardinerfoundation.com.au>, phone (03) 8621 2900.

Slow turnaround in world markets

Key points

- ✔ Global supply continues to outpace demand
- ✔ Exports to China up 16 per cent
- ✔ Russian demand collapses

AUSTRALIAN farmers have been hit by the impacts of a deep and persistent trough in international dairy markets. The same market trough has, until recently, failed to significantly dent milk supply in most of the world's major dairy exporters.

Dairy Australia senior analyst and *Situation and Outlook* report lead author, John Droppert, said supply continued to outpace demand, with inventories in many parts of the world building as production in Europe and the United States expands.

"Despite early signs, a global market turnaround remains unlikely until 2017," Mr Droppert said.

"Dairy demand has slowly turned around in most importing regions over the past 12 months, with the overall volume of dairy trade up nearly six per cent."

'Despite early signs, a global market turnaround remains unlikely until 2017.'

Despite this, the value of global exports fell by nine per cent, with falls across all major markets.

Australian export volumes grew by 21 per cent and the value increased by 29 per cent year-on-year, with strong growth in high-value categories such as liquid milk and infant formula.

Mr Droppert said China had been responsible for a large proportion of the growth in global dairy trade, with total exports to the country up 16 per cent in volume.

"In China, higher production costs for Chinese dairyfarmers, combined with low international prices for dairy commodities have constrained local production growth and led to a recovery in demand for dairy imports," he said.

"Within China, the government has encouraged continued genetic improvements in the national herd through the import of live dairy cows, of which Australia is the largest supplier."

Demand for milk powder in China is mixed, with whole milk powder (WMP) down 15 per cent year on year to 430,000 tonnes, while imports of skim milk powder (SMP) have increased by 7.5 per cent to 248,000 tonnes and liquid milk imports rose 53 per cent (more than 581,000 tonnes).

Exports to South East Asian markets have continued to grow, with strong expansion in milk powder categories, while export volumes to the Middle East and Japan have eased slightly — each down about one per cent.

"Following the removal of production quotas and substantial production increases, export volumes from the EU to the Middle East rose by 17 per cent over the last 12 months, taking their market share to almost 38 per cent," Mr Droppert said. ▶

HIGHLY RANKED AUSTRALIAN JERSEY GENOMIC BPI SIRES

MINX

Tbone dtr: Bushlea Tbone Fernleaf VG88-2YR

Stonyrun Aus Tbone Minx

Tbone x Vanahlem x Larfalot

NEW

- **Minx** is one of the highest Genomic Jersey sires in Australia at +288 BPI; he is a New Release A2/A2 'Tbone' son from an ex 'Vanahlem' that goes back to Mannix's cow family in the USA.
- He is an outstanding +324 for the Type Weighted Index, +107 for Type, +108 for Udders and offers an ideal production proof.
- Minx could be a real breed changer and will breed the ideal herd cow with Type, Udders, Production and a great cow family.

BPI +288 TWI +324
TYPE +107 UDDERS +108

BONTINO

Family member to Bontino: Cairnbrae Valentino Estelle 2 EX91

Cairnbrae Bontino

Valentino x Tbone x Alf

ULTRA SEXED

- **Bontino** is an A2/A2 'Valentino' son who is the leading and highest Type and Udder bull in the Top 10 BPI Jersey Sires.
- Bontino is backed by Australia's current leading sire production cow family - the Estelle's.
- He offers solid production with positive components and will be in high demand for 2016.
- ***Sexed Ultra and Conventional Semen available.***

BPI +271 TWI +322
TYPE +109 UDDERS +111

BROWNLOW

Mat sister to MGD: Meldan Brookbi Babe 2 EX92

Dalbora Brax 5097 Brownlow

Brax x Tbone x Impuls

- **Brownlow** is an A2/A2 'Brax' son who hails from generations of VG and VHC cows.
- He is a leading BPI sire who offers a great balance of Type, Milk Production and Health Traits.
- With his pedigree, there is no guessing that he will make great herd cows with the added bonus of his solid production proof and will improve components.

BPI +261 TWI +273
TYPE +105 UDDERS +106

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Mexico saw strong growth in overall volumes of dairy imports up by 12 per cent on last year, led by increases in SMP (+33%), butter (+29%) and cheese (+13%).

"Demand from Russia, previously the world's second largest single country dairy market, has collapsed following the embargo on western exporters," Mr Droppert said.

The successful conclusion of negotiations and the lifting of nuclear-related sanctions on Iran has been greeted as a welcome piece of news globally by major dairy exporters. Iran has a well-established tradition of dairy, which comprises about 40 per cent of average Iranians' daily protein intake. Cheese, yoghurt and sour milk products are all popular traditional products amongst consumers.

"Iran presents a potentially exciting medium-term opportunity for dairy exporters across the globe; but it remains unclear whether, and just how quickly this market can deliver on the high hopes of some," Mr Droppert said. D

Ramping up consumer campaign

Key points

- ✔ Commercial run to harness consumer support
- ✔ Legendairy Facebook page supported farmers and consumers
- ✔ Ties into dietary messages

IN the wake of the sudden milk price cuts, which attracted unprecedented national media exposure, Legendairy has returned to the airwaves with a topical new television commercial thanking people for supporting Australian dairy.

The message, which is accompanied by an image of pouring milk building to form the shape of a heart, reinforces the industry's call for the community to show its support at the checkout by buying more Australian dairy products.

"It is important that we try to translate consumer empathy into ongoing support for dairyfarmers and the industry," Dairy Australia's group manager — industry promotion and product innovation Isabel MacNeill said recently.

"We think the recent messages by the farming community expressing gratitude to consumers have resonated well and we are using the Legendairy platform to amplify this even further," she said.

The new commercial coincides with the planned second phase of the Legendairy 'It's Amazing What Milk Can Do' advertising campaign.

This campaign features quirky waterslide tester and mum, Deb Poole, who became an instant favourite with Australian grocery buyers when she was introduced earlier this year.

The Legendairy Facebook page has promoted positive dairy messages and answered numerous questions to help guide farmers towards resources and support and consumers towards choosing healthy and tasty products made from milk.

A frequently asked questions section was recently added to the Legendairy website.

Legendairy has also activated its ambassadors, Olympian Michael Klim and celebrity chef Karen Martini.

Mr Klim took part in the *Herald Sun* #milkmo feature and both ambassadors have been supporting the industry through social media.

The final part of the Legendairy television commercial.

"While there was an immediate, very public reaction to the sudden price changes affecting farmers, there will also be a long-term ongoing need to support farming communities directly and also through continued consumer engagement," Ms MacNeill said.

"As the issue leaves the news headlines we need to continue to positively promote the industry and its products and look at ways to keep the dairy story relevant with the media and consumers."

The backdrop to Dairy Australia's short-term, opportunistic promotional and protective activities during the dairy industry turmoil is a food and health environment in which consumers are receiving confusing and conflicting dietary messages.

"Our campaign tracking indicates that before we can educate consumers about the value of dairy we have to generate a certain level of awareness and interest," Ms MacNeill stated.

"This is best done by investing in promotional activities that give us adequate reach and frequency."

In light of these challenges, Legendairy plans to address the attributes that attract consumers to milk, yoghurt and cheese and to overcome some of the obstacles that stand in the way of their increased consumption.

> ***'We think the recent messages by the farming community expressing gratitude to consumers have resonated well...'***

To do this there will be a renewed focus on imaginative and compelling images and stories that cut through the media 'noise' and resonate with different consumer groups.

"We'll be looking at developing more product-specific messages, rather than generic dairy messages," Ms MacNeill said.

"And we'll be reinforcing the 'Australianness' of the product and industry."

Dairy's nutritional qualities — essential nutrients, healthy bones and naturalness — would continue to be incorporated into these future promotions. D

Dairy Australia
Your Levy at Work

Push to eat dairy for better health

Key points

- ✔ Vegetable and dairy consumption promoted together
- ✔ Women and girls not consuming enough dairy
- ✔ New campaign targets general practitioners

IN the wake of research released in May showing that Australians are a long way from meeting their recommended daily serves of vegetables and dairy, Dairy Australia and AUSVEG have joined forces to urge people to double their intake of vegetables and add an extra serve of dairy to their diet.

The new data, released by the Australian Bureau of Statistics from the Australian Health Survey, revealed that 96 per cent of Australians were not eating enough vegetables and legumes, and 90 per cent were not having enough milk, cheese and yoghurt for optimal health.

Dairy Australia's Dairy Kitchen immediately jumped into action and created a new collection of vegetable-packed, calcium-rich recipes to inspire and motivate Australians to increase their intake of both food groups.

The recipes can be accessed from the Legendairy website at <www.legendairy.com.au/recipes> and were the focus of a national media education campaign.

From lashings of bechamel sauce on a veggie pasta to crumbled feta over a tray of roast vegetables, dairy foods such as milk, cheese and yoghurt are the perfect partners to jazz up the humble veg.

"Pairing dairy and vegetables is not only nutritious, it is absolutely delicious," Dairy Australia food communications manager Amanda Menegazzo said.

"Dollop Greek yoghurt on soup, replace half the stock with milk in a veggie risotto or grate parmesan over roasted zucchini for a cheesy side dish."

While all age groups need to double their vegetables and add a serve of dairy, women older than 50 years are the furthest from meeting their dairy recommendation with only one in 1000 meeting the recommended four serves a day.

An example of the Foods That Do Good campaign material.

'Despite the mounting evidence demonstrating the health benefits of dairy, nine out of 10 Australians are not consuming enough to meet the Australian Dietary Guidelines.'

Girls aged 14-18 years are the next group putting their health at risk with only one in 200 meeting their serve recommendations.

Teenage girls should be consuming 3.5 serves of dairy a day.

This equates to a cup of milk, 3/4 cups of yoghurt, 1/2 cup of ricotta cheese and one slice of hard cheese.

Speaking about the research, Dairy Australia accredited practising dietitian Emma Glassenbury said: "Most people know that adequate consumption of milk, cheese and yoghurt is important to bone health but the Australian Dietary Guidelines also link dairy foods to reduced risk of heart disease, stroke, hypertension and type 2 diabetes.

"Despite the mounting evidence demonstrating the health benefits of dairy, nine out of 10 Australians are

not consuming enough to meet the Australian Dietary Guidelines."

The timely launch of Dairy Australia's Foods That Do Good communication program is another avenue through which Dairy Australia is endeavouring to combat this dietary deficit.

"The Foods That Do Good communication program was instigated after it was discovered that 63 per cent of general practitioners were unaware of the recommendations of the Australian Dietary Guidelines, which were updated in 2013," Ms Glassenbury said.

"We launched the program earlier this year with the aim of providing a credible resource for health professionals looking for evidence-based information on health and nutrition.

"The central hub is the website <www.foodsthatdogood.com.au>, which is regularly updated to reflect the latest findings.

"It also houses practical tools such as a nutrition calculator," Ms Glassenbury said. D

Chicken, Cauliflower, Watercress and Almond Salad is one of the recipes developed by Dairy Australia to promote more vegetable and dairy consumption.

Dairy Australia
Your Levy at Work

Healthy bones week targets women

Key points

- ✔ Healthy Bones Action Week campaign
- ✔ Builds on Fit, Fab & 50 Challenge theme
- ✔ Participants to receive daily e-newsletter

"LOOK after your bones to live the life you want" is the key message of this year's Healthy Bones Action Week to be held nationally from August 1 to 7.

Women across the country are invited to sign up for the Fit, Fab & 50 Challenge to kick-start their journey to better bone health. Sign up is free at website <www.healthybones.com.au>.

Despite looking and feeling great, almost all women older than 50 do not consume the recommended four serves a day of calcium-rich dairy foods to keep their bones strong. It is particularly important as they approach and go through menopause.

Following the success of the inaugural Challenge in 2015, Dairy Australia is excited to again be inspiring this growing demographic to take proactive measures to improve their bone health and reduce their risk of osteoporosis.

"Last year the Fit, Fab & 50 Challenge had a big impact on participants with a post-Challenge survey showing that 76 per cent of respondents had continued to consume extra serves from the dairy food group each day, which was a great result," Dairy Australia industry promotions manager Kelly Ward.

"We were also thrilled to secure ambassadors such as Deborah Hutton, Christine Manfield and Karen Inge, who donated their time to provide practical tips and motivation throughout the week.

Women older than 50 are the target of a Dairy Australia campaign in August.

'This year we're extending the theme to again draw inspiration from a team of high-profile ambassadors...'

"This year we're extending the theme to again draw inspiration from a team of high-profile ambassadors while also profiling some 'real' women who are living the life they want."

Participants will receive a daily injection of inspiration in the form of an e-newsletter each day of Healthy Bones Action Week. They will enjoy tools such as a meal planner, an exercise tracker and delicious recipe ideas to help inspire them on their journey. Prizes will be drawn every day of the week.

Healthy Bones Action Week is an ideal time to remember that osteoporosis is preventable by taking three simple steps to protect bones: consume more milk, cheese and yoghurt for calcium; commit to doing weight bearing exercise; and spend time outdoors to get more vitamin D from safe sun exposure. D

For more information visit <www.healthybones.com.au>.

Primary students encouraged to discover dairy healthy games

WITH excitement building for the Olympic Games in Rio this August, Dairy Australia's Schools Engagement Initiative is launching its own Healthy Games to drive school participation during Healthy Bones Action Week and inspire primary school students to build strong bones for life.

The Discover Dairy Healthy Games will see Australian schools compete in a series of challenges and activities underpinned by the Discover Dairy curriculum-linked resources.

The Discover Dairy Healthy Games will teach Australian children about the three actions required to build healthy bones — milk, cheese and yoghurt for calcium; weight-bearing exercise; and, spending time outdoors for vitamin D — through a series of competitive activities. Registration is open until the end of July and the two-week competition will run from Monday, August 1, to Friday, August 12.

The games will conclude with schools being awarded gold, silver and bronze prizes with one lucky primary school winning a visit from Legendairy Ambassador and Olympic champion, Michael Klim. Primary schools can register at website <www.dairy.edu.au/discoverdairy>.

Advertisement

VR2386516

The future of effluent management

Two recognised and respected brands in the dairy industry have just united for a joint approach on what is being termed 'super smart' effluent monitoring & control.

Tag I.T with their Halo brand have entered an exclusive supply agreement with Reid & Harrison's Yardmaster brand to supply an effluent management solution tailor made for customer needs. How did this come about?

In December 2015, Reid & Harrison ran a workshop with eight customers facilitated by New Zealand Trade Enterprises Better by Design initiative. The idea being to find out what were the key common issues dairy farmers were facing in the effluent management space.

The farmers were concerned about issues like the guess work needed to effectively control effluent, the amount of management time compliance was taking and the need for better portable real time visibility of their effluent system.

Reid & Harrison conducted research as a result on what was the state of technology in the market place and quickly realised, one company Tag I.T was already in the space with their Halo product range. Halo was covering monitoring of effluent, as well as having water, milk and weather monitoring allowing one dash board to cover most of the farm needs from one display. The use of 'cloud' based technology gave the portable visibility as well as cost effective control of the technology.

What was missing was the enhanced control of the equipment, namely to be able to use the IT based technology to run the pump at different flows and duties. All this controlled from a phone, tablet, computer or the physical on site unit itself. All the time monitoring and recording what is happening.

A joint development project was launched between the two companies with one of the original customers from the December workshop selected for the prototype unit. A supply agreement entered into and the rest as they say is history.

'We are extremely excited that we have a customer driven solution that really gives control back to the person who needs it the most, the farm owner/manager' says Keith Cooke, Chief Executive of Reid & Harrison. 'Tag I.T has a similar culture to our company making the joint project a real collaboration'

At the New Zealand National Field Days this June, the Yardmaster Halo product was unveiled and will be available exclusively in Australia by Yardmasters Sole distributor, Dairy Pumping Systems.

Seaton Dalley Director Reid & Harrison and Josh White Managing Director Tag I.T.

Top milk quality producers announced

Key points

- ✔ High-quality milk producers recognised
- ✔ Reducing mastitis improves animal welfare
- ✔ Countdown program has resources

SEVERAL of Australia's dairyfarmers have again been rewarded for producing top quality milk in the 2016 Dairy Australia Countdown Milk Quality Awards.

The awards recognise farms across Australia in the lowest five per cent based on annual average bulk milk cell count (BMCC). A higher milk cell count generally occurs with mastitis, which in turn impacts milk quality and how the milk can be used.

This year almost 270 farmers across Australia have been rewarded for their top quality milk. A feature of the awards sees the top 100 farmers with the lowest BMCC rewarded with a gold plaque.

Dairy Australia's program development manager — animal health and fertility, Erika Oakes, said milk quality across Australia was improving each year.

"This year we have recorded some very low average bulk milk cell counts," Ms Oakes said.

"It's good to see so many farmers making a concerted effort in both maintaining high-quality milk and improving milk quality. There's many familiar names who have celebrated high milk quality success for many years which is a real credit to them."

'It's good to see so many farmers making a concerted effort in both maintaining high-quality milk and improving milk quality.'

Ms Oakes said while milk quality was constantly improving, it was important farmers remained vigilant.

"Controlling mastitis and maintaining milk quality is a constant issue farmers need to remain on top of — they can't afford to become complacent about it," she said.

"Reducing mastitis on-farm improves cow comfort and welfare, saves time at milking and considerable money in terms of lost milk production and animal treatments."

Dairy Australia's Countdown program has recently launched a series of videos and shed guides that cover off the prevention and treatment of mastitis in a format that makes it quick and easy for farmers to keep on top of mastitis control. These materials are also available online at <www.dairyaustralia.com.au/shedguides>.

"We've had great take up of these materials, which have been ordered by more than 1200 farmers," Ms Oakes said.

"We have to acknowledge the work and support from the milk companies in this area, who have been using Countdown materials to help farmers.

Farmers in the top 100 in 2016 Dairy Australia Countdown Milk Quality Awards receive a gold plaque (left), while those in the top five per cent receive a silver plaque (right).

"Coming up to spring-calving season, farmers need to keep a close eye on their cows and stick with their hygiene practices and systems like wearing gloves and using teat spray."

Data for the Countdown Milk Quality Awards is supplied to Dairy Australia by dairy companies across the country and to be eligible, dairy farms must have data for a minimum of nine months in a calendar year. Monthly averages are used to calculate the annual average BMCC for each farm and the winners are those five per cent of farms with the lowest BMCC.

For the full lists of the top five per cent and top 100, visit website <http://www.dairyaustralia.com.au/Animal-management/Mastitis/Milk-quality-awards/2016-Milk-Quality-Awards.aspx>.

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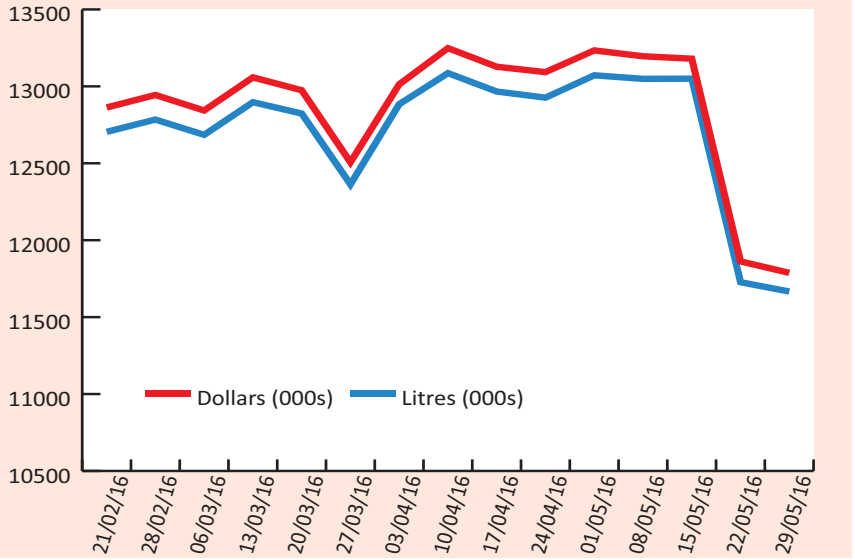
Challenges still lie ahead for markets

By **John Droppert**
Senior Analyst
Dairy Australia

Key points

- ✔ A tough season behind, significant challenges ahead on farm
- ✔ International markets remain depressed, though some positive signs
- ✔ Domestic market has received a boost from consumer response

Figure 1: Private label fresh white milk sales



AS outlined in Dairy Australia's recent *Situation and Outlook* report, an already challenging season became significantly more difficult during April and May as late-season farmgate price cuts were announced for most farmers in the southern, export-focused regions.

Opening price announcements for 2016/17 are beginning to appear, crystallising a major part of the challenge ahead for many.

Farmers in northern regions are waiting to see how recent developments will affect them, while strong growth in Western Australia has outpaced processor requirements. As a result, some farmers are struggling to find a buyer.

On a more positive note, predictions of better rainfall post-El Niño are off to a good start following a decent autumn break nearly everywhere. Grain prices have continued to ease on international pressure and a positive Australian production outlook.

Hay stocks remain tight — although demand has eased following the rain. Operating costs are likely to be lower in the coming season, taking some of the pressure off what will be negative margins for many.

However, milk volumes are likely to be down. Dairy Australia's forecast for 2016/17 is for a range of 9.1 billion to 9.4 billion litres nationally — a 2-5 per cent drop. The current season looks like finishing about two per cent down on 2014/15 at 9.55 billion litres.

Internationally, dairy commodity prices remain depressed, and though there are emerging signs of recovery (increased Chinese buying, slowing European production), the fundamentals remain firmly in favour of buyers.

'A material recovery is unlikely in 2016, and will probably come too late to significantly boost 2016/17 farmgate pricing.'

A material recovery is unlikely in 2016, and will probably come too late to significantly boost 2016/17 farmgate pricing. The international market sets the 'clearing price' for a large proportion of Australia's milk production, but the domestic market continues to provide a degree of stability.

Total sales of milk grew strongly in the four weeks to the end of May compared with the corresponding period in 2015, up 2.7 per cent by volume and almost 4.1 per cent by value. This increase in sales volumes has occurred mostly in the fresh milk market, up 3.2 per cent and 5.0 per cent by volume and value respectively.

Increased sales of higher-priced company branded milk have driven higher sales turnover for the category. Sales volumes and the share of private label in the fresh white milk segment have both fallen steeply in the week beginning May 15 (see Figure 1) as consumers react to media coverage of dairy issues. How long-lived this change will be remains to be seen.

Within the fresh white milk segment, full cream continues to grow strongly at the expense of modified, reduced and no-fat milk varieties, with sales having grown 9.7 per cent by volume in the 12 months to June. Reduced and no-fat fell by 7.6 per cent and 4.0 per cent respectively for the same period.

Dairy spreads have shown continued strong growth. Overall sales value has increased by 7.0 per cent in the last quarter, in line with a similar growth in volume, as average prices have remained flat. Sales of butter accounted for the majority of the growth in spreads, particularly in the unsalted category, which was up about 9.0 per cent in volume and value compared with the previous quarter. Blends have also demonstrated continued growth, particularly in the final four-week sales period of the quarter.

While it's not enough to fully counteract the effects of a continued trough in international prices on farmgate returns, these domestic market developments illustrate two things. Firstly, the relative robustness of the local demand base, and secondly, the responsiveness of consumers to a clearly defined value proposition. D

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Floodwaters rage through the Lambert dairy at Merseylea. Picture by Paul Lambert.

Tasmanian farmers battle floods

Key points

- ✔ Severe flooding hits about 40 Tasmanian farms
- ✔ Some farmers lose significant numbers of cows
- ✔ Some forced to dry off herds

By **Carlene Dowie**

TASMANIAN dairyfarmers hit by record flooding last month are slowly getting their farms back on track.

Up to 80 Tasmanian dairy farms have been impacted with the worst hit area in the Mersey River catchment, where one farmer lost up to 200 cows, while another's dairy was wrecked by fast-moving floodwaters.

DairyTas executive director Mark Smith said between 20 and 40 dairy farms had suffered reasonably severe damage, while a similar number had been affected by flooding but the damage was more manageable.

Dairy farms in the Meander, Mersey, Flowerdale, Latrobe, Gunns Plains and Ouse areas had been affected, he said.

Merseylea, Tas, dairyfarmer Paul Lambert said the Mersey River, which runs through his property, came up fast on the evening of June 5 after more than 200 millimetres of rain. "People were trying to get their cattle onto high ground in the dark but no one could get all their cattle out safely," he said.

A linear irrigator knocked over by floodwaters near Merseylea. Picture by Paul Lambert.

About 700 cows from different farms in the district were swept down the river.

Mr Lambert said he was getting the farm back on track from the damage caused by the fast-moving flood water, which contained debris such as logs. He said his family had farmed there for more than 100 years and had not seen flooding like this before.

It was going to cost his business between $500,000 and $600,000 to repair the damage.

The dairy was badly damaged and rendered inoperable, forcing Mr

Lambert to dry off his 550-cow herd, which had been due to be dried off at the end of June. He estimates the lost milk production has cost his farm $80,000.

The damage to the dairy was mainly to the electrical motors and electronics in items such as the automatic teat spray unit, a variable speed drive on the milk pumps, vacuum pumps, the computer that runs the Alpro herd-management system and vat compressors.

The rotary, including the hyrdaulics, wheels and platform, and the yards had come through relatively unscathed, despite a torrent raging through one half of the dairy and more than a metre of water in the other half.

Mr Lambert estimated it would cost $100,000 to repair the electronics and electrical equipment in the dairy and another $10,000 to repair the physical damage.

The farm feed stores were also hit. "We haven't pulled grain out of the silos yet, as it is not flowing. Obviously the bottom of them have had water in and they've blocked up," he said. They also lost silage, while about 50 bales of hay have gone mouldy because of the water.

The farm also lost several pieces of machinery, most of its workshop equipment and several sheds.

Pastures were only under water for two days, so had mostly survived, although about 15 hectares were covered in so much silt that pasture would not grow back through it and will have to be resown later in the year.

All fences on about 150ha were lost.

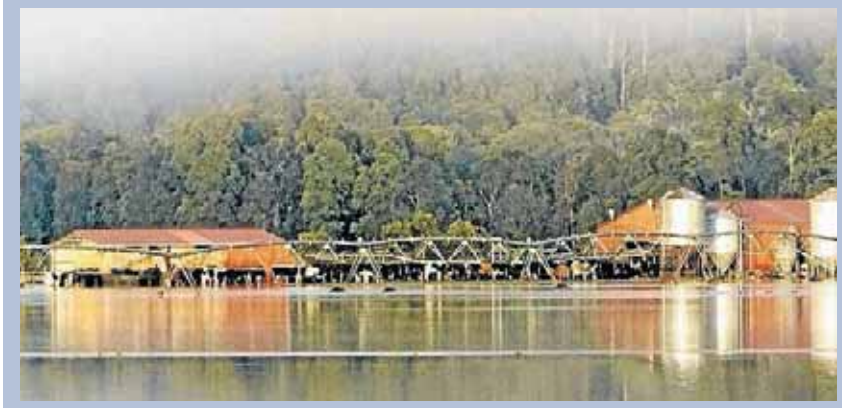
Stock losses amounted to about 20 animals, lower than initially thought after several were found alive downstream.

Cows start calving from August 1, and Mr Lambert said he was confident he would have everything working by then, although calves might need to be reared off-farm because the calf paddocks were flooded and some of the calf sheds have disappeared.

Mr Lambert said help from volunteers to get the farm back on track had been incredible.

"The volunteers have been unbelievable — we have had probably 100 different volunteers come and help us," Mr Lambert said.

"Half a dozen people came on the first day. They had to walk two kilometres through a swamp and helped pull logs out of the dairy. The willingness of people to come and help out has been outstanding and it has made the community closer." ▶



Part of the Morgan-Finch herd stranded by floodwaters. Picture by Joann Morgan-French.

Farmers lose 200 cows

NORTH-WEST Tasmanian farmers the Morgan-French family lost a third of their dairy herd in dramatic flash flooding that engulfed their Rogers Creek farm at the beginning of June.

However, thankfully, the rapid actions of the family meant they saved 400 of the herd by using a boat to swim the cattle to the safety of the dairy.

The Arthur River runs along one boundary of the family's property and that burst its banks in the early hours of June 6.

Family member Joann Morgan-French said the waters rose quickly around them and by 7am most of their farm was underwater.

"We were at the cowshed, we had some of the cattle in for milking, we had heard that it was going to flood in some areas so we were aware something could happen but we didn't think it would be that much water coming straight down," she said.

The family decided to move their herd to the highest point on the property before the waters encroached over the farm.

"One minute it was in the paddock and the next it was over the yard - we quickly realised that the highest point of the paddock wasn't going to be enough [to save the cattle]," Mrs Morgan-French said.

The family launched a boat from one of their access roads, which had already been inundated with water, and cut fence wires to reach the stranded cattle.

"Some of them were already isolated, it came up so fast we couldn't reach them, the power of the water that was coming through, there was nothing we could do," she said.

The ones they did reach they swam back to the safety of the dairy, where they waited in stomach-deep water for the peak of the flood to subside.

Mrs Morgan-French said she had never seen a flood like this on her property.

"We have had floods before, but we have never seen this before... we underestimated the amount of water that was going to come down," she said.

The risk of flooding had forced Mrs Morgan-French, her husband and their two children to evacuate their house the night before.

In the light of day, Mrs Morgan-French said the farm "looked like a war-zone".

"Parts of the farm were under more than six foot of water," she said.

Trees, fences, generators, tractors and motorbikes were all damaged during the inundation and the dairy was filled with mud, sticks and debris from the water.

"Everything that has a motor in it will have to be repaired or replaced," Mrs Morgan-French said.

Duck River Dairies is a Murray Goulburn milk supplier that has been hit hard in the past month by dramatic cuts in the farmgate milk price.

The floods forced them to dry off their remaining cows a couple of weeks early.

Mrs Morgan-French said emotionally and financially the family was doing it tough, as the dry season, the price cuts and the floods took their toll.

However, she said she wanted to thank those in the Circular Head community who had put up their hands to help.

"We've had people cooking for us, volunteering to clean, they are out there now cleaning up," she said.

She said the family couldn't thank the community enough.

"At the end of the day no human life was lost and that is the most important thing," she said.

—CAITLIN JARVIS

A dairy herd in floodwaters in the Latrobe area of Tasmania in early June. Picture by Cordell Richardson

By the end of June, most fences had been rebuilt, while a lot of debris had been cleared.

But Mr Lambert was still uncertain about how much insurance would pay for the damage as his company would cover only storm, not flood, damage. He said that was difficult to define as they were "in the eye of the storm and the water had come from everywhere".

If they don't receive insurance, they will look to do some repairs more cheaply.

The farm business was eligible for a government grant of $25,000 and low-interest loans of up to $130,000, he said,

A priority for the farm is animal health. Because the cows were dried off so quickly, the owners were unable to administer dry-cow treatment. So, the herd is being closely monitored for mastitis and to treat lameness brought about by cows standing in water for two days.

The Bloomfield family, also at Merseylea, lost 180 to 200 cows from its 500-cow herd.

"It is just devastating, losing the cows that we have lost," Taniel Bloomfield said. "It's an absolute mess on the farm.

"You've lost your cows, you've lost your production, you've lost the calves of the ones that were in calf."

Mrs Bloomfield said the lost cows were milkers as their dry stock and young stock were kept on other farms.

The flood level exceeded previous high water marks on the farm.

Native Plains Road at Merseylea washed away by floodwaters. Picture by Paul Lambert.

"We haven't had anything like this before," Mrs Bloomfield said.

Her husband Luke had prepared for the flood, moving stock and pumps to higher ground, but it was not enough. "You can prepare for a flood, but something like this, you can't prepare for it," Mrs Bloomfield said.

The Bloomfield dairy was not flooded and they were able to keep milking through the use of a generator. But they faced issues getting pumps dry and power poles back up so they could pump water to the dairy to clean the vat and plant and to provide water to troughs for stock.

"You can't begin to add up the cost — not just the lost cows, but the lost breeding, the lost production," Mrs Bloomfield said.

Mr Smith said most farms in the Meander area had been damaged but this was mostly restricted to fencing and pumps with no reports of stock losses or other farm infrastructure in that area.

Ouse, Tas, dairyfarmer Grant Rogers had about half his farm under water and lost pumps and fences but everything else was okay, Mr Smith said.

He said field supply officers at milk companies were helping farmers work through flood issues and providing information about where they could get assistance.

A Rural Relief Fund, which is co-ordinated by Rural Business Tasmania, is collecting donations via website <http://www.ruralbusinesstasmania.org.au/Relief-Fund>, phone 1300 883 276 or at any ANZ branch.

A south-western Victorian dairyfarmer has set up a crowdfunding campaign to help Tasmanian dairy producers hit by floods.

Fleyas Holsteins Jessa Fleming said the floods had resulted in heartbreaking stories of farmers who had lost cows. She said she had set up a GoFundMe page to help farmers with veterinary and feed costs.

Although Victorian dairyfarmers were doing it tough, Ms Fleming said the Tasmanian crisis "put it into perspective."

"They have had the drought, they have had the fires and now a lot of them would be affected by the price crash — it's just awful," Ms Fleming said. "It puts everything into perspective. While it's hard for us, we are not missing half a herd of cows, down a flooded river."

The GoFundMe site can be found at <https://www.gofundme.com/286bqnpw>.

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Meander farmers Brian and Michele Lawrence at their award-winning property Janefield. Pictures courtesy: Ashley Hobbins.

Attention to detail key to success

Key points

- ✔ Farm converted from sheep property
- ✔ Access to irrigation key risk management strategy
- ✔ Involvement with other farmers helps

By **Caitlin Jarvis**

WHEN Brian and Michele Lawrence first laid eyes on the property that would become their home for a decade, what they saw wasn't exactly their vision. The run-down sheep property had drainage issues and rocks and yielded low-fertility pastures for the sheep being run there.

But the Meander Valley, Tasmania, couple's hard work over the past decade was rewarded when they were named the 2016 Dairy Business of the Year by Dairy Tasmania.

Mr Lawrence said that when the pair started life on their farm, their three children were two, four and six years old and life converting a dairy farm with young children had its challenges.

They started out with 460 cows but now have 1050. Milk solids produced from the property per year have grown from 158,000 kilograms to 450,000kg.

'I would just like to show it's a worthwhile profession.'

Dairyfarming is a lot of hard work and it often means long days and nights out on the property. The pair said any time they had to spend together as a couple was important.

A typical day for Mr Lawrence means getting up with the sun to take over milking the herd from one of his staff. From calving to early January, the herd is milked twice a day, but a month past peak production they switch to milking three times in two days as the cows can store 16 hours of milk in the udder without problems.

"So we'll do them in the morning and late afternoon and then late morning the next day. It's just easier on the cows that way," Mr Lawrence said.

Cow welfare was important: the cows were a lot like members of the family.

"They come first, they have to come first; if we have a problem at home we can just fix it ourselves but if they [the cows] have a problem someone needs to get in there and fix it," he said

Mrs Lawrence agreed: "If they're all right then I'm okay, I can relax; I need to make sure they're okay."

Janefield has had a tough season, with the dry weather taking a toll on the cows and pasture.

The couple said they were thankful they had irrigation water to draw on during the worst of the season.

Mr Lawrence said having access to irrigation had been important for the couple because dairy was an industry that was affected a lot by the weather.

"When you invest so much and are exposed to dry summers we have commitments and debt and didn't want to be in a situation where we couldn't produce milk," Mr Lawrence said.

Despite the challenges over the years, the Lawrences both always have a sunny smile on their faces.

Mr Lawrence said he chose the dairy industry partly because of job security but also because he loved the people who were involved. ▶

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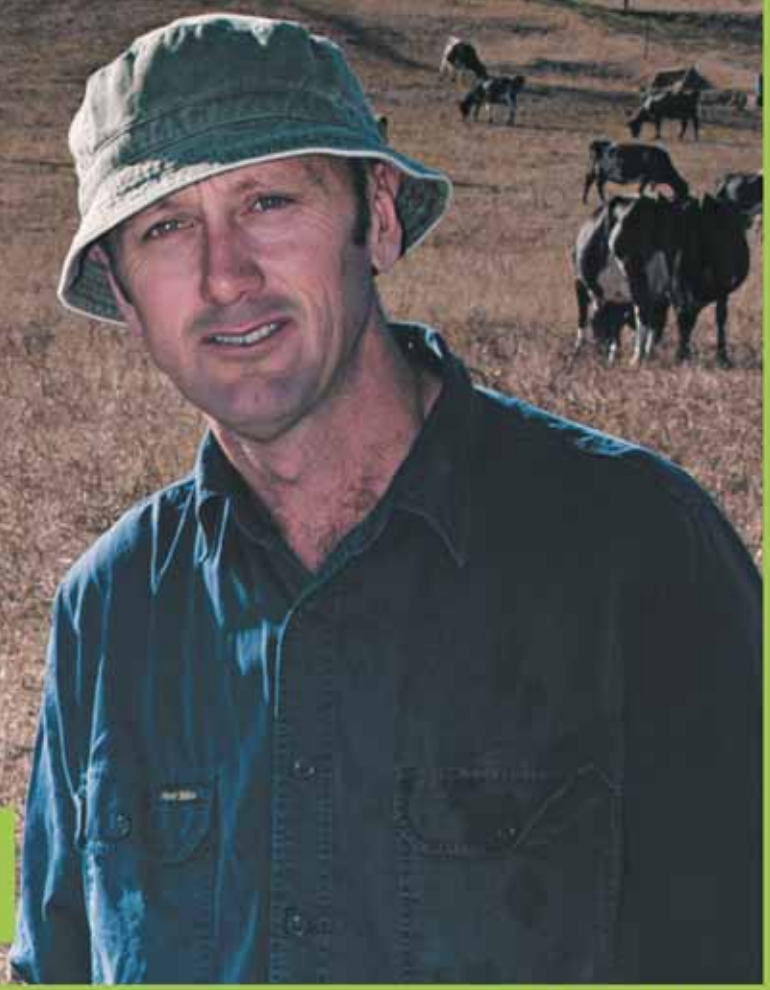

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Some of the Lawrences' 1050-strong dairy herd at Janefield.

Brian Lawrence checks some pasture.

"You do get to meet a lot of people and they are really inspiring," he said.

Mrs Lawrence said one of the best things about dairyfarming was the camaraderie within the industry.

"There's always lots of innovation and research that helps along the way and there's always someone looking over the back fence to see how you're going," she said.

The pair said they became involved with the Dairy Business of the Year awards to share with others what they were doing at Janefield.

"There are so many ways to dairy farm and it's really about showing what we're doing," Mrs Lawrence said. "Unless people share you can't see what other people are doing and what works."

Mrs Lawrence said they used performance indicators to see how they were tracking as a business but said they didn't expect they would win the state award.

"It's nice for the kids, they feel pride," Ms Lawrence said.

"I didn't come from a farming background and they [the kids] have friends who don't appreciate what farming is, I understand that, but this is a great chance to show them what we're doing and that it's a great life."

Mr Lawrence said he wanted to show people that dairyfarming was a good choice for a career and that farmers could be successful and have a good life if you chose the industry.

"I would just like to show it's a worthwhile profession," he said.

Tasmanian Institute of Agriculture dairy centre development and extension team leader Lesley Irvine said the Lawrences had been part of the TIA benchmarking program for the past three years and had been finalists in each of those years.

"Their attention to detail throughout the conversion to a dairy farm is evident everywhere you look on the farm," she said.

"Since the beginning Brian and Michele's aim has been to develop a profitable and sustainable dairy farm; they feel a responsibility to utilise the resources they have to efficiently produce food."

Tool for managing tight times

Key points

- ✔ Farm part of ImProving Herds project
- ✔ Herd test data used in business decisions
- ✔ Invaluable when milk price dropped

WHEN Josh Balcombe, from Warrion, Victoria, signed up as a participant in the Improving Herds project in 2015, little did he know he was arming himself with a valuable tool for tackling a season with unimaginable challenges.

Josh and his parents, Fiona and Mick, milk up to 350 cows a year in a split-calving herd, supplying Fonterra.

They began dairying in April 2014, buying cows from a variety of sources.

In 2015 Josh was invited to be one of seven ImProving Herds Focus Farms to explore how herd test data makes a difference to farm management decisions.

None of the farms were herd testing before and most received six months of free herd recording and support in interpreting the report.

'When Fonterra announced the lower milk price, I went straight to the herd test results.'

The Improving Herds team tracked the focus farmers' experiences and monitored changes to decision making and the financial impact of using herd test data.

Josh said he was glad he jumped at the opportunity and started herd recording in October last year.

"Our farm relies heavily on bought-in feed so we were interested in being able to monitor each individual cow's performance and making sure she was paying her way in terms of milk response to supplementary feed," Josh said.

"Then we had a drought and milk price drop so we had to make decisions about culling cows mid-season.

"Without the herd recording data, we would have just been guessing which cows to cull.

"One of the things I've learnt from herd recording is that a cow may look like a superstar but only be doing 10 or 15 litres a day," he said.

As the dry season persisted, Josh identified cows to cull mid-lactation based on production levels and cell count.

"When Fonterra announced the lower milk price, I went straight to the herd test results and identified about 23 cows to cull; mainly empty cows that weren't performing.

"I also dried off a few cows early; low production cows that are due to calve in September."

When each set of results arrived, Josh looked at both herd and individual cow records.

"I am always interested to see how the top and bottom 10 per cent of the herd are performing," he said. ▶

HICO's James Beasley discusses herd testing with dairyfarmer Josh Balcolmbe from Warrion, Victoria.

He also found herd test results valuable for improving mastitis management. Although the herd's bulk milk cell count (BMCC) is consistently under 100,000, Josh has been able to identify individual cows for treatment.

"Most of them responded well, but a few of them didn't come good so we culled them," he said.

"Herd recording is the only concrete way you can do this."

The Balcombes herd test every second month in the evenings, using electronic milk meters.

"The herd test milking session is pretty smooth; it takes about half an hour longer than usual but it's no extra stress because James (Beasley) from HICO is in the dairy taking care of the samples," Josh said.

But Josh admits getting set up for herd recording in the first place took considerable effort, which was made easier by having the support from HICO.

"Because our cows originated in a variety of herds, their ear tag numbers were all over the place," he said.

"We removed them all and started again and we freeze branded them as well."

Setting up cow records in Mistro Farm 5 was also quite an undertaking.

"HICO staff came out during a milking and entered the basic information on the cows as they came through the dairy," Josh said. "Most of the cows we bought came with little or no records, so we had to guess their ages and some of the other details."

These days, Josh maintains the herd's records on Mistro and says herd recording has made him more motivated to keep them up to date, to ensure he gets the most value from the reports.

"It's definitely been worth the effort," Josh said.

Improving Herds is a Gardiner Foundation project lead by the Department of Economic Development, Jobs, Transport and Resource and supported by Dairy Australia, Australian Dairy Herd Improvement Scheme, National Herd Improvement Association and Holstein Australia. D

Contact: ADHIS extension and education manager Michelle Axford, phone 0427 573 330, email <maxford@adhis.com.au> or <www.adhis.com.au>.

ImProving Herds

IMPROVING Herds is a three-year project to demonstrate the contribution of herd data and higher genetic merit animals on dairy farm profitability.

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- Seven focus farms: tracking the value of herd test data to making quick decisions to increase herd performance.
- 25 dairy herds: analysing the impact on profit from focused bull selections and the genomic testing of females.
- Developing a model to test scenarios on farms and across herds.

Funded by the Gardiner Foundation, ImProving Herds is a collaboration involving the Victorian Government, Australian Dairy Herd Improvement Scheme, Dairy Australia, Holstein Australia and the National Herd Improvement Association of Australia.

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Retaining workers a matter of skills

Key points

- ✔ Call for wage subsidies to help retain staff
- ✔ Good staff management critical
- ✔ Infrastructure expenditure to be put on hold

By **Jeanette Severs**

IN response to the milk price crisis, dairyfarmers in Victoria and Tasmania are advocating for on-ground support to retain farm workers, as it will deliver benefits to rural communities as well as farms.

Apart from the obvious — dairy workers mean the difference between fielding a football team or employing a teacher in many rural communities — it is also about retaining the skills mix within the dairy workforce, preserving trust and maintaining farmer health.

Tasmanian farmer Garry Carpenter is concerned about the impact on farmers trying to manage farms without staff.

"If you have no farm workers, everything piles up and your mental and physical stress increases," he said. "You can't run a dairy farm alone."

Garry and Bev Carpenter operate two dairy farms — at Gunn's Plains and South Riana — and are building a third dairy at Gunn's Plains. They employ seven people, including themselves.

Garry Carpenter, who is expanding his dairy business in Tasmania, says wage subsidies would help farms retain staff during the current dairy price crisis.

They milk 780 cows across the existing two farms; but are building numbers at the second dairy for when the third dairy is commissioned in 2018, when they will have a total herd of about 1200 cows producing 10 million litres of milk.

Mr Carpenter has been meeting with politicians, local councillors, bankers and processors, along with industry bodies such as DairyTas, to advocate for "skin in the game" support that retains farm workers and helps cash flow. "Everyone is concerned about keeping staff on, particularly apprentices," he said.

"It's about increasing cash flow. What will help is an interest rate subsidy of three per cent on existing loans and reimbursing the equivalent of unemployment benefits to the farmer, who will top up a worker's salary to the true rate.

"Increasing cash flow pays bills at the end of the day.

"But getting these new ideas

'Everyone is concerned about keeping staff on, particularly apprentices.'

through to the departments is very complicated. Giving money to support workshops and counselling is money that doesn't hit the pavement.

"Government subsidising the interest rate on farmers' existing loans by three per cent — the government could write to the bank confirming the arrangement — instantly increases cash flow.

"The current situation in the dairy industry dictates that help has to be accessible within a really short timeframe.

"The current situation is particularly hard for younger farmers and those new in the industry. People have invested millions of dollars in their dairy farms, with technology, irrigation, dairy platforms, herds — they are viable businesses but there is going to be a cash-flow shortage for the next 18-24 months."

His own investments in technology include heat detection collars and automatic drafting gates.

"Those investments make a difference to safety on farm and in livestock handling," Mr Carpenter said.

"Everyone on our farms understands that if they don't feel safe doing something, they are not to do it. Automatic drafting gates reduce livestock handling, and everyone on a farm knows that minimising livestock handling reduces accidents."

As part of managing staff in the operation, some employees have specific roles, while others cover various tasks.

Mrs Carpenter is responsible for managing reproduction, including artificial insemination and mating and Mr Carpenter does tractor work. There is a manager in charge at the Gunn's Plain farm.

The milking crew organises its own roster. "Everyone gets one weekend in two off — that's a given," Mr Carpenter said.

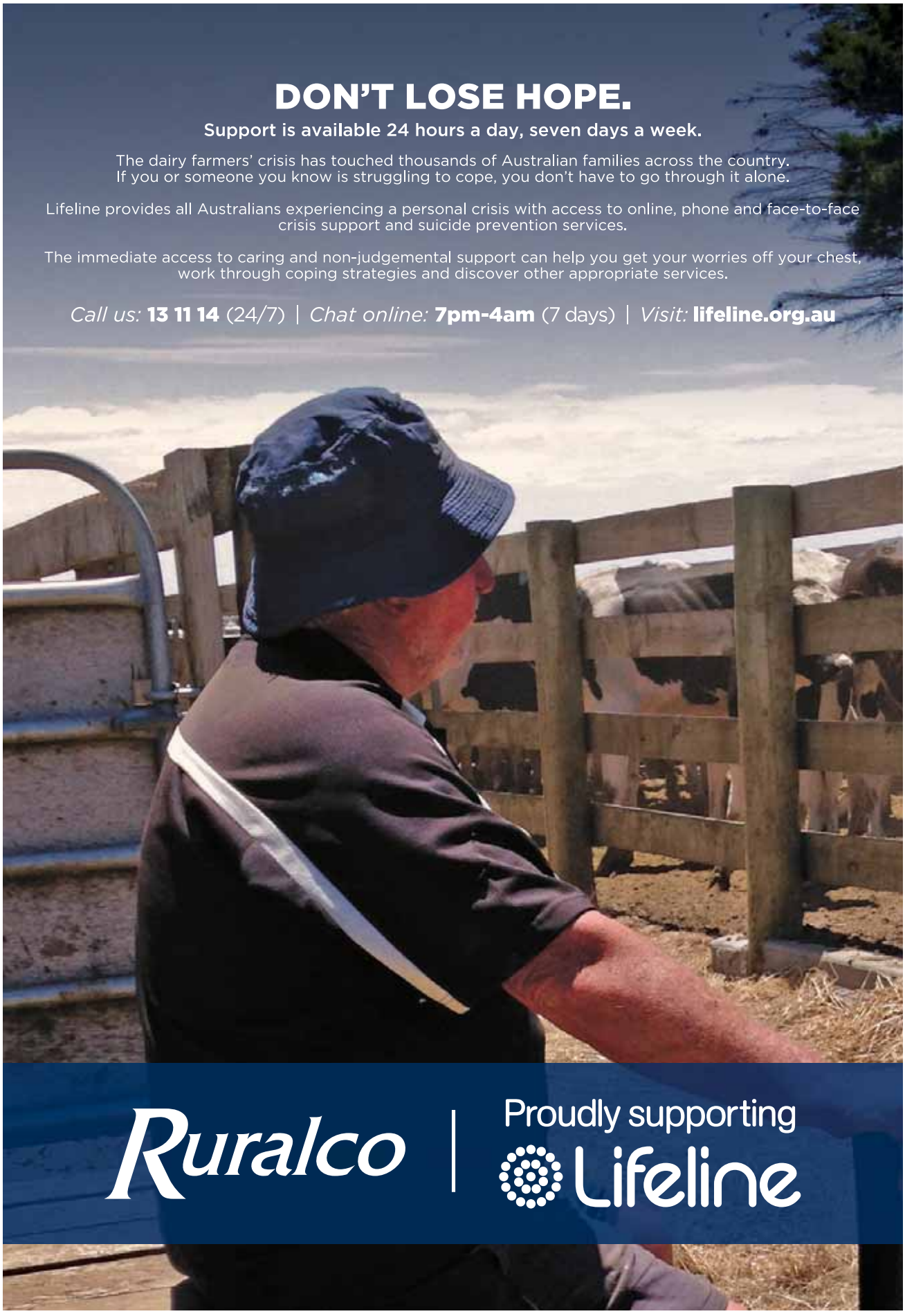
As the farm manages the impact of the milk price fall, further infrastructure investment will have to be put on hold for a year or two. The third dairy platform will be completed and fences and pastures destroyed by floods in June will be replaced.

The Carpenters are also looking at changing the calving pattern. They currently run a split-calving system, but Mr Carpenter said it might be worth reconfiguring to split-calve just one herd and manage the other two herds as spring-calving herds.

Garry Carpenter has invested in technology such as heat detection collars.

"It will make better use of staff time and where the market is heading, but there will be a decline in the winter milk production," he said.

"The message we need to be putting out to banks and government is that dairy farms are robust businesses ▶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◀ that will be very short on cash for the next year or two but are trying very hard to retain employees."

Mr Carpenter had reassessed his business plan based on a possible $4.25 a kilogram opening price. Among his options, the last was to lay off his skilled and valued employees, including an apprentice.

"We have a really good crew of people and the last thing any farmer wants to do is put off employees who are good, reliable people," he said.

"We'll suffer through the price drop. We've spoken to our employees about not taking on additional commitments of their own — they all have mortgages and families."

Similar conversations are occurring on many dairy farms across Australia.

Alan Clyne, who runs an 890-head split-calving herd at Maffra in the Macalister Irrigation District (MID), attended a meeting of his neighbours and industry colleagues in late May where the same concerns — subsidising existing loan interest rates and farm workers' wages — were raised.

Mr Clyne's extended family runs 3000 cows across several dairies in the MID. He employs nine people — a mix of permanent, casual and backpacker workers. His focus was on reducing expenses to keep the same margin, while maintaining production at the same level.

"We're not going to get the same income," he said. "We've looked at the business economically but there is a level of margin we're going to have to maintain."

Jon Ryan and Alan Clyne are focused on reducing expenses but also want to retain staff.

Like any farm, there is a dynamic mix to decision making. His current farm manager — son-in-law Jon Ryan — was moving onto his own farm in the new financial year, taking the equity he had built up in the herd.

"We've got a real good number of replacement heifers that will be ready because it was important we both have decent herds and maintain production on both farms," Mr Clyne said.

"Our youngest son, James, will then step up to manage the herd and begin building his own equity. For the past six years, he has been responsible for herd breeding and young stock management."

Mr Clyne supported assistance to retain farm workers and subsidise interest rates on existing loans.

"People need to continue their strong relationship with their existing bankers," he said.

"And there's no point in cutting back staff to unsustainable levels ▶

Increasing cash flow essential to recovery

A MEETING of Macalister Irrigation District dairyfarmers at Maffra, Victoria, in June supported the introduction of a 2.5 per cent interest rate subsidy to be applied against existing loans and for assistance with retaining farm workers.

There are 500 dairyfarmers in the MID, based in Wellington Shire.

Nambrok farmers Jason and Casey Bermingham said an interest rate subsidy on their existing farm debt would be an enormous help.

"Subsidising our interest rate by 2.5 per cent would mean we could go back to basics and buy more fertiliser, grow more grass. It would support feed costs and give us so much more flexibility in the business," Mr Bermingham said.

Mrs Bermingham said the couple did not want to move their loans to another bank.

"We want to retain the existing relationship we have with our current bank — that's what's going to help us in the long term," she said.

Mr Bermingham also supported wage subsidies — equivalent to Centrelink payments — to keep his two farm workers employed on farm.

"Support to help keep our two workers — it's not just about the issues of rebuilding trust and retraining if they go — it's also about supporting our own mental wellbeing and family life in the next 18 months," he said.

A Wellington Shire Council spokesperson estimated losing 300 dairy farm workers out of the MID would cost $46 million in lost business to the region.

Member for Gippsland Darren Chester said the initial wave of assistance measures — which included financial and wellbeing counselling services and government loans — were only a first part of the solution. He welcomed suggestions that helped the dairy industry more strategically — supporting retention of farm workers was a financially cheaper option and better strategic decision for the government than those workers moving onto welfare assistance packages.

"A lot of Commonwealth resources go into supporting them when they're unemployed," he said. Flexible solutions that support farmers retaining their existing loan arrangement with their bank and assistance for agricultural contractors were also suggestions he supported.

He also raised issues around barriers to assistance eligibility experienced by overseas-born dairyfarmers and farm workers.

—Jeanette Severs

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◀ where you are doing everything. You need enough workers to ensure key people don't burn out and everyone gets work-life balance."

Part of staff management would be to ensure employees took their rostered days off and annual leave — every employee was encouraged to take two weeks twice a year to fit in with split-calving.

Mr Clyne said their staff management included everyone taking their turn on the milking roster.

Calf rearing was the responsibility of one person with rostered assistants — the same methodology was applied on the calving pad.

Safety was emphasised — everyone had to wear a helmet when on a motorbike or ATV.

Professional development was also part of staff management.

"We try to employ people who want to study agriculture courses," Mr Clyne said.

"One manages the agronomy and grazing of the farm and we have another employee who wants to do the same course.

"It's to our benefit but it also means he gets skilled up if he wants to go elsewhere."

Investment in technology and equipment were also regular expenses on dairy farms.

One of the decisions Mr Clyne recently made was to hold off on further irrigation investment for a couple of years.

"Funding new technology and equipment in the last 20 years has been tremendous, especially the cost of irrigation automation in the past 10 years," he said.

"Now we have this application for the phone — automating the flood irrigation gates will cost $3000 each valve — but we're going to have to hold off on that."

Other infrastructure on hold includes pasture development around a centre pivot and installing spray irrigation and a new workshop for the dairy and machinery maintenance.

While he can see the current situation is manageable for his business, his concern is for younger farmers.

"We'll have to keep margins breakeven positive and that's going to be a challenge," he said.

"We'll trim expenses by putting off projects for a year or two.

"For us, it's important to keep our farm workers because we and they have invested in trust relationships and building skills.

"But younger farmers need interest rate subsidies and help with keeping their farm workers on.

"We experienced the interest rate subsidy during the 2004/05 drought and it was an absolute great help in continuing to trade.

"We don't want a generation lost to the industry." D

Filipinos working out for Riversleigh dairy

AS well as Australian-born workers, the dairy industry is responsible for many international employees, particularly those on two-year and four-year visas, who need to be factored into the current dairy crisis.

A dairyfarmer in Gippsland, Victoria, has found success employing a Filipino dairy worker, after employing Australian and other international workers, with varying results.

Riversleigh dairyfarmer, Lyndon Plant, Le Ferme, milks 1000 cows and employs, among his staff, Jason Flores, a Filipino with nine years' experience working in Saudi Arabia and New Zealand.

Filipino dairy workers find Australia an ideal place to work; not least because their families can live with them. Many are well qualified and bring years of experience and a good work ethic to the job, according to recruiters and employers.

Mr Flores is employed by Mr Plant on a four-year contract sponsoring permanent residence for himself and his family. He has an agricultural science degree and specialist qualifications in artificial insemination. In Saudi Arabia, he was solely responsible for managing milking 3500 cows/shift on a dairy farm with a herd of 22,000 milkers.

For Mr Flores, employment in Australia also meant, for the first time in nine years, his family could live with him. His elder son started primary school at Boisdale this year.

Riversleigh, Vic, dairyfarmer, Lyndon Plant, with Filipino employee Jason Flores.

"Australia has good weather and living conditions and lifestyle for my family to live with me. I take my sons fishing when I'm not working," Mr Flores said.

"On Lyndon's farm I'm using my qualifications in AI and herd management."

Fiona McIlveen, a dairy recruitment specialist at Strathmerton, Vic, said she recruited many Filipino workers to Australian dairy farms.

"They are well qualified, and quite a lot on our database have worked in Saudi Arabia and New Zealand," she said.

She recommended diligence for a satisfactory long-term outcome. With international workers, she said the more successful relationships were forged with those employed on two-year and four-year visas. Misunderstandings sometimes occurred because of a lack of language skills as much as experience and skills in the dairy industry.

"But most are candidates of high calibre, with formal qualifications and experience that qualifies them for manager or 2IC roles," Ms McIlveen said.

She warned that regularly changing immigration department guidelines added another layer of technicality to sponsoring employment of international dairy workers.

—Jeanette Severs

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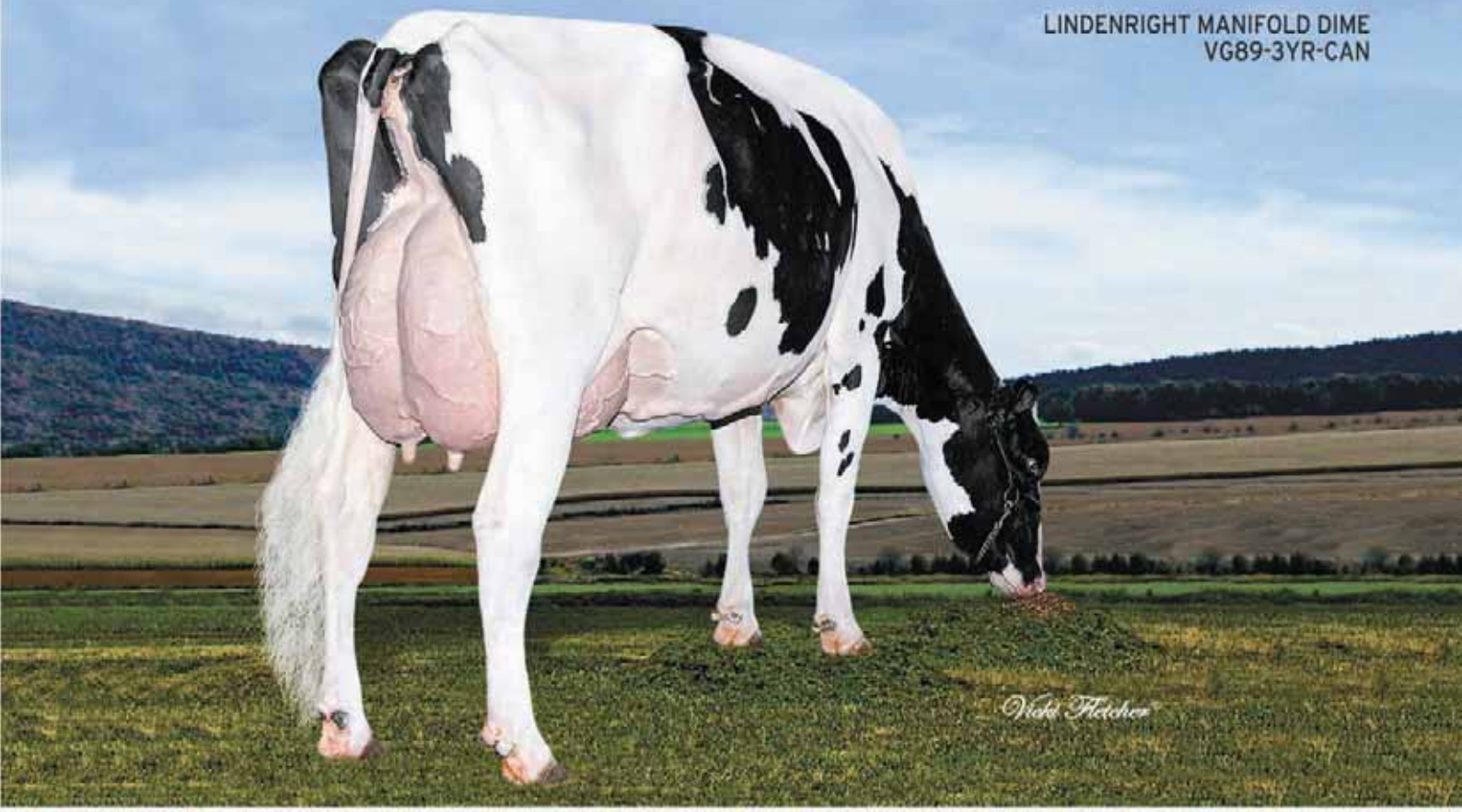

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Good staff help hit goals

Key points

- ✔ Develop good people management culture
- ✔ Providing feedback essential
- ✔ Important to reward people

By **Elizabeth Anderson**

PEOPLE can be one of the biggest assets to a farming business or they can be a liability. The DairySA conference earlier this year addressed this topic under its theme People, Production, Technology: getting the right mix.

The Right Mind International consultant Jill Rigney, Brisbane, said finding and managing staff could be a big part of ensuring the business was on the path towards its goals. As part of her talk, she asked employers to consider "would you work for you?"

She said part of this process was to assess the business culture and values.

"What's acceptable and not acceptable?" she asked.

"All businesses will have a culture, and you need to make sure it's the one you want. You can have the best plans and strategy, but you need the culture to implement it."

Ms Rigney said it was also important to have these values and culture in mind when hiring.

She said hiring was often a mix of character versus competence, and sometimes there was too much emphasis based on competency.

"Skills are important but they are not necessarily the only thing," she said. "With character, do they fit the business or will they cause toxicity or stress?

"When finding the right staff, you may have to get out of your own zone, own area, maybe own industry to find the right people. There is nothing wrong with head hunting."

Once hired, Ms Rigney said the best performance could be achieved with a system of stress and relief, with the latter a necessity.

"Stress is good but rest is essential," she said.

Providing feedback to staff was one key area where many could fall down.

"We have a tendency to only give feedback when we screw up," she said.

"We need to give positive feedback. And accountability can be difficult if you don't have set goals."

Western Victorian dairyfarmers Tania Luckin and Bruce and Andrea Vallance focus on rewarding staff.

'The biggest problem with communication can be the illusion it has taken place.'

Rewards could come in many forms, with humans driven by different things, not just money.

"Be creative," she said. "You need to have conversations and discover what is important to your employees."

Ms Rigney said one of the biggest tools was communication.

"The biggest problem with communication can be the illusion it has taken place," she said. "All across Australia, agriculture does struggle to have these conversations."

The conference also heard from two Western Victorian dairyfarming operations that have put their focus on proper process and recognition to keep good staff.

The 2012 winners of the Great Southwest Dairy Employer of the Year Award, Stephen and Tania Luckin, Heywood, Victoria, grew their dairy business from 200 cows to 520, but wanted to make sure employees were a priority. Mrs Luckin said they decided to focus on the "three Rs".

"Recruitment, retention and retrenchment — if you do the first two well, there is less need for the last one," she said.

Mrs Luckin said it was important to start the recruitment process with a detailed position description, then find the right person to fit.

The business had a thorough induction process, which "makes sure everyone is on the same page". It included a folder with physical maps of the property, a list of goals and values for the farm and documented procedures. She said monitoring staff could be awkward but a clear position description helped the process.

"Written farm systems and processes save headaches and give clear and defined responsibilities," she said. "Finding out what makes staff tick helps retention."

Mrs Luckin said farmer member groups could often help with legal advice during retrenchment, but it was important to be fair, respectful and transparent.

"With retrenchment, you can bury your head in the sand, but if you recognise an issue, it's best to deal with it as soon as possible," she said. "Your former employees are your best or worst advertisement, depending on how you treat them on exit."

Andrea and Bruce Vallance, Nirranda, Victoria, said the right people were an important part of their business, and it was important to reward them.

"We couldn't do what we do without the right people," Mrs Vallance said.

This includes mixing up the milking roster to give workers the opportunity to sleep in or spend time with their families. Rewards for staff could be as simple as Christmas hampers or lunch at the pub, through to more creative ideas such as racing hot laps, deep sea fishing trips and helicopter joyrides.

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Steve Stanley and Darren Merritt discuss the keys to good performance.

Managing the human resource constructively

Key points

- ✔ Farm undertakes team development program
- ✔ Establishes vision and core set of values
- ✔ Employs people on attitude, not experience

By **Frank Smith**

THE 2016 Western Dairy Innovation day was held at Elgin Dairies, Boyanup, Western Australia, on the property of Darren and Sharon Merritt in April. Family friend Phil Depiazzi introduced the Merritts and their enterprise.

He said Darren joined the family enterprise at the age of 15. At that time they ran 180 cows on 180 hectares. Darren's father Lloyd retired in 1999 and Darren worked for Steve Scott until 2006, before starting farming in partnership with his brother.

In 2008 his brother moved on to other activities, so Darren started on his own with 150 cows and 150 heifers on 310ha.

He has now expanded to 720 cows on 680ha. He built the necessary infrastructure as he went along; first the hay shed, then the calf shed and this year a new dairy.

'Managers cannot change anyone's behaviour or performance unless they can change the mental models that drive that behaviour.'

"He gives attention to detail and is creative," Mr Depiazzi said.

"He plans, researches and builds everything himself and he's an expert in both machinery operation and maintenance.

"He's built up a team to staff the new parlour. For him quality staff are important to success.

"Get good people on team quickly and bad people off quicker, is his motto."

Last year Dairy Australia contracted Steve Stanley of TeamSmart to work with Darren and Sharron Merritt to assist in building the team needed to successfully operate a dairy enterprise.

When the contract began the workforce was not clearly aligned and the Merritts were asking for support to organise the human resource matters that had been cobbled together as best they could under the stress of shortage of time and limited experience.

Steve Stanley said Human Resources was a high priority in a successful business. Farming was a business not unlike other businesses, but more complex because of the influence of season and fluctuating markets.

"Culture is the key," Mr Stanley said.

"I hate the term HR — it is not about form filling — it is about getting the best set of people on the team and getting the team to do what it needs to do on a daily basis.

"Any group of people always forms a culture, and we need to direct the development of the culture. It is easiest to create a culture from scratch and hard to change an existing culture."

Mr Stanley started by working with the family to establish a clear vision of what they wanted the farm to be like. This was an essential first step before putting it to the team.

It was important to get the vision right — what the farm would look like three to five years ahead. It is difficult to think what anything can look like across a longer period.

'Any group of people always form a culture, and we need to direct the development of the culture.'

Once the farm family agreed on the vision, it was time to sell it to the team.

The next step was a meeting of all staff to establish an understanding of the mental models and what was required to improve and reach the vision.

Mr Stanley said mental models were the blueprint of behaviour. It was the beliefs and values that people held. The way in which habits were created was how they needed to be broken. Managers cannot change anyone's behaviour or performance unless they can change the mental models that drive that behaviour.

"The values of the team cannot be imposed by Darren and Sharron from above; telling anyone older than teenager how you want him or her to behave is fruitless," he said.

"You need to look at the world from someone else's viewpoint. Making an effort to understand where a member of your work team comes from is not beyond your capacity.

"We held a discussion with the group on what makes a really good team and what are the characteristics of a team that is effective, works well and makes you want to be part of it."

Mr Stanley asked each member to write anonymously on a piece of paper a score for the existing team out of 10. One meant no team but a group of individuals earning money. The scores were collected and an average calculated.

The discussion then turned to listing the behaviours needed to take the score up to 10. When this was completed, a vote was taken to decide the four or five most important values.

These values become "the way we do things around here". When someone strays the manager can ask: "tell me how what you have just done fits the values we have agreed".

Darren Merritt in the calf-rearing shed at his farm, which has undergone massive development in the past eight years.

The values adopted at the Elgin dairy were:

- We work as a team sharing work and supporting each other;
- We complete each job every time;
- We treat others with respect and we earn respect ourselves;
- Communication is most important to help us work as a team; and
- Do as I do — we lead by example.

Eventually, they established the vision and set of core values that everyone agreed to work within.

Some staff did not want to go down this path and left.

Elgin Dairies now has a solid team, focused on where the business is heading and keen to work towards it.

Completing the HR documentation to solidify the agreements was in hand, using the dairy industry Employment Starter Kit (ESKI) available on the Dairy Australia website.

This provides the basics: initiation, contract, job description and safety addendum.

Darren said the process had been worthwhile.

"Eight months after the change, there is now a more harmonious atmosphere at work," he said. "We work together. Our core values are important. If there is a problem everybody pitches in until the job is done.

"The whole farm ticks over easily."

Darren said they took a more considered approach to finding staff.

"Quality is our first priority," he said.

"When you are employing new people, you tend to go for the first person who comes through the farm gate. Don't fall into that trap.

"We select more on attitude than experience. It can be hard to change bad habits. We can train people with no previous experience.

"Young ladies make good cow people. They are good at hygiene and calm with cows.

"We went for a 24-stall parallel parlour for staff retention. It's better than a rotary with one person doing one job all day long.

"To keep good employees we look after them real well — a good salary and we don't tamper with them, and try to give them good life/work balance.

"Communication is important. We have a regular breakfast meeting every 14 days. There's a kitchenette in the dairy.

"During expansion, there's a temptation to employ backpackers. We never employ transient employees."

Mr Stanley said: "I can only work with farmers who want their teams to improve and are aware that the quality of their people is paramount to great results.

"The cows are important but getting the right people to care for them and form a coherent team is more important.

"Without this any business is likely to hit trouble."

Assessing technology for heat detection

Key points

- ✔ Devices to detect heat and monitor health
- ✔ Farmers need to assess cost versus value
- ✔ Not a set-and-forget technology

By **Frank Smith**

KNOWING which cows to inseminate and when to inseminate them has been an important part of cow management since artificial insemination was first introduced to dairy herd management almost 100 years ago.

When 25 cows were considered a fair sized dairy herd, it was easy to spot any cow on heat, but with herds now in the hundreds or thousands it is not so easy for farmers to keep a close eye on all animals.

But technology has come to the rescue. At first tail paint and heat mount detectors were used, but more recently accelerometers have been introduced. A relationship between cow activity and oestrus has been known for 60 years, but the technology to monitor and record cow activity is a much more recent development.

At least two companies are marketing devices in Australia that detect oestrus. These devices also warn of possible health issues in cows.

Unlike people the devices are awake 24 hours a day every day. They can also keep the farmer informed about the cow's activity through a web browser via the internet or a downloadable app via smart phones, anywhere in the world.

Information is stored in the cloud so the farmer does not have to manage software networking or back up.

The cost of heat-detection systems varies depending on the features incorporated. This can range from simple heat detection to monitoring of rumination, grazing, resting and temperature potential providing information on feed and health as well as oestrus.

A Queensland veterinarian Dr Carl Hockey compared devices available for monitoring heat at the Western Dairy Innovation Day at Darren and Sharon Merritt's Elgin Dairies in Western Australia in April. Both systems were installed on a group of 25 cows in the Merritt dairy.

Carl Hockey challenges farmers to understand what they wanted from new technology.

Dr Hockey said classic signs of oestrus were an increase in activity, standing to be mounted and changed fluids in the vagina. Activity meters would detect 80-95 per cent of cows on heat with 80-95 per cent accuracy. The onset of increased activity occurred roughly 30 hours before the onset of oestrus and the optimal time for insemination occurred about 16 hours later.

Dr Hockey said this technology should not be treated as a set-and-forget system. The farmer should review reports at least daily.

Things to look for when thinking of buying a heat monitor included:

- Data transfer method;
- Range;
- Ease of attaching/removing device; and
- Computer versus phone storage of data in cloud.

The cost depends on amount of information sought. For a 200-300 herd, it costs about $190 per cow or $30,000 to $50,00 for the herd.

"If you decide to use the health rumination and nutrition feature you may need to optimise it for your herd to be compatible with your milk monitoring system," he said.

"The important questions to ask are: 'do I need this technology on my farm?'; 'is it going to add value greater than its cost?'; and 'how can I best use it to maximise the returns it will bring me?'."

Devices compared

The two devices compared on the Elgin farm were Cow Manager and Moo Monitor.

Julian Bentley explains how Moo Monitor works.

Chris Kendal describes the workings of Cow Manager.

Cow Manager is a device that fits on the ear tag, while Moo Monitor is attached to a collar around the cow's neck.

Moo Monitor creates alerts when a cow is on heat or when its behaviour changes beyond a threshold from normal behaviour. This can be a change in rumination, feeding, resting, activity levels or a combination of these.

Cow Manager also incorporates a temperature sensor, which together with rumination and activity changes, can give an early indication of ill health. While deep body temperature increases during sickness, ear temperature normally decreases due to reduced blood flow to the ear.

A further use of these devices is to monitor changes in the whole herd's nutrition level. A Feed Factor parameter is compiled from a combination of rumination, eating and activity behaviour of the group. This can provide warnings of possible problems with the feed ration or pasture management.

Chris Kendall, of World Wide Sires, described the Cow Manager, manufactured by Agis Automatisering BV of the Netherlands.

He said the Cow Manager fitted on a button over the National Livestock Identification System (NLIS) ear tag. It was a triaxial accelerometer that recorded information of cow activity in five-minute blocks. It could be interrogated by a web browser or smart phone. "You don't lose information if the system crashes," he said.

"It can store data for up to nine days. Data can be transferred by radio to a computer up to one kilometre away or to a smart phone held within 15 metres or to the cloud.

"If the cow loses her tag, you can find it using a smart phone app."

Ear tags last five to 10 years with a five-year warranty and can easily be recycled.

Cow Manager can be used to identify cows on heat, but additional modules, at extra cost, give information on cow health and feeding behaviour.

Changes in rumination and activity, together with ear temperature, give the farmer 24-48 hours warning of clinical signs of illness.

This can be used to decide whether to treat with antibiotics or other medicines.

Julian Bentley, of Dairyking, described the Moo Monitor manufactured by Irish dairy company Dairy Master.

He said the Moo Monitor was a multi-axis MEMS accelerometer mounted on a collar. It monitored activity including feeding, resting and rumination 24/7.

"It is designed for cows on pasture," he said. "Housed cows don't move much but it is still possible to monitor their behaviour.

"Every cow is an individual, but by comparing behaviour to the herd average picking up cows that are sick becomes obvious. Cows with mastitis don't ruminate much."

Data is analysed by the 32-bit processor in the device and an alert sounded if an animal is potentially sick. Data can be transferred to a computer up to one kilometre way or scanned by hand-held smart phone. Software updates are provided regularly and the processor is reprogrammed automatically as necessary through the Internet.

The Moo Monitor should last 10 years and has a seven-year warranty. "With the Moo Monitor you can know each cow intimately even if you have 1000 cows," he said.

Fodder: feed it, don't waste it

Key points

- Fodder waste at feed out can be significant
- Use feeding infrastructure to reduce waste
- Wet conditions can lift waste considerably

By **Frank Mickan, Pasture and fodder conservation specialist, Department of Economic Development, Jobs, Transport and Resources, Ellinbank Centre, Victoria**

THE cost of harvesting and storing excess pasture as hay or silage is about double the cost of growing, fertilising and grazing it.

Then there are the arguments about the cost of silage versus hay, early versus late cut silage or hay, bales versus pit silage, hay rounds versus squares, netwrap versus strings. Strong pros and cons could be put for each. There are also arguments about the best method of storing silage and hay.

But regardless of these — there are considerable savings to be made by minimising wastage at feeding out.

'Waste cannot be totally avoided but it should be minimised, as every kilogram of fodder waste increases the costs of the utilised feed.'

First up, wastage cannot be totally avoided but it should be minimised, as every kilogram of fodder waste increases the costs of the utilised feed.

Have a really good look at some of the numbers presented, rubbery as they might be, and decide whether there are things that could be done on the farm to reduce feed-out losses. See if some ideas presented here could be adopted.

Farmers say to me: "We've got to feed it out and we have to put up with some losses; fact of life Frank."

I ask them so how much stack or baled silage and/or bales of hay they made last season. Let's say the silage stack was 400-tonne dry matter (DM) and the stack of hay was 400 round or square bales. Now, go pull out 15 per cent of each and stick a match in it. That's 60 tonnes of silage and/or 60 bales of hay that have been lost. So 15 per cent does not seem so trivial now.

This 15 per cent waste is over and above all the other losses to date such as the forage being harvested too late, the silage stack being poorly sealed, rain affecting the forage, poorly sealed bales, hay baled too rank or slightly wet or hay stored outside.

Unfortunately little research has been conducted to measure wastage of fed-out fodder and much of this has been with beef cattle. This is largely due to the difficulty and time required to retrieve and measure all the wasted material from among the pasture, being pushed into mud, covered in poop and urine, spread across a large area. Also, it's not a pleasant job and variation in results requires lots of measurements to be meaningful. Some studies have visual estimates of waste (dicky at best) or animal responses comparing systems, but not actually measuring wastage.

A recent review of research found that on average 17 per cent of the DM offered was wasted but this ranged from four per cent to 46 per cent (up to 77 per cent in wet and muddy conditions).

The main factors contributing towards the wastage were storage, packing, method of feeding out, length of material, amount of silage/hay on offer and its palatability and/or nutritive value, not forgetting the major impact of wet weather.

If wastage was 25 per cent instead of five per cent, the cost of the remaining feed consumed would cost 20 per cent more. If vetch hay was bought for $280/tonne landed and 20 per cent was wasted, that hay would actually cost $336/tonne. Ouch!

Do the sums at 15 per cent wastage on silage figures for the farm. Four hundred tonnes DM of silage with 15 per cent wastage is 60 tonne DM x $/tonne DM cost to grow, spray, fertilise, harvest and store it = $? wastage. A stack of 400 round bales of hay with

15 per cent wastage is 60 bales x $/bale fresh weight to grow, spray, fertilise, harvest and store = $? wastage.

Now convert that wasted feed into foregone milk production and/or lost weight gain for young heifers or dries and the costs really are much higher.

Obviously round bales stored on the ground outside will have exterior waste on the perimeter and at the base as moisture "wicks" its way up into the bale, causing it to rot/disappear into the ground. These are storage losses but the uneaten, weather-affected fodder will form part of the waste.

Dairy Australia's Grains2Milk program undertook a study in 2009 to measure as accurately as possible the amount of feed wastage on 50 dairy farms across Victoria, South Australia, NSW and Queensland using a range of different feed-out methods. The work was conducted by SBScibus. Measurements were taken under dry conditions to allow for accurate quantification of the feed wastage. (Feed wastage under wet conditions can only be quantified accurately under controlled, experimental conditions.)

In the study, the amount of uneaten/leftover feed was classified as 'refusal' and 'wastage':

- Refusal is the amount of feed that remains in the feed troughs, on pasture and on bare ground, and does not get consumed by cows after a certain period of time following the feed-out. The refusal may or may not be eaten at a later stage.
- Wastage is the amount of feed contaminated with urine or faeces and soil, or spread out around the feed-out area and not eaten by cows at a later stage.

With feed-out methods four and five, feed refusals can be collected and fed to other cattle. While it is possible that cattle can return to refusals with other feed-out methods e.g. silage left on pasture, it should be assumed this becomes waste after a certain period of access.

Table 1: Feed wastage (median percentage dry matter, with range in brackets) as a proportion of the amount fed using six feed-out methods in the Dairy Australia Feed Wastage study (2009).

Feed-out method used	DM Refusal (%)	DM Wastage (%)	Total estimated Feed Wastage (%)
1. Sacrifice paddock, fed on ground, ring feeders, or under fence line	5 (0-14)	13 (2-28)	18 (4-36)
2. Fed in grazing paddock, fed on pasture	4 (0-9)	6 (0-15)	9 (1-23)
3. Semi-permanent facility with compacted surface, low-cost troughing	2 (0-6)	4 (0-16)	6 (0-17)
4. Permanent feedpad with compacted surface, purpose-built troughing	3 (0-7)	2 (1-5)	2 (1-5)
5. Permanent, fully-developed feedpad with concrete surface	6 (0-22)	2 (1-6)	2 (0-6)
6. Grain feeding in rotary and herringbone dairies	7 (0-39)	1 (0-1)	1 (0-1)

Source: Grains2Milk summary report - Feed Wastage Study, 2009. Dairy Australia

Table 1 shows a summary of the wastage rates measured in the study with six feed-out out methods used on Australian dairy farms. For the full report and for guidelines on how to measure wastage on your own farm, see <www.dairyaustralia.com.au/pastures-and-feeding/feeding-systems.aspx>.

Given the difficulties on measuring all feed wasted, even under dry conditions, typical wastage rates are likely to be higher than these figures from the study. So when making assumptions about wastage rates in feed budgets it is wise to use more conservative (i.e. higher) figures.

Be aware that under wet conditions, especially when feeding out in a paddock regardless of the method used, the losses will be disastrously higher.

No surprise that feeding out fodder on pastures or in sacrifice paddocks can lead to large losses of feed but within each of the feed-out methods studied, except grain feeding in the shed, some farmers achieved low losses while others had high losses.

So what can farmers do to lower feed-out losses on their farms?

Consider the following suggestions from the Dairy Australia Grains2Milk study and others to reduce wastage of fodder at feed-out:

1. Fodder ingredients/rations

- Feed well-stored hay (covered, shedded) and silage (sealed stacks, individually and continuous in-line wrapped bales) compared with poorly stored hay or silage, which will contain weathered mouldy material and reduced palatability. A major saving.
- Avoid over-long material, usually indicating poorer quality material, which animals can sort out or more easily flick out of the feeding area and which is then fouled.
- High quality, palatable and sweet ▶

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◀ smelling (versus vermin or mouldy hay taint, poorly fermented silage) feeds are usually cleaned up well. Although not always possible, discard spoiled material. Mixing it with good feed in wagon will lead to reduced intake (and production per unit of feed).

• If using a mixer wagon to feed a partial mixed ration (PMR), ensure the ingredients are not under- or over-processed and consider adding water, molasses or oil to reduce the amount of fines, sorting of feed and rejection or wastage of the mix.

2. Feeding infrastructure design

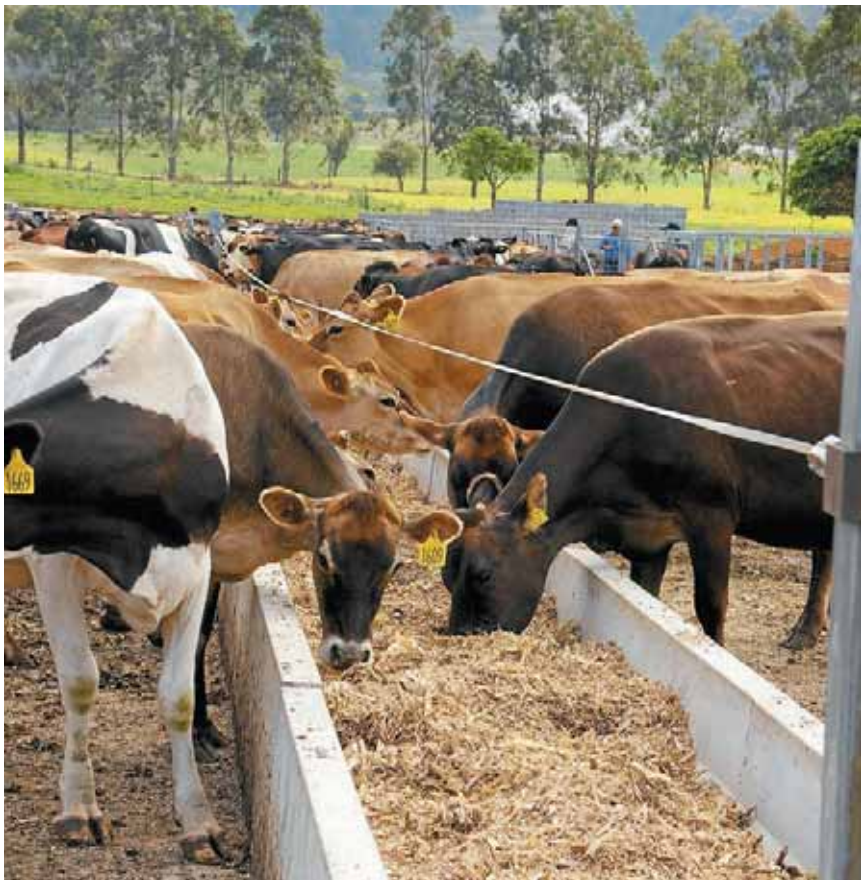
• Use feeders that minimise feed wastage by ensuring its size allows all of it to be reached. Avoid feeders that animals can back out of easily, leading to material being dropped on the ground and fouled.

• Feeders, especially in wet weather, can result in damaged pasture surrounding the feeder ring, which adds to the total wastage (pasture plus fodder) and can mean pastures need resowing.

• If troughs are used:

1. Aim to have their height at the natural grazing position of the cow, about 10 to 15 centimetres above the ground surface. This also encourages more saliva production, which assists rumen activity.

2. Provide enough space per cow (at least 75 centimetres/Friesian cow) and total animal numbers. More access is needed for restricted time periods compared with situations where cows have 24-hour access.



Use feeders that minimise feed wastage by ensuring its size allows all of it to be reached.

3. Ensure feed troughs are smooth bottomed to minimise build-up of refusals, which eventually becomes mouldy, and to make them easier to clean.

4. Do not place fresh fodder on top of mouldy, deteriorating feed as the moulds and decomposing aerobic bacteria will start to work on the new material.

5. Seriously consider constructing concrete aprons around troughs to minimise mud and poop and piddle slush which all reduce feed palatability.

6. Restrict cattle access to fodder, which is another major way to reduce feed-out losses (see Table 2).

3. Feed management

• Do not overfeed animals. Limiting access to hay bales is also a major way to reduce wastage (see Table 3). Pregnant cows can eat 20 to 30 per cent more hay than their needs if allowed ad-lib access.

• Regularly clean feed surfaces where possible and remove residual feed.

• Avoid feeding out onto long pasture (although this may be a good option in a wet paddock condition, albeit as a last choice).

• Ensure the less dominant animals have a fair go.

• Change feeding system, if possible, in extreme weather conditions (very cold or hot, or very wet).

Table 2: Effect of feedout method on feed intake and animal performance

Measurement	Bale rolled out	Bale Processor	Tapered-cone Feeder
Weight Gain (kg)*	19	27	34
Average Daily Gain (kg/day)	0.33	0.47	0.59
Fat Depth Change (mm)	-0.80	-0.52	+0.30
Fresh Hay/cow (kg/cow)	815	800	692
Fresh Hay/day (kg/day)	14.1	13.8	11.9

Source: Table adapted from *The Professional Animal Scientist* 23, 246 – 252, North Dakota University, 2007

Table 3: Hay wasted by cows when fed with or without racks

Bale type	Feed wastage
Square bale in rack	7
Large round bale in rack	9
Large round bale without rack	45

Source: *Management to Minimise Hay Waste* publication G84-738-A, University of Nebraska, 1996

Shredlage improves maize silage

Key points

- Shdredlage rollers crack maize kernels in half
- Shreds stalk fragments
- Improves fermentation and digestibility

By **Frank Mickan, Pasture and fodder conservation specialist, Department of Economic Development, Jobs, Transport and Resources, Ellinbank Centre, Victoria**

SHREDLAGE has been on the increase in the world of maize silage in Australia since about 2013.

Greenfeed maize, maize earlage, maize stover and processed maize kernels are various forms of treatment for maize produced for many years now.

Researchers, agronomists, ruminant nutritionist and farmers have sussed out many of the pros and cons of these variations of maize when feeding animals. Gone are the days when maize is known to put condition on cows and not produce as much milk as expected.

The recent innovation of Shredlage appears to have more pros than cons at this stage.

Shredlage is a trademarked, patented technology from Shredlage LLC, which from this year is being distributed by Claas globally. Other companies, such as John Deere, are also developing processors to better process the maize kernel and longer chop for maize silage.

What is maize Shredlage?

Shredlage is a recent advance on maize-silage processing. For the odd person who may not know, maize processing was introduced to ensure more of the kernels were cracked than occurred with traditional maize forage harvesters.

Cracking the maize kernels is achieved with a kernel processor (see Figure 1) using a maize cracker (called corn cracker in the US) system, employing a standardised cracker housing unit and a set of rapidly replaced specific maize cracker processing rollers.

This maize processor aims to crack the maize kernels into several small sections/pieces during the normal forage harvesting of the entire maize plant.

This is achieved by cross-grooved rollers set at a 2-3 millimetre roller gap with has a speed differential between the rollers of about 21 per cent. The Theoretical Length Of Cut (TLOC) is about 19mm, but in practice is a bit longer.

This kernel-processed maize silage (see Figure 2) increases the speed and effectiveness of maize digestion by cattle by allowing the rumen microbes to gain access to the starch in the kernel.

However, this often resulted in a maize silage product with even less effective fibre length than unprocessed maize silage and often required an extra fibre source to be included.

Kernel cracking was not effective with the original self-propelled forage harvesters without the kernel cracker.

Shredlage (see Figure 3) is the next step in maize-processing with a new system, the Multi Crop Cracker (MCC) Shredlage.

The Loren Cut rollers (see Figure 1) have either 110 or 145 teeth and 50 per cent speed, which conditions cob fragments completely and cracks the kernels to split them into half, or smaller, when set correctly.

The Shredlage processing unit also shreds the stalk fragments longitudinally with rind material peeled off. The recommended roller gap is 1.75 to 2.25mm (1.5 to 1.75mm if material is drier). Recommended TLOC of this system is 26-28mm but reduced to 21-23mm if material is drier.

Compared with normally processed ▶

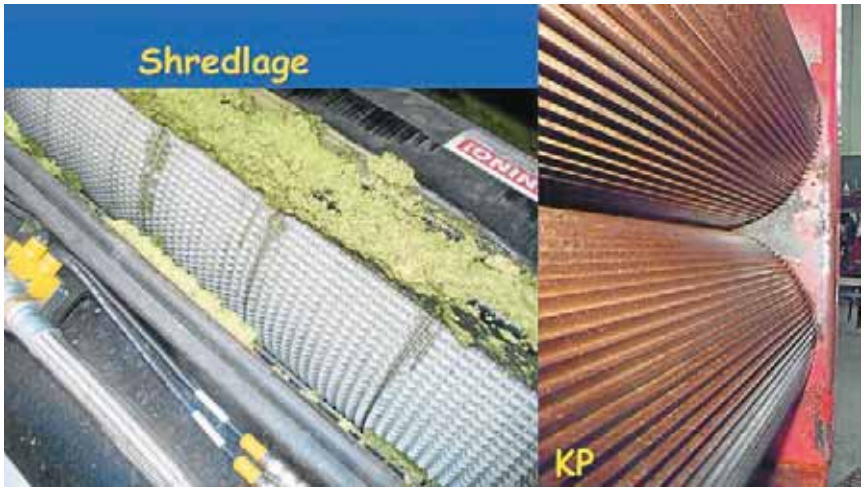


Figure 1: Roller design for Shredlage (at left) and kernel processing (at right). Source: Kevin J Shinners University of Wisconsin

Figure 2: Conventional kernel processed (KP) maize. Source: Kevin J Shinners University of Wisconsin.

Figure 3: Maize Shredlage. Source: Kevin J Shinners University of Wisconsin

◀ maize, Shredlage has several extra benefits including:

- The intensive processing substantially increases the exposed surface area of the chopped material, resulting in significantly improved fermentation during ensiling.
- For the same reason digestion in the cow's rumen is significantly enhanced.
- More physical effective fibre (peNDF), which is needed to slow the rate of movement of the feed through the rumen and provides more rumen scratch.
- Allows farmers to replace other sources of fibre (hay, whole cottonseed, straw) in the diet, potentially reducing costs.
- A more consistent fibre source compared with alternatives such as cereal fodder, lucerne, which can vary widely in dry matter content, nutritive value and possibly length between cuts or purchased lots.
- Makes diet balancing simpler.

These advantages have been proven on many farms in the US and increasingly, on Australian dairy farms. Some US nutritionists have measured faecal starch levels of less than one to two per cent, compared with higher levels in traditionally processed maize. These nutritionists view higher levels as wasted energy.

How well does Shredlage compact in stacks?

An initial concern of silage specialists who see stack density as being important to reduce air inclusion, was that the longer fibre might reduce the density in maize silage stacks. But packing density in the bunker/stack has been no different and occasionally, it has been even more densely compacted.

However, US and Australian experience has been that differences in silage nutritive value are due to improved compacting techniques, not in how the forage was processed. It should be noted that as the material becomes drier at harvest, Shredlage may be more difficult to compact due to its longer length, hence the recommended shorter TLOC.

'Shredlage is a recent advance on maize-silage processing.'

Correctly made Shredlage actually compacts well due to the shredding of the stem components if harvested at the correct LOC for the DM. The compaction equipment ensures dense compaction.

Does harvesting as Shredlage affect harvesting in any way?

Harvesting maize as Shredlage is slightly slower than kernel processing maize, requiring slightly more power and fuel.

Most important is to manage the silage outcomes to meet maize silage targets, simply having a Shredlage processor does not mean that Shredlage is being made if crop harvest conditions and harvester settings are not correct or fine-tuned.

Simply changing paddocks or different DM content at harvest will affect the effectiveness of Shredlage as changes occur much quicker when working at these longer lengths of 22mm to 30mm compared with the more traditional shorter cuts 12mm to 21mm.

How do dairy cattle perform with Shredlage in the ration?

Although research is short on the ground, one US experiment showed the following results with dairy cow performance:

- Increased intakes for Shredlage of 0.7 kilograms/day;
- Milk production up by about 1.3 kg/day (3.5 per cent fat corrected milk) after several weeks;
- Feed conversion efficiency (FCE) averaged 1.78 for both groups;
- Neutral detergent fibre (NDF) digestibility was four per cent higher for Shredlage; and
- Starch digestibility was 1.9 per cent for Shredlage.

Other recent research has recorded increased milk production of about 1.0 to 1.13 kg/day for Shredlage over kernel processed maize silage.

Is Shredlage economical?

It is early days yet in Australia to put a definite cost on producing Shredlage as contractors are still trying to assess the extra fuel and time for different situations but the US experience so far has revealed only a slight increase in cost.

However, successful US producers think the extra cost is more than offset by ration adjustments and the improved processing of the fibre fractions for improved digestion, rumen health and animal production/or gains in production.

Having said all this, putting my extension farmer-biased hat on, many farms have much room for improvement in the basics of making maize silage.

Such improvements are harvesting at the right DM content, setting and maintaining existing kernel processors as required to satisfactorily process the kernel, better compaction, better sealing of stacks, using appropriate silage additives for better ensiling and to delay heating at feed out, and better feed out management. D

Making the most of maize silage

Key points

- High-yielding maize is not always the most profitable
- Manage water and nitrogen together
- Adjust plant density to improve quality

To achieve profitable maize silage, manage the crop to optimise both yield and nutritive value.

HIGH yields are desirable in maize crop silage, but the most profitable maize crop for silage is not necessarily the one with the highest yield.

The nutritional value of high-yielding maize crops tends to drop because the increase in grain percentage can be offset by an increase in fibre content.

We learnt this the hard way in FutureDairy trials where we consistently obtained 25-plus tonnes dry matter (DM) a hectare (harvested) but with energy contents always lower than 10 megajoules of metabolisable energy per kilogram of DM.

It is best to aim to manage the maize crop to optimise both yield and nutritive value.

Water and nitrogen (N) are the two most critical inputs to ensuring a profitable crop of maize silage. They are interrelated, so they need to be managed together to optimise yield and quality.

A high-yielding maize crop will extract more than 300kg N/ha. At least 80 per cent of this needs to be added to achieve high yields.

Nitrogen-use efficiency improves with irrigation and water-use efficiency improves with nitrogen application. But there is a point where the marginal return decreases and it's not profitable to increase inputs beyond that 'optimal' level.

> ***'It is best to aim to manage the maize crop to optimise both yield and nutritive value.'***

Tip 1: Do not apply the full amount of nitrogen to a crop if water will be limiting.

When planning fertiliser applications for a maize crop, take into account irrigation water availability. If water is likely to be limiting, adjust nitrogen application. For example, N application both presowing and at V6 stage are highly recommended, but if an adjustment is needed, save the N for the V6 stage.

Tip 2: Time water application for greatest response.

If irrigation water is likely to be limiting, resist the temptation to underirrigate throughout the whole season. There will be a better response to water by timing water applications to critical periods. This means prioritising water around crop establishment (up to about six-leaf stage) and the five-to six-week period around tasselling. Maize uses most (about 70 per cent) of its water requirements in the three weeks either side of tasselling so make sure it receives its irrigation needs at this time.

Tip 3: Match fertiliser rates to target yield.

Aim to apply at least 80 per cent of nutrient requirements as fertiliser. Soil testing or tissue sampling is the best way to determine fertiliser rates. ▶

◀ However, as a rule of thumb, high-yielding maize crops remove:

- 10-12kg N/t DM/ha;
- 2-3kg phosphorus/t DM/ha; and
- 8-10kg potassium/t DM/ha grown.

Tip 4: Time nitrogen applications for greatest response.

Maize uses nutrients throughout the growing cycle but its greatest need for nutrients is when the plant is growing most rapidly, from about 45cm high to grain fill.

To supply the crop's needs, it is best to apply at four stages (if fertigation method is available): pre-planting, planting, at 45cm high (V6) and at tassel emergence (V12). If this is not possible, split nitrogen application into about half pre-sowing and about half at V6.

If a limited amount of nitrogen is available (for example, less than 120kg N/ha) it is better to save it for around the V6 stage. In our trials, application at V6 only increased grain content by 36-57 per cent across a range of irrigation regimes, and increased water use efficiency by about 30 per cent compared with 12 per cent when the N was applied pre-sowing only.

Tip 5: Adjust plant density to nutrients and water.

FutureDairy's Professor Yani Garcia says water and nitrogen are the two most crucial inputs for achieving profitable maize silage.

Plant density should be managed in relation to available nutrients and water.

We have used high plant densities (more than 100,000 plants/ha) to achieve greater than 25t DM/ha with full irrigation and about 270kg N/ha but this results in excess fibre accumulation across the whole plant, and particularly in the cob. A plant density of about 80,000-85,000 plants/ha will normally give a better balance with irrigation and fertigation (or pre and post sowing application of N) are available. D

Contact: FutureDairy, Professor Yani Garcia, phone (02) 9351 1621, email <sergio.garcia@sydney.edu.au>.

FutureDairy's major sponsors are Dairy Australia, DeLaval and the University of Sydney.

OB stretchwrap film developed

Key points

- Oxygen-barrier stretchwrap film developed
- Research shows produces better quality forage
- Further development expected

By **Frank Mickan, Pasture and fodder conservation specialist, Department of Economic Development, Jobs, Transport and Resources, Ellinbank Centre, Victoria**

Table 1: Oxygen transfer rate through a range of high quality bale wrap films

Film Type	Thickness (micron)	Thickness at 70% stretch (micron)	Oxygen Transfer Rate @ 0% stretch (cm^3/m^2/ 24 hrs)	Oxygen Transfer Rate @ 70% stretch (cm^3/m^2/ 24 hrs)
SILOSTOP Bale Wrap film	25	23	20	286
Regular bale wrap-Brand 1	25	18	1978	11,650
Regular bale wrap-Brand 2	25	20	1871	9240

Source: Innoform, Germany, 2015

FORAGE wrapped in stretch wrap film as baled silage can be expensive but is economical if cut early in the season, wilted to the correct dry matter (DM) and sealed with the latest plastic technology. With the expense of growing, harvesting and feeding out bales, DM and quality losses need to be reduced at all stages from standing grass to harvesting to storage to feeding out.

The aim for baled silage stretchwrap film is to have excellent puncture resistance, an ultra-violet (UV) light inhibitor, constant and even stretch on application and to prevent oxygen from entering the bale. Whether three or five layer form, it must also incorporate sufficient tack levels in the layers to deliver a tough, high-performance bale wrap that operates well for both day and night in all climates.

In latter years, stretchwrap film has been made from co-extruded, linear low-density polyethylene (PE) films in three and five layered forms. Each company argues that its film offers the most benefits and least drawbacks. As in most areas, there are the ethical manufacturers who produce high-quality films and others who are not so ethical. The odd film still occasionally comes to Australia from some companies in the northern hemisphere and Asia-Pacific who are aiming to get rid of excess film at the end of their season and the start of Australia and New Zealand seasons, usually at a discounted price. Often these films do not contain enough concentration of UV light inhibitor for our higher solar radiation, and the film breaks down too quickly (within months) after application.

The technology of stretchwrap plastic for the sealing of baled silage continues to improve each year, and this year sees another player in the paddock.

'The technology of stretchwrap plastic for the sealing of baled silage continues to improve each year.'

As with other stretchwrap films, this latest stretchwrap technology has been developed and tested in Australia and New Zealand for a couple of years to ensure the product is suitable for the harsh conditions and that the film does the job well.

This new film uses the oxygen barrier (OB) technology that is used in the OB film successfully developed for silage pits, stacks and bunkers. The OB layer is made from food-grade plastics. It is a patented film with a layer of impermeable plastic (ethyl vinyl alcohol, EVOH) sandwiched between layers of polyethylene.

This new OB film is nearly 100 times more effective as a barrier to oxygen permeability than PE films. It is 25-micron thick. Table 1 shows the oxygen transfer rate through three stretchwrap films on the market as independently tested recently in Europe.

Table 1 shows that the OB film is clearly less permeable to oxygen compared with the other films, tested using single layers. However, it is early days as yet and the OB film, due to its more expensive manufacturing cost, will be dearer in the field and will need to show enhanced benefits. Other manufacturers are starting to market similar types of films in Europe and Australia. The technology to implement this OB film into stretchwrap film has taken some time to be developed and no doubt will continue, as will the development of stretchwrap films from other manufacturers.

Some of the questions that will arise this year as the film is used for the first time in Australia include: How good is it? How good is the UV inhibitor for Australian and NZ conditions? How long before it breaks down in sunlight? How many layers are needed? What stretch is recommended? How long will it last? Can it be recycled? What is its cost? Would six layers of another high quality three or five layered film compare favourably with the OB film at four layers?

To answer some of the above questions three research studies have been conducted with baled lucerne silage in Italy, where the OB silage stack film and now OB bale wrap film is being manufactured.

Three experiments examined the effectiveness of the type of stretchwrap on fermentation quality, mould growth on the bale surfaces and DM losses and in terms of spoilage and mould growth over an extended period (420 days). The films used were conventional polyethylene (PE) versus two new co-extruded films with enhanced OB technology, polyamide (PA) and ethyl vinyl alcohol (EVOH).

Before use, the three films were tested to specific and recognised standards for oxygen permeability at 23 degrees Celsius and 50^0 Celsius (see Table 2.). The two OB films, Medium OB (PA) and High OB films (EVOH), reduced oxygen permeability significantly more than the conventional PE film. Note the increased per- ▶

meability at the higher temperature, a common situation in many Australian locations.

After a storage period of 420 days, the plastic stretchwrap was removed and visible moulds on the sides and ends of the bales were located and measured. For the microbiological measurements of the yeasts and moulds, four cores were taken from the side of the bale from the surface to 120 millimetres depth. To measure the extent of mould over time, further coring occurred in the same holes from 121mm depth to 480mm depth. Table 3 shows these results.

Table 3 shows the results of trials one, two and three. Both OB films reduced the amount of mould on the bale surface (sides and ends) by about 10 per cent compared with PE films of about 20 per cent in trial two and 53 per cent in trial three. The OB films also significantly reduced the yeast and mould counts in the outer

Table 2: Oxygen permeability of PE and OB films before stretching at 23° C and 50° C.

Film Type	Thickness (micron)	Oxygen Transfer Rate @ 23°C ($cm^3/m^2/24$ hrs)[1]	Oxygen Transfer Rate @ 50°C ($cm^3/m^2/24$ hrs)[1]
Conventional PE	25	7120	21,360
Medium OB	25	408	2062
High OB	25	19	45

Source: Adapted from Borreani and Tabacco, 2010. University of Turin, Northern Italy

[1]Cubic centimetre per square metre per 24 hours at 1 bar pressure and 65% Relative Humidity (Test Standards)

Table 3: Effect of three film types on mould (%), pH and yeast and mould counts on bale surface and core after 420 days storage

Trial No.	Dry Matter Content (%)	Stretch Film Type	Total Surface covered by Mould (%)	pH	Bale Surface (0 - 120 mm)		Bale Core (121 - 480 mm)	
					Yeast log_{10}(cfu/g)*	Mould log_{10}(cfu/g)	Yeast log_{10}(cfu/g)	Mould log_{10}(cfu/g)
Trial 1	64.0	H OB	7.1[b]	5.40[b]	1.68[b]	0.98[b]	1.04[b]	1.23[b]
	64.0	M OB	9.4[b]	5.30[b]	2.08[b]	1.10[b]	1.14[b]	0.92[b]
	64.0	PE	23.0[a]	5.54[a]	3.41[a]	2.87[a]	2.39[a]	2.02[a]
Trial 2	61.3	H OB	4.0[b]	5.33[b]	2.54[b]	1.99[b]	1.94[b]	1.90[b]
	61.3	M OB	6.3[b]	5.26[b]	1.82[b]	2.01[b]	1.24	2.13[b]
	61.3	PE	20.6[a]	5.53[a]	3.12[a]	3.12[a]	1.26	4.01[a]
Trial 3	58.7	H OB	3.1c	5.19[b]	1.07[b]	1.43[b]	0.90[b]	1.60[b]
	58.7	M OB	10.8[b]	5.47[b]	1.14[b]	2.01[b]	1.23[b]	1.27[b]
	58.7	PE	52.9[a]	6.83[a]	3.07[a]	3.24[a]	3.66[a]	3.46[a]

* log_{10}: A form of measurement to count extremely large number of micro-organisms. (cfu/g) is the unit used to estimate number of viable bacteria per gram of material

[a b]: Averages in the same column and within trials followed by different letters are statistically different

Source: Adapted from: Borreani and Tabacco, 2010. University of Turin, Northern Italy

120mm of the bale compared with the PE film. In most cases (not trial two for the yeast count only), the yeast and mould counts in the OB films were also significantly lower than the PE films. The acidity of silage (pH) is an indicator of fermentation quality, the lower the pH, the better. Although low in numerical value, the OB films had significantly lower pH values than the PE films.

Ammonia nitrogen (NH_3N) was determined and is a measure of the breakdown of crude protein (CP) during fermentation and is affected by DM content and oxygen trapped in the bale at baling or oxygen ingress through the film over time (and from holes in the film). The results are not shown as there were no difference between films at the surface or in the core apart from the core in trial three where the OB films recorded lower NH_3N (51.5g NH_3N/kg DM) compared with the PE film (96.0 g NH_3N/kg DM). That is there was nearly twice as much crude protein breakdown in the core.

The DM losses have been reported in graph form and it is difficult to provide the actual numbers. However, the DM losses in trial one were about 8.5 per cent DM for the PE film and about 2-3 per cent DM for the Medium OB and High OB films. In trial two the DM losses of the PE and Medium OB films were between 4.3 and 6.3 per cent DM respectively compared with the High OB film (about one per cent DM).

In trial three, DM losses of PE and Medium OB films were between 11.3 per cent and 10.8 per cent DM respectively compared with the High OB film (6.8 per cent DM).

Another trial by Borreani and his team compared Italian ryegrass wrapped with four layers of PE to Medium OB film and stored for 140 days. Yeast counts were significantly higher for the PE film (3.49 log10 colony forming units/gram (cfu/g) than for the Medium OB (2.59 log10 cfu/g). The loss of DM for the PE and M OB wrapped bales was 8.0 per cent and 5.5 per cent DM respectively.

These results clearly show that four layers of the Medium OB and High OB films were equal to (and may be better in some aspects) than six layers of PE film.

One Australian trial with perennial ryegrass examined wrapped bales with four layers of PE and high OB films at 55 per cent stretch. Surface (0-200 mm) and centre (600 mm) core samples were taken after 227 days and measured for DM content, acidity (pH), CP, water soluble carbohydrates and a few other quality measurements and the important yeasts and moulds.

Given this trial is about to be reported at future conferences in the near future by those involved, I do not wish to say anything more than that the Medium and High OB film performed better than the PE film and similarly to the research by Borreani reported above.

Similar to most other PE films, the plastic is guaranteed for one year, 25-micron thick, similar tackiness, stretch and other characteristics. The film has no specific requirements for application. Four layers are satisfactory on round bales but six should be applied to square bales, tubelines and stemmy crops and if bales are to be transported. Stretch on round bales is 70 per cent and about 55 per cent on large square bales. Contrary to popular belief in some quarters, OB film is totally recyclable. Cost will be higher and it may be that six layers of a high-quality PE film will be equally or more economical notwithstanding the research by Borreani showing better bale hygiene.

The proof is always in the eating of the pudding, i.e. animal production and animal health. As I said last year, watch this space for further developments in all stretch-wrap films.

Bale weight more than meets the eye

Key points

- Bale weight difficult to assess visually
- Makes considerable difference to cost/kg DM
- Density can be useful indicator

By **Frank Mickan, Pasture and fodder conservation specialist, Department of Economic Development, Jobs, Transport and Resources,Ellinbank Centre, Victoria**

Figure 1: The bale on the right is slighter dense and has not slumped as much as the one on the left.

DO you pay your hay contractor on a cost/bale basis? Do you buy your hay on a dollar/bale basis? Do you really know the weights of these bales? Do you know how much you may be overpaying contractors or hay sellers and sometimes under paying?

Some contractors and sellers try to do the right thing price-wise to maintain credibility and continue their good rapport with valued clients, while to be fair, it is almost impossible to have every bale an identical size and weight.

Both can vary due to plant maturity at harvest, hay moisture content, bale density and whether the bale diameter is determined by an equipment alert system and/or the operator.

This article aims to alert farmers to some concerns about the charge rate or cost of hay based on bale size and particularly bale weight outside of realistic expectations.

A recent hay bale weight guessing competition conducted by the Australian Fodder Industry Association (AFIA) attracted 200 entries. Estimated bale weights ranged from 250 kilograms to 2000kg fresh weight, with most guestimates between 500kg and 800kg.

The actual bale weight was 404kg and only eight guestimates were in the 400-450kg range. When cattle are sold by weight or when grain or fertiliser are bought, farmers expect to be paid or to pay on the accurate weight of the item as per scales. Yet when dealing with hay, this rarely happens unless the purchased load is put across a weigh bridge.

Admittedly when a farmer is paying a contractor to harvest for them on a per bale basis the nearest weighbridge may be far away, so it is not easy to get a weight on the bales being produced. However, farmers might be able to beg, borrow or steal a cattle-weighing scale and set them up to weigh a few bales. It might be a hassle but look at the numbers later in this article to see how much it could be worth.

Unlike silage, hay does have reasonably consistent moisture content at baling. But large squares, large rounds and small square bales do require slightly different moisture contents to ensure safe baling.

Table 1: Average round bale weight and range (kg DM) for various bale sizes (m)

Bale Size (m)		Fresh Bale Weight (kg)	
Width (m)	Diameter (m)	Average Weight (kg)	Weight Range (kg)
1.22	1.22	265	195 - 390
1.22	1.52	390	273 - 512
1.52	1.52	475	356 - 658
1.52	1.83	685	658 - 703

Source: Mat Thomas, The University of Kentucky

However, even if identical bale volume could be produced with any bale size (and form), bale weights would vary a bit due to the moisture content at baling, bale density and the maturity and forage type.

Hay bought or baled on a per bale basis can be a minefield and, if possible, should be avoided.

Buying price/baling charges should be on a weight basis or at least on an agreed bale size and reasonable density.

Bales slumping within an hour or so of baling or purchased hay bales being too soft are signs that bales are not dense enough (see Figure 1).

Bales that hold their shape into the next day are dense, will weigh heavy and result in fewer bales per hectare. In this case, the farmer may be happy to pay a reasonable price per bale.

However, in practice, variation in bale weight for a given bale size is frighteningly wide.

The average round bale weight for various bale sizes is shown in Table 1 but there is a wide variation in weights around the average bale weight. This could be due to slight differences in bale diameter but, within any bale size, it is mostly due to bale density.

Bale density is influenced by wrap tightness and bale compression and can vary substantially according to the operator's preference and the ability of the equipment used. ▶

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◄ Most balers have a range of settings that enable wrap tightness and bale compression to be increased or decreased. Some balers can produce soft centres or the compression may be backed off for forage that may not be fully cured to allow heat and sweat loss.

Density is also affected by plant maturity. Leafy pasture is more dense than older, stemmy pasture. Lucerne is more dense than cereal hay and forage species.

So if a farmer is buying or having baled 1.22 metre x 1.52m bales and they are paying say $50/bale for the average 390kg fresh weight (see Table 1) bales, they are paying 12.8 cents per kilogram or $128 per tonne ($/t). For a 273kg bale, they are paying $183/t and for a 512kg bale, $98/t.

Apart from weighing bales, it is not easy to be confident of getting the best value.

For pasture hay, a dense bale is one where a person must push hard to get their fingers into the end of the bale to the second knuckle.

If a dense bale is left on its side the bale will hold its shape, remaining round, perhaps settling a little.

On the other end, a loose bale is one where a person can push their whole hand up to the wrist easily into it and the bale slumps with a flat bottom.

The full range is in between these two extremes, so it is difficult to work out exactly where any bale sits.

Another approach to more accurately estimating bale weight without scales was reported by a United States extension forage agronomist, Associate Professor Dennis Hancock, of the University of Georgia.

He developed a guide for estimating bale weight over a range of bale sizes and densities (see Table 2).

I have converted the figures in Table 2 that he quotes as US pounds to kilograms, density values of pounds/cubic foot to kilograms/cubic metre and length from feet to metres, all on a dry matter (DM) basis.

Make no mistake, bale density is difficult to estimate and any average bale weight for each bale size depends on the range of bales weighed, species and its maturity at baling.

Most modern round balers will produce a bale that is between 145kg DM/m^3 (9lbs DM/ft^3) and 192kg DM/m^3 (12lbs DM/ft^3).

Assoc Prof Hancock said: "If the bales are very loose and spongy when pressed, it is likely that those bales will have a bale density of 9lbs DM/ft^3 or less. If the bale deforms only slightly when pressed or spiked, it is likely to be approximately 10lbs DM/ft^3.

"If the bale is rigid but deforms when pressed hard or spiked, it is likely to be approximately 11lbs DM/ft^3.

"If the bale is very rigid and only deforms under the tractor's weight, it is likely to be approximately 12lbs DM/ft^3."

To calculate the "as-fed" or fresh weight, divide the DM weights in Table 2 by one, minus the moisture content of the bale.

If the hay is well cured, assume 15 per cent moisture.

For example a 1.52m x 1.52m bale of 490kg DM is 490 ÷ (1- 0.15) = 576 kg fresh weight. Be aware that as balers are further developed, they will tend to produce heavier/denser bales than suggested in Table 2.

Table 3 shows the effect of bale weight on the number of trips to transport them to a stack elsewhere. Table 3 also allows farmers to compare whether they are better off to pay for larger bales at a higher cost or smaller bales charged on a per bale basis.

Don't forget bale density within any bale size can vary substantially affecting bale weight and number of bales per hectare (see Table 2).

Remember also that all the average bale weights in Tables 1, 2 and 3 will vary according to all the factors mentioned throughout this article.

Large square hay bales will also vary in density, therefore weight, within each bale size but there will probably be less variation than with round bales.

The only bale weights that really matter are the ones measured or on a weigh-bridge ticket. These allow the farmer to assess the real price of the hay. Weight is also useful when rationing hay to animals. D

Table 2: Estimated dry matter (DM) of bales of common dimensions at various bale densities

Bale Size (m)		Bale Weight (kg DM/bale)			
Width	Diameter	Density kg DM/cu. m (lbs/cu. ft)			
(m)	(m)	144 (9)[1]	160 (10)[1]	176 (11)[1]	192 (12)[1]
1.22	1.22	204	227	249	272
1.22	1.37	259	290	318	345
1.22	1.52	322	358	390	426
1.52	1.22	259	286	313	340
1.52	1.37	327	363	395	431
1.52	1.52	399	445	490	535
1.52	1.68	485	540	594	649
1.52	1.83	576	640	708	771

[1]Numbers in brackets are in feet.
Source: Dennis W. Hancock, The University of Georgia

Table 3: Effect of bale weight on number of trips to move bales from paddock

Bale width (m)	Bale Diameter (m)	Bale weight (kg/Bale[1])	Forage Production per hectare (kg/ha)	Bales produced per hectare (Bales/ha)	Number trips to move bales per hectare (Trips/ha[2])
1.22	1.22	255	5000	19.6	10
1.22	1.52	400	5000	12.5	7
1.22	1.83	574	5000	8.7	5
1.52	1.52	500	5000	10	5
1.52	1.83	718	5000	7	4

[1]Assumes all bales are same density as 1.52 x 1.52 bales of 500 kg fresh weight
[2]Assumes that two full-sized bales carried each trip, except last trip but not always possible
Source: J. Banta, Texas AgriLife Extension Service, Overton

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November 25 Melbourne, Vic	**Dairy Australia's 2015 annual general meeting** Contact: Dairy Australia Phone: (03) 9694 3777 Website: <www.dairyaustralia.com.au>
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Look after the people in the business

By **Kerry Ryan***

Key points

- ✔ Quality personal relationships are vital
- ✔ Maintain work/life balance
- ✔ Helps with transition to retirement

IT'S good to see initiatives around farmer well-being becoming accepted as "business as usual" for the primary sector.

Business, like life in general, is never easy. While the nature of the challenges will change, the reactions required to achieve sustainability, job satisfaction and healthy, wealthy businesses remain the same. These include developing supportive relationships and a personal/professional life that ensures interests outside the business mean more balanced perspectives.

This is especially useful for those in their senior years. Farming couples need to be in a position to look forward with confidence built on a realistic plan for transition when the time for retirement comes.

Right now the headlines are dominated by lower farming returns. While this is frustrating, the pressures they create are not unique — they are just another variant of the events that regularly confront farming businesses. Economic, climatic and environmental challenges will always be around so having structures in place to deal with them is an important part of future proofing a business.

Response strategies fall into two groups. The first is about ensuring quality relationships and the second involves a proactive approach to personal development.

Having positive interaction with those who can contribute to understanding business and personal circumstances, sharing concerns and providing credible advice are key to effective support structures. Obviously, this starts with making time for and committing to personal relationships a priority so that the energy gained from spouses and extended family can be harnessed. Effort invested in these help the family unit to become an ongoing source of encouragement shared both ways.

'Getting out and sharing time and talents with those involved in similar circumstances can be really helpful to maintaining perspective and coping with the burden of business challenges.'

This can be broadened to involvement in farming communities or contact with groups whose activities provide a refreshing break from the rural sector. I find the welcoming and supportive culture in rural communities both sides of the Tasman an inspiration. Getting out and sharing time and talents with those involved in similar circumstances can be really helpful to maintaining perspective and coping with the burden of business challenges.

Equally important is meaningful contact with those outside the industry. Often the local saleyards or farmer co-operative meetings are the wrong place to be in tough times. Involvement in voluntary groups, community initiatives, sports and hobbies can offer refreshing relief from day-to-day business demands. This can result in mutually beneficial opportunities to "get away from it all".

Proactive management of work/life balance is the second key ingredient. This is about healthy lifestyles, protecting work/life balance and developing other interests. Physical and mental fitness are vital to equipping business owners and their staff to face farming challenges.

This is not easy to achieve when economic circumstances demand cost control and potentially limit investment in relief staff or rationalisation to get more done by fewer people. Cutting corners on resources that offer the opportunity to take time out for relaxation is a false economy.

Much of this also connects with the strategies required to prepare for transition for those approaching the twilight of their careers.

They offer a mechanism for adapting to the inevitable impacts of changes in location, lifestyle and how time will be spent when physical involvement in the farm is no longer required.

It's important to approach this phase with confidence. Quantifying retirement needs from a financial perspective is the first step. I find many overestimate the financial resources they will require in their retirement years.

Obviously, this is dependent on individual lifestyle and discretionary spending expectations.

It's important to get an understanding of what financial resources will be available for this phase and start working on any difference by either accelerating wealth creation or recognising how the surplus will be allocated as part of succession planning.

Perhaps the most challenging aspect of retirement planning for many is the likely need for a change in location.

I've seen many circumstances where couples have delayed the move from the farm or to a different environment for too long.

This is often because the farmer has become so physically and emotionally tied to the property through isolation from any interests and relationships outside of farming.

Uncertainty about this can be understandable — especially where families have passed the farm from generation to generation and moving on means breaking ties that go right back to childhood days. However, in the long-term it is not healthy and at some time will need to be addressed.

Whether for day-to-day effectiveness or planning for retirement, developing a wellbeing based, sustainable future will have significant paybacks. As well as improving the immediate future, they will ensure relationships and structures are in place to support transitions through all business phases. D

**Kerry Ryan is a New Zealand based agribusiness consultant available for face-to-face or online for advice and ideas. Contact him at website <www.kerryryan.co.nz>.*

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E.coli mastitis — the toxic cow

By **Sherri Jacques***

Key points

- ✔ Toxic *E.coli* mastitis causes severe problems
- ✔ Requires immediate aggressive treatment
- ✔ Good hygiene key to prevention

ESCHERICHIA coli (*E.coli*) is an environmental faecal bacteria that does not survive well in the udder.

About 70 per cent of *E.coli* mastitis infections will self cure due to its poor ability to invade the udder.

However, if the bacteria releases an endotoxin from the exposed bacterial wall it can be deadly, resulting in death within 24 hours in some cases.

This toxic *E.coli* mastitis is most commonly seen leading up to, and in the first two weeks following, calving.

Conditions leading to an increase in mud and/or faeces on the udder, both weather and or the cow going down in the mud, can predispose to *E.coli* mastitis.

It is the endotoxin released by *E.coli* that causes the severe systemic effect, not just the mastitis.

In fact, the changes in the milk can be less noted than the effect of the toxins on the cow itself.

Milk changes with *E.coli* mastitis can be variable, ranging from almost no change in the milk — just a bit watery with a few flakes — to watery and yellow or in bad cases bloody with flakes present.

Affected cows are usually down, toxic and in shock and require aggressive and immediate treatment.

This usually includes intravenous antibiotics, oral or intravenous fluids as well as anti-inflammatories and positional nursing (rolling from side to side) to treat the systemic infection, shock and muscle damage from being down.

These cows can easily be confused with milk fever cows — and being down because of milk fever in the mud can allow this infection to occur.

Generally, a milk fever cow will have a slow (40 to 60 beats per minute) soft heart beat and a decrease in rectal temperature (less than 38.5^0 degrees Celsius).

A septic cow normally has a fast (about 100 beats per minute) loud heartbeat and a high rectal temperature (above 38.5^0 C).

Prevention as with any of the environmental mastitis infections hinges on hygiene: teat sealant in the dry period to prevent entry of bacteria before calving and teat sprays in the shed are important forms of prevention.

Remember that if teats are dirty and need washing before milking, then they should also be dried with disposable paper towelling that is not used for more than one cow.

As these infections are often clustered around the calving period, hygiene of the calving paddock/pad is critical.

Generally, there should be fewer than two faecal pats per square metre and any boggy areas should have no water filling the footprints.

More information about calving paddock/pad hygiene and milking shed hygiene can be obtained from a veterinarian and found in the Countdown Downunder guidelines on the Dairy Australia website at <www.dairyaustralia.com.au>.

All of the countdown guidelines are included in the Countdown Mastitis Toolkit App that is free from iTunes or Googleplay.

Until next time, good milking. D

**Sherri Jaques is a practising veterinarian and reproduction adviser in the West Gippsland region of Victoria.*

All comments and information discussed in this article are intended to be of a general nature only.

Please consult a veterinarian for herd health advice, protocols and/or treatments that are tailored to the herd's particular needs.

High BPI means more milk, longevity

Key points

- ✔ High genetic merit cows produce more milk regardless of feed system
- ✔ Scale of response varies
- ✔ High genetic merit cows last longer in herd in pasture based systems

THE daughters of high genetic merit (Balanced Performance Index [BPI], Health Weighted Index [HWI] or Type Weighted Index [TWI]) sires produce more milk solids than daughters of low merit sires, regardless of the herd's feeding system, according to new research.

Importantly, high genetic merit cows last longer in the herd, in all pasture-based feeding systems.

These are the findings of the 2016 *Feeding the Genes* study, which investigated interactions between sire genetics and feeding systems on milk solids production and longevity.

Dr John Morton, who conducted the study, said the results confirmed that herd managers should select high BPI, HWI or TWI sires whose ABVs were aligned with the breeding objectives for their herd, regardless of their feeding system.

There are differences in the impact of Australia's three different indices — BPI, HWI and TWI. All herds will benefit from using high genetic merit sires for any of the three indices rather than low merit sires.

"Herd managers do not need to feed high levels of supplements to benefit from selecting high BPI sires," Dr Morton said.

High BPI, HWI and TWI sires, in all price brackets, are listed in the *Good Bulls Guide* and App.

Genetics, feeding and production

The results show that in all feeding systems, the daughters of higher BPI sires produce more milk solids than daughters of lower BPI sires.

However, the scale of response to using high BPI sires varies between feeding systems.

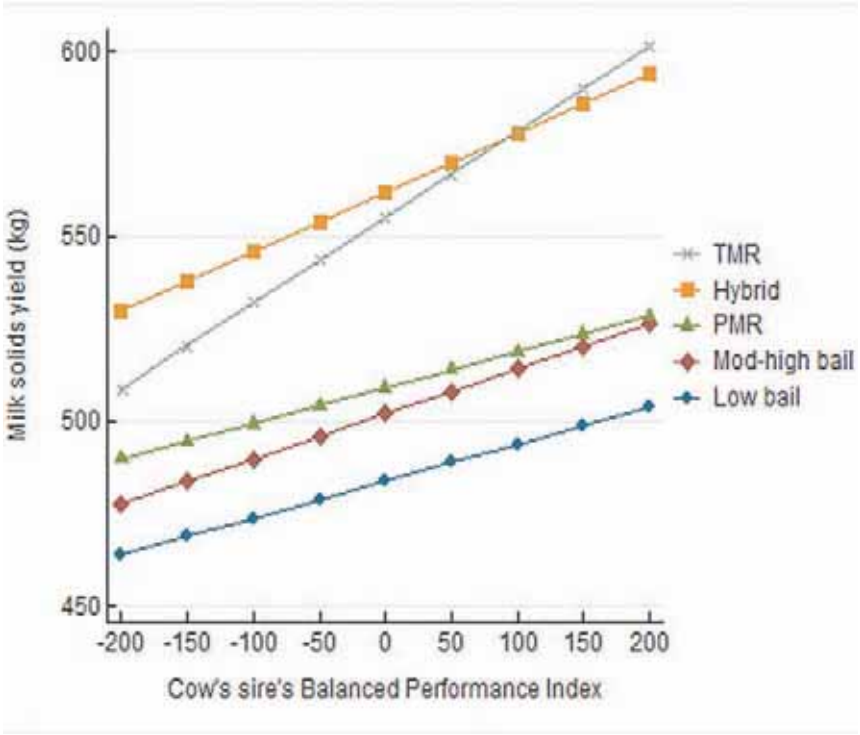
The graph shows the benefits are greater in herds using more intensive feeding systems (hybrid and total mixed ration).

Genetics, feeding and longevity

The daughters of high genetic merit (BPI, HWI and TWI) sires last as long or longer than daughters of low merit sires in all feeding systems.

However, the effects of sire index on longevity vary by index and feeding system.

HWI has larger effects on longevity than BPI or TWI.



305-day milk solids yields by cow's sire's Balanced Performance Index for lactations from Holstein cows by feeding system.

Dairy's five feeding systems

FEEDING systems on Australian dairy farms fall into five categories:

LOW BAIL: Grazed pasture + other forages + up to 1.0 tonne grain or concentrates fed in the bail.

MODERATE-HIGH BAIL: Grazed pasture + other forages + more than 1.0 tonne grain or concentrate fed in the bail.

PARTIAL MIXED RATION (PMR): Pasture grazed for most or all of the year + mixed ration fed on feedpad with or without grain or concentrates fed in the bail.

HYBRID: Pasture grazed for less than nine months per year + mixed ration fed on feedpad with or without grain or concentrates fed in the bail.

TOTAL MIXED RATION (TMR): Cows fed total mixed ratio; zero grazing.

'Herd managers do not need to feed high levels of supplements to benefit from selecting high BPI sires.'

In low-bail feeding systems, the daughters of high BPI and HWI sires last longer than daughters of low genetic merit sires.

In moderate-to-high-bail feeding, partial mixed ration and hybrid feeding systems, the daughters of high BPI, HWI and TWI sires last longer.

In herds feeding total mixed rations, daughters of high HWI sires last longer and daughters of high BPI sires are just as likely as their herd mates to last in the herd.

Contact: ADHIS extension and education manager, Michelle Axford, phone 0427 573 330, email <maxford@adhis.com.au> or website <www.adhis.com.au>.

Tactics for Tight Times

Key points
- ✔ Range of programs to help farmers manage
- ✔ One-on-one support available
- ✔ Online tools developed

DAIRY Australia's Tactics for Tight Times (TFTT) program is a key part of the industry response to the challenging operating environment facing dairyfarmers.

Delivered in collaboration with Regional Development Programs (RDPs), TFTT delivers extension programs, information and practical advice to assist farmers to make key on-farm decisions.

Dairy Australia's program manager, Neil Webster, said a range of channels were being used to connect with farmers.

"We're working with the RDPs and the wider industry to pull out all stops to get as much practical and useful information to farmers as we can," he said.

"We are rolling out on-farm workshops, using videos, producing fact sheets and check lists, and developing case studies to provide clear and consistent messages that will assist key decisions being made by farming families and businesses."

TFTT assists farmers to:

- Know their current situation — every farm is different;
- Take stock — one-to-one support is available for all dairyfarmers;
- Maximise value from home-grown and purchased feed;
- Trim costs across the business;
- Manage herd health and welfare;
- Look after themselves and their people.

'The website <www.tftt.dairyaustralia.com.au> highlights TFTT events around the regions.'

The website <www.tftt.dairyaustralia.com.au> highlights TFTT events around the regions including on-farm days, workshops and discussion groups.

The website links to resources such as seasonal management checklists, information factsheets, videos, the People in Dairy website and tools such as DairyBase, Taking Stock, cashflow and feed budgeting tools.

Case studies of farmers around Australia and what they're doing to manage in a tight season are another feature of the website as well as video tips and advice from leading consultants.

Farmers are encouraged to get involved and make the most of what's on offer through the Tactics for Tight Times program. They can:

- Attend TFTT events in their region to assist them to make effective and timely decisions;
- Visit the TFTT website for more information, tools and resources;
- Watch the TFTT video series from leading consultants and farmers;
- Keep up-to-date with farmers in their region and further afield through the case studies;
- Check out Dairy Australia's twitter and facebook pages for the latest information; and
- Stay connected, seek help and communicate with the farm team, business partners, family and friends. D

Tactics for Tight Times is an initiative of Dairy Australia, delivered by Regional Development Programs and supported by the Gardiner Foundation, the Australian Government, the Tasmanian Government, the South Australian Government and major dairy processors. For more information contact Regional Development Programs, details can be found inside the back cover of this edition of the *Australian Dairyfarmer* magazine or at website <www.tftt.dairyaustralia.com.au>

Budgeting tools available for dairyfarmers

DAIRY Australia has budgeting tools available that will assist dairyfarmers and their advisers in planning and decision making.

Taking Stock purpose: to create a balance sheet summary and cash flow budget

Taking Stock is computer-based tool supporting the Taking Stock process. It summarises physical and financial data for a farm business, including the cash position and balance sheet. It also calculates measures of physical performance.

Taking Stock enables dairyfarmers to:

- create a balance sheet;
- create an annual or monthly cash flow budget;
- better understand their business performance;
- create an action plan.

DairyBase purpose: to assess annual farm physical and financial performance

DairyBase is a web-based tool that enables dairyfarmers to:

- complete an annual assessment of farm physical and financial performance based on actual data from 2015/16 (and from previous years if data is available);
- generate a comprehensive individual farm report including physical, cash, profit and wealth reports;
- track their own farm business performance over time; and
- compare the business performance against similar farms.

Dairy cash management planner purpose: to create a monthly cash-flow budget.

The Dairy Cash Management Planner is a monthly cash flow budget that will allow farmers to track the money flowing in and out of their farm business.

The tool is available in a spreadsheet format or A3 PDF format, which can be printed.

The Dairy Cash Management Planner enables dairyfarmers to:

- Transfer annual data from the 2015/16 cash report in DairyBase;
- Complete a month-by-month 2016/17 cash budget for income and costs;
- Provide an estimate of the peak cash deficit for the year ahead;
- Go through budget line by line to identify potential cost saving.

Go to website www.tftt.dairyaustralia.com.au> and click on Tips, Tools and Resource.

Case study: Tim and Lyndal Humphris

What are you doing to understand your current business situation?

Our budget is done monthly with our farm adviser, and final annual figures will be loaded onto DairyBase. Figures will be put into the Murray Dairy Business Tool to enable us to assess the impacts of making changes in management and to assess the impacts of changes in both milk price and input costs.

We are speaking to our bank manager on a regular basis and even more so over the next few months

What is your plan to maximise value from home-grown and purchased feed?

Difficult question to answer. This year home-grown feed has been more expensive than bought-in feed due to high water prices. Our business is very exposed to the temporary water market. We will use less water next season, and try to minimise the corresponding fall in pasture harvest. Presently this means we will water in the spring and summer. A new stand of lucerne will be the only pasture watered through the summer

We will keep a very close eye on Lake Eildon inflows to assess the likelihood of water allocations and hence temporary water price. If water is cheaper, we will irrigate longer into the spring. Summer crops will be on the agenda again if the water price reduces. Cost of home-grown feed will be evaluated in line with water price. Decisions will be made comparing bought-in fodder and the likely cost of home-grown fodder.

How are you managing your costs and budget?

We have made a decision that we must keep farming. Stopping milking is not an option without selling the farm.

Therefore so long as there is a margin over feed cost we need to maximise the number of cows we milk to cover our fixed costs, or more particularly to minimise our losses

How are you managing your herd health and welfare?

Animal health costs are already very low. There will be some adjustment to dry cow regime. We are actively trying to source agistment for both dry cows and young stock. This is far cheaper than supplementary feeding

How are you looking after yourself and staff?

We continue to attend our Dairy Business Network discussion group. We talk regularly with our colleagues in dairying, and we are maintaining our usual rosters (i.e. same time off).

What are your tactics for spring?

Last year our cheapest feed source was bulk chopped silage purchased standing in the spring.

Currently we are actively sourcing standing crops to purchase and cut in the spring.

Bank assistance and/or milk company finance will be used to fund these purchases (assist with cash flow).

Business assistance?

Our farm adviser will be used to update budgets and prepare submissions to the bank under the Murray Dairy Tactic for Tight Times business analysis and assistance.

We will look at restructuring loans to utilise farm concessional loans. The option of changing finance institutions will be considered to achieve this goal.

We need more clarity about the criteria before we go forward.

Finally we are in the process of applying for the household farm allowance.

This is a controversial area, however, we see this as an important piece in the puzzle of navigating our way through the months ahead.

We intend to be in business for many years to come and to be successful.

Hence we will be paying lots of taxes in the future. If we have a viable business in the future it is much better for the district and the community that we continue to operate now.

Farm Details

Region	Tongala — Murray dairy region
Milking area	150 hectares
Herd numbers	330 cows
Milk production (kg milk solids)	178,000
Milk production (Kg milk solids/ cow)	540
Home grown feed (tonnes/dry matter/milking ha)	7.33
Cows/labour unit full-time equivalent:	130 cows

'We have made a decision that we must keep farming.'

Tim and Lyndal Humphris will carefully assess the cost of water in determining the relative cost of home-grown and bought-in feed.

Brody Kennedy has a strong focus on financials.

Brody Kennedy is planning to succeed

Key points

- ✔ Close and constant tracking of costs
- ✔ Break-even milk price $4.30/kg MS
- ✔ Focus on making small savings

BRODY Kennedy reckons the next 12 months will be tough enough without having to deal with any unwanted surprises.

The dairyfarmer from Forge Creek, Victoria, near Bairnsdale is trying to nail down every cost on his 330-hectare farm to give him an accurate picture of where the business stands at the moment and where it will be placed every month for the next year.

Mr Kennedy has developed a month-by-month spreadsheet that tracks costs and income, giving him a clear picture of his finances and how decisions will affect the monthly balance sheet.

His forensic assessment of financials gives him confidence that he can keep the farm operating at a sustainable level, even with the current low milk price.

"We are too close to the line for gut feel," he said.

"We think we are pretty good at what we do, but when you have millions of dollars of debt, you need to do better than gut feel.

"We have made up our own program that has all our monthly costs and income and in the column next to it, you have the next month. We're running 12-month scenarios of what is going to happen under a certain management system.

"I can be sitting here and see that if we change the litres and feeding in February, I can straight away see what effect that will have on March. I'm pretty much running the farm on the computer.

"At the end of the year, we enter our annual numbers into DairyBase and can start to further scrutinise and compare our total farm business performance."

Mr Kennedy and his wife, Allisa, lease the property at commercial rates from their family at an annual cost of $180,000. The couple owns their farm machinery and 350-strong Holstein and crossbreed herd, and provide themselves with a family income of about $80,000.

Break-even milk price for the business is about $4.30 a kilogram milk solids.

Keeping costs down this year has meant making decisions across the farm, although Mr Kennedy said he believed he was better off finding a series of small savings, rather than looking for major cut-backs in farm expenditure.

"We are going through and finding $100 here, $500 there or another $1000 somewhere else, and all of a sudden you have $50,000 saved," he said.

"For instance, we would normally have been doing AI for a bit longer, but we cut that to be shorter," he said.

"There's a shorter calving period and more bulls put out. Those bulls are then choppered to free up cash flow.

"Instead of having three bulls and having them out there for longer, we have five bulls for a shorter time and then chopper them all. That's one thing that can make a small difference."

Jobs like fencing are still getting done, but Mr Kennedy and his staff are doing a lot of the work themselves, rather than engaging contractors.

"We're aiming to do jobs that are time consuming but not major costs," he said.

"So where we might have spent money to get someone in to do a job, we might do half the job ourselves.

"It chews up a fair bit of time, so therefore we are pretty busy, but it means we don't have to pay out as much for those jobs."

While the extra workload puts a physical strain on the 30-year-old, he said he could cope better with that than having the mental and emotional stress of unsustainable farm costs.

'We are too close to the line for gut feel.'

"If you have a handle on things, you can sleep a bit easier at night knowing that, if you stick to the plan, it will be looking pretty good on the computer," he said.

"It works better than getting up in the morning and asking 'what are we going to do next' and not really having a plan of attack."

A long-term program to improve soil fertility has seen Mr Kennedy adding minerals such as calcium and magnesium to his paddocks.

This has meant that fertiliser and feed additive costs have not been major issues and herd health has remained stable.

Mr Kennedy said the latest milk price set-back had reinforced his ideas on developing plans for reaching goals in the short, medium and long term.

"I learnt pretty early on that you have to make a decision and stick to your plan of attack and you have to keep moving forward," he said.

"If you stop and let things build up, you can start going backwards quickly. You have to be positive, know your destination and keep striving for it each day." D

Embracing tactics messages together

DAIRYFARMERS at a Yarram, Victoria, Tactics for Tight Times meeting in May said they must take positive action to get through the current financial situation. Farmers at the Yarram meeting, organised by GippsDairy and Dairy Australia, said it was important to get together to maintain morale and to discuss positive ideas for improving their farm business performance.

"I think the main thing that you get out of this is that you are not on your own," dairyfarmer Judy Johnson said.

"Farming can be an isolating industry in which you spend a lot of time on your own, so coming out to a day like this and realising that there are other people feeling the pain as well is a really good thing for your own demeanour."

The Carrajung Lower dairyfarmer believes that having a realistic idea of their financial situation has been a great help in recent weeks.

"When it first hit, you think 'holy crap — where to from here?', but once you settle down and calculate the figures and do the cash flows, it might still look like an ugly bottom line, but at least you feel like you have control over it," she said.

Aaron Thomas, who farms at Binginwarri, Vic, spent the days before the meeting calling, texting and posting on Facebook in an attempt to get more farmers to the Tactics for Tight Times event.

"I was just trying to spread the word because I think we need to talk about it — it's all about communication," he said.

Farmers at the Yarram, Vic, Tactics for Tight Times meeting, one of a number held around the country.

"If farmers can walk away from here with just a little bit of extra knowledge it can really make a big difference to them and their business."

Like most dairyfarmers, Calrossie, Vic, Lachie McLeod was looking to reduce operating costs to match his reduced income.

The Tactics for Tight Times session, however, made him think twice about where he should be looking for savings.

"There were a few things I might do a bit differently after hearing things today," he said.

"I was looking at maybe cutting some costs on teat seals and things like that, but now I'm thinking it's probably more beneficial to keep on using them. It's not worth the risk in cutting some things."

Matt Harms, who facilitated the Yarram meeting, said his over-riding message to dairyfarmers was to look forensically at every cost on the farm.

"It's about asking what can be done in the business that allows it to operate with a much lower milk price," he said. "We can't lift income unless we produce more — and it may not be economical to produce more — so look harder within your business to find areas of cost savings that are not going to impact on production."

Contact: website <www.tftt.dairyaustralia.com.au> or contact a Regional Development Program.

Taking Stock key factor in success

Key points

- ✔ Taking Stock provides one-on-one business analysis
- ✔ Identifies high-cost areas of business
- ✔ Annual process identifies success areas

FARMERS should be lining up to take advantage of Dairy Australia's offer of free Taking Stock sessions, according to northern Victorian farmer Michael Myers.

Taking Stock is an initiative of Dairy Australia delivered through Regional Development Programs and has been one of the keys to almost doubling the Timmering-based farmer's dairy business.

"We would do the program even if we had to pay for it, it's been that good," Mr Myers said. "So if it's free don't hesitate, get in and do it."

Mr Myers and his wife, Sandra, who have been dairyfarmers for more than 30 years, were part of a pilot group of farmers who used the Taking Stock program in 2004 to help boost farm profitability.

The Myers operation is currently 340 hectares, 300ha can be irrigated, milking 440 cows and carrying young stock .

"Back then we didn't know it but we were two years into a 10-year drought," Mr Myers said.

"I was asked to join the program by adviser Cameron Smith and we have worked through Taking Stock every year with him since."

The Myers operations now extend to two farms milking 650 cows with an effective milking area of about 600 hectares.

"At the first meeting, we just brought along all of our financials and with Cameron's help put them through the Taking Stock tool," Mr Myers said.

"It's really useful as it clearly identifies where you are at, the high-cost areas of the business and your cost of production.

"From where we were it allowed us to set a direction to where we wanted to go. It gave us good targets that we agreed on and tried to reach and it's a key part of our planning every year. We have really enjoyed it."

Michael Myers first took part in Taking Stock in 2004 and credited the program with helping him grow his business.

Taking Stock now available

TAKING Stock is now available at no cost to all dairyfarmers in Victoria, South Australia, Tasmania and the Riverina. It is delivered as part of Dairy Australia's Tactics for Tight Times response and is supported by the Gardiner Foundation, the Australian Government, the South Australian Government, the Tasmanian Government and major dairy processors.

'It's good because he is outside the business and impartial.'

Mr Myers said the historic data collected in the past decade was now valuable and allowed them to look back and see what had worked in the past. They usually go through the Taking Stock process in late July or early August. They started using DairyBase to collate their farm data for the first time last year.

Working with Cameron Smith from Farmanco has been another key to the Taking Stock experience.

"Cameron's been good," Mr Myers said. "He's been with us the whole time. It's good because he is outside the business and impartial.

"It's also not like a discussion group where you are opening your books up to a wider audience for scrutiny. It's one-on-one and confidential." D

Contact the local Regional Development Program to arrange a Taking Stock session. Their contact details are inside the back cover of this edition of *The Australian Dairyfarmer*, and can be found on the Tactics for Tight Times website <www.tftt.dairyaustralia.com.au>.

Case study: Nick and Simone Renyard

What are you doing to understand your current business situation?

Currently we are reviewing our DairyBase data and working closely with our farm consultant. We are concentrating on areas that will drive revenue and reduce cost such as continuing to improve cow performance, pulling back on repairs and maintenance and having a careful look at feed costs.

We participate in an open book business-focused discussion group, and we are support group members on a Focus Farm, and this assists us to make informed decisions about our current farm business challenges.

What is your plan to maximise value from home-grown and purchased feed?

We will continue to soil test annually to understand soil fertility. This year we will be extremely careful with our feed budgeting and only buy what we really need to feed.

We are continually reviewing our feed budget as the season evolves, and we are ensuring regular use of nitrogen with the grazing rotation.

How are you managing your costs and budget?

We are undertaking monthly revision of our cash flow, and we are doing a line-by-line interrogation for any possible savings. We also maintain a milk price calculator to carefully map our milk income and better understand our milk price. While we will keep a close eye on our costs, we have to be careful to not affect our long-term productivity by making short-sighted decisions.

How are you managing your herd health and welfare?

We are ensuring the herd is well fed and maintaining expected body condition — we will not sacrifice future herd fertility or healthy milk production. We are carefully monitoring cows post-calving to quickly identify any ill health issues. We will continue to maintain decent track condition to limit any lameness or feet issues.

How are you looking after yourself and staff?

Simone and Nick Renyard will be continually reviewing their feed budget as the season evolves.

'It's always been important to us that our staff work sensible hours and have regular time off weekly.'

It's always been important to us that our staff work sensible hours and have regular time off weekly. Overworked and tired people can be unsafe and it is not ideal for wellbeing.

We try to take at least one day off a fortnight and will have a few days off farm every few months. The time away helps to maintain fresh perspective and renews energy again.

We believe that in our business good communication is the key ingredient to ensuring we are all OK and continue to be so.

What are your early tactics for spring?

At this stage we aim to maintain fertiliser application to drive home-grown feed. We are carefully monitoring our autumn sowings to identify any re-sowing needed.

Like every other spring, we try to grow and utilise as much home-grown feed as we can.

For more case studies go to <www.tftt.dairyaustralia.com.au>

Farm Details

Region	Timboon — WestVic dairy region
Milking area	270 hectares
Herd numbers	540 milkers
Milk production (kg milk solids)	295,000
Milk production (Kg milk solids/cow)	546
Home grown feed (tonnes/dry matter/milking ha)	6.2
Cows/labour unit full-time equivalent:	125 cows

Dairy Australia
Your Levy at Work

Milk fat losses can be put right

Key points

- ✔ Milk fat depression can be prevented
- ✔ Graze ryegrass at three-leaf stage
- ✔ Look at different grain options, such as maize

ALL dairyfarmers have seen it. The milk fat component in the daily tanker report starts to slide during autumn and doesn't pick up again until after the flush of spring pasture.

It's called Milk Fat Depression (MFD) and it can cost anywhere between $67,000 and $220,000 in a 500-cow herd.

Professor Adam Lock from the Michigan State University, United States, who visited Australia recently, has researched the phenomenon of Milk Fat Depression. He has some solutions.

"Recent breakthroughs have advanced our understanding of the links between dietary components, digestive processes in the rumen, and the regulation of mammary synthesis of milk fat," Prof Lock said.

One of the common causes of MFD is an increase in fat in the rumen and/or changes in rumen pH. This fat increase comes from a higher intake of polyunsaturated fatty acids, faster rumen throughput and changes to the fermentation process in the rumen.

"In pasture-based systems, pasture with little fat is replaced by young lush high-fat, low-fibre pasture in autumn," Prof Lock said. "The effect is magnified by the application of nitrogen."

When autumn pasture is combined with feeding large quantities of fast-fermenting grains such as wheat, the rumen pH is reduced and the risk of MFD increases. These changes in pH impact the microbial populations in the rumen, and while these changes can be quite subtle, they can bring on MFD.

"In terms of pasture management, the correct point to graze in order to limit fatty acid intake coincides with what is generally regarded as the correct point of grazing for optimal agronomic outcomes: that is at the three-leaf stage in ryegrass," Prof Lock said.

Professor Adam Lock: Milk Fat Depression can cause income losses but it can be managed through balanced nutrition.

'In pasture-based systems, pasture with little fat is replaced by young lush high-fat, low-fibre pasture in autumn.'

Part of the solution to the MFD problem was to ensure grazing rotations were managed so that cows were not getting onto pasture before the three-leaf stage, particularly where nitrogen had been used to stimulate growth.

"At this point fatty acid intake will be compounded by a lack of effective fibre in the pasture," Prof Lock said.

"It turns out grazing at the correct point is good for the fat test as well as for cows and for land-use outcomes."

The other element of the feeding regime that has an impact on the rumen environment is the type of supplements that are fed.

"There are a variety of opportunities for different farmers," he said. "Feeding less wheat and more corn or barley will slow the rate of fermentation."

Where there is a price differential among the different grain options, an analysis of cost per tonne, available from Dairy Australia's Hay and Grain Report, will give dairyfarmers a better idea of the potential return from making these grain changes.

"Cows are very responsive so you can try different combinations," Prof Lock said.

"Following a diet correction it will take 10 to 14 days to rescue milk fat synthesis, but usually you will see a movement by seven days."

It was easier to control and change rumen fermentation and the rumen environment by changing the grain mix fed to the cows than it was to control fatty acid intake from pastures in a pasture-based system.

MFD was an important focus area for profitability and getting a dairy nutritionist to provide advice was highly recommended.

"Getting a balance of less fermentable grains into the ration is the number one opportunity to manage MFD in pasture-based herds," Prof Lock said. D

Read Dairy Australia's fact sheet on Milk Fat Depression at /Standard-Items/~/media/Documents/Pastures%20and%20feeding/Nutrition/Milk%20fat%20depression.pdf> and Dairy Australia's Hay and Grain Report at <http://www.dairyaustralia.com.au/Markets-and-statistics/Farm-inputs-and-costs/Hay-and-grain.aspx>.

Dairy gets a nitrogen efficiency boost

Key points

- ✔ Project to improve nitrogen-use efficiency
- ✔ Significant cost to farmers
- ✔ Helps to reduce environmental footprint

DAIRY Australia will receive about $1.5 million from the Australian Government to support nitrogen use efficiency research, development and extension (RD&E).

The dairy industry is one of four agricultural industries that will benefit from a government-funded Rural Research and Development for Profit project to improve the efficient use of nitrogen.

The *More profit from nitrogen: enhancing the nutrient use efficiency of intensive cropping and pasture systems* project, announced by Deputy Prime Minister and Minister for Agriculture and Water Resources, Barnaby Joyce, will receive up to $5.8 million from the Rural R&D for Profit program.

The project aims to identify practices that optimise nitrogen-use efficiency.

Previous research has found small improvements in farm scale nitrogen-use efficiency can provide substantial increases in productivity and profit.

This project will be looking for synergies between water and nitrogen inputs, quantifying the rate and timing of nitrogen supply through mineralisation; assessing the cost-effectiveness of enhanced efficiency fertilisers and evaluating new digital, precision and spatial technologies.

"Nitrogen is a significant cost to dairy producers and a significant component of their environmental footprint," Dairy Australia managing director, Ian Halliday, said.

"This project will help producers improve their nutrition management and thus their profitability by increasing the productivity per unit of nitrogen applied. Improved productivity per unit of nitrogen will also result in improved environmental outcomes."

The project is a partnership between the significant nitrogen-using industries of cotton, dairy, sugar and horticulture. It will be led by the Cotton Research and Development Corporation (CRDC) in conjunction with fellow rural research and development corporations (RDCs) Dairy Australia, Sugar Research Australia and Horticulture Innovation Australia and 15 other research partners.

Bill Fulkerson, from Norco, talks about nitrogen with Northern Rivers, NSW dairyfarmer, Wayne Clarke whose farm will be the one of the host sites for the nitrogen-use efficiency project.

'Nitrogen is a significant cost to dairy producers and a significant component of their environmental footprint.'

The project aims to improve the profitability of 600 irrigated cotton growers, 500 dairyfarmers, sugar growers and more than 1000 fruit growers.

It will help all four industries to reduce the impact of off-farm nutrients on water quality.

The dairy component of the nitrogen-use efficiency project will involve a number of research partners who will contribute an additional $500,000. They are Queensland University of Technology, University of Melbourne, Tasmanian Institute for Agriculture and the NSW Department of Primary Industries.

"Through this joint project dairyfarmers will gain a better understanding of the various influences on nitrogen-use efficiency and improved confidence to adopt management practices tailored to their specific pasture requirements — thereby improving nitrogen-use efficiency and their profits," Mr Halliday said.

"Importantly, there is also a strong sustainability component to this project, as more efficient use and management of nitrogen across all of our industries also has significant natural resource benefits — improving soil health, reducing leaching and run-off to creeks and rivers, and decreasing greenhouse gas emissions.

"This project will deliver a win-win scenario for both growers and our environment."

The *More profit from nitrogen* project will run until 2020. D

See video for more information about accurate plant nitrogen measurements <https://www.youtube.com/watchv=oFVffIqVaAc&feature=youtu.be&list=PLF43zgg2AAtbbklafcUz3c_wHqGOnAa03>

Dairy Australia
Your Levy at Work

What's happening in your region?

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