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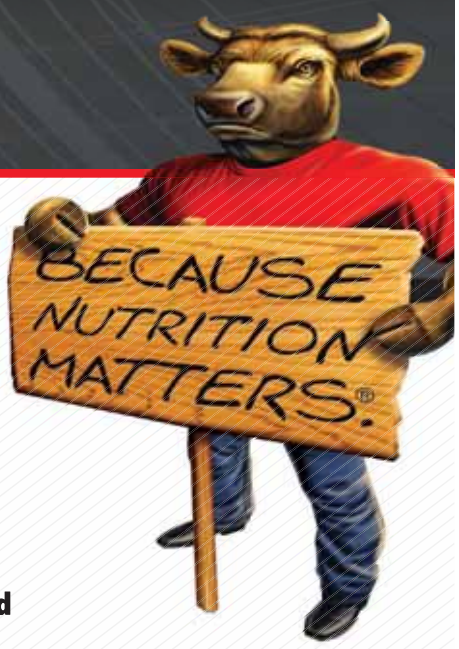

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Corporate cold feet

FALLING prices on global dairy commodity markets have started to test the resolve of corporate investors in the sector.

Two high profile projects announced last year have either been abandoned or delayed in recent months as the harsh reality of volatile global markets has led to cold feet from some of those interested in investing in the industry.

Gina Rinehart's proposed Queensland dairy development has been put on hold. She had initially proposed a $500 million dairy project that included developing a factory specialising in infant nutrition powders in the Mary Valley and milking up to 10,000 cows.

Her company Hope Dairies has now decided to develop a Wagyu cattle enterprise. Director David Garcia said analysis of the potential for the dairy project "has identified several material and challenging aspects and risks to the project".

The need for a long-term perspective in farming is one the challenges for corporate investment in the sector.

Meanwhile the proposed huge Linear Capital development in south-west Victoria continues to be delayed. Linear Capital announced last September it wanted to buy up to 70 properties, set up two processing factories and establish a training facility at the old Glenormiston College.

Initially the properties were to have been bought before Christmas, with owners then appointed as managers to run the farms for a period. Offers are still being made to buy properties but some of the contracts have now expired. Linear is still chasing investors for the project.

It appears that dairy, which was the darling of the investment sector two years ago as the battle for Warrnambool Cheese and Butter ignited city-based stock market interest, is no longer as prized.

Global milk oversupply and the downturn in the Chinese economy have seen prices fall on international markets.

The volatility would be no surprise to the vast majority of Australian dairy farms that are operated as family-run businesses. It's something they have been accustomed to dealing with for a long time.

Family farms have a unique perspective that allows them to more readily deal with the volatility. Family farms take a long-term view of their investment.

Of course, they want a decent return for their hard work and the dollars and time invested in their business. But they see returns more broadly than the financial returns a corporate investor seeks.

For some family farms, part of the return is being able to bring the next generation onto the land and to continue the family involvement. For some improving the land and leaving a light environmental footprint is also important. For others, part of the return is being able to raise children in an environment that offers freedom and a connection with the land.

This perspective means those family farms are prepared to bunker down when prices fall and to make decisions to ensure the long-term survival of the business.

The need for a long-term perspective in farming is one the challenges for corporate investment in the sector. It is going to be an interesting space to watch. D

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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
Telephone: (03) 8621 4200
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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)

MILK MATTERS

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Australian Dairy Farmers

Positive outlook essential

By **Noel Campbell**
president
Australian Dairy Farmers

Key points

- ✔ Farmers need to prepare for short-term difficulties
- ✔ Australia less exposed to world market
- ✔ Export markets vital for future growth

THE Australian dairy industry has historically managed price volatility, global supply-and-demand issues and the fluctuations of the Australian dollar to an acceptable degree, maintaining international competitiveness, innovation and resilience to market volatility.

While we're in volatile times, there is a lot more to be factored into the market in the next few months. We need to ensure we are prepared for the short-term difficulties facing us and remember that the long-term outlook for dairy is positive, despite current market volatility.

Industry needs to work to its strengths as a cost-efficient milk producer of quality products to face the expected challenges from other dairy supplier. Within the industry there are considerable resources and work being applied to help dairyfarmers confront the volatility challenge.

Australian Dairy Farmers (ADF) is working in partnership across the industry and with government to undertake work and analysis to support Australian dairyfarmers in their decision-making.

New Zealand has a different product mix to Australia and exports the majority of its product...

It is reasonable to ask why up until now the Australian dairy industry has not been affected to the same degree as New Zealand. Unlike New Zealand Australia has more the 50% of its production consumed domestically. This provides a dampening effect on the downward trend of international markets on farmgate pricing. Our product mix has also allowed for the pricing trends to be less severe. However, there is no doubt that this international pricing impact is placing downward pressure on expected farmgate pricing that was not even seen two to three months ago.

Those farmers who supply processors that are uncontracted and exposed to world export pricing should treat the 2015/16 season with a significant amount of caution, understanding their underlying costs and being aware of input costs that will affect profitability.

Whether you're a farmer, state organisation or peak body, we are all striving for the same outcome — a healthy and sustainable dairy industry. Industry projects such as the Sustainability Framework and the Australian Dairy Vision help provide a strategy for ADF's efforts. On this note, it is with great pleasure that I welcome Benjamin Stapley as incoming chief executive officer (CEO) of ADF. With a strong background in member advocacy, stakeholder engagement, policy development and media management, Mr Stapley comes into the role after two years as director of policy and regulation at the Plastics and Chemicals Industries Association (PACIA).

I look forward to the fresh perspective and expertise that Mr Stapley brings to the role and along with my fellow directors, national council and staff look forward to working with him to continually improve the sustainability and profitability of farmers across all dairying regions. I hope you will all join me in welcoming Mr Stapley to our dynamic industry. He started with us on September 1. D

Dairy fares well in ag White Paper

THE Australian Dairy Industry Council (ADIC) has welcomed positive initiatives provided in the Federal Government's release of the Agricultural Competitiveness White Paper, which will assist Australian dairy to sustainably grow and prosper.

The long-awaited White Paper, which outlines the government's overarching policy and vision for the agriculture sector's future, was launched on Australian Dairy Farmer (ADF) national councillor Roma Britnell's dairy farm in South West Victoria. ADIC chair Noel Campbell said it was now time to set the plan in motion.

"We are pleased to see that key points of the ADIC's recommendations to the Green Paper have been taken on board," Mr Campbell said.

"In particular, the provision of $11.4 million over four years toward boosting ACCC engagement with agriculture, including an ACCC Agriculture Commissioner, will aid in fostering a more competitive environment throughout the supply chain."

Another significant investment for dairy was delivered in the decision to enable farmers to double their Farm Management Deposits (FMDs) to $800,000. Farmers will also be able to use FMDs as a loan offset to reduce interest costs.

"According to the Australian Bureau

Swift implementation of the White Paper's initiatives is required to ensure tangible benefits for dairy.

of Agricultural and Resource Economics and Sciences (ABARES), if all FMD holdings are used to offset loans, the benefit to the farm sector in interest savings could amount to $150 million a year," Mr Campbell said.

The decision to provide $30.8 million to break down technical barriers to trade, including increasing the number of agricultural counsellors in key overseas markets was also welcomed by the ADIC as a positive first step toward addressing this issue. The next step according to the ADIC is to ensure that these counsellors are supported by technical experts embedded within government agencies at home.

"The ADIC has been a strong advocate for increased resources toward overcoming technical barriers to trade in overseas markets and we are pleased to see the government's acknowledgement of this issue," Mr Campbell said.

"The extent to which our industry is able to seize opportunities delivered through recently completed trade agreements will depend upon addressing non-tariff barriers to trade. These counsellors will improve our competitiveness in international markets greatly."

Another positive is the government's enhanced commitment to research, development and extension projects with a focus on innovation and risk management — $100 million to extend the Rural R&D for Profit program.

Mr Campbell said the commitment of $200 million to improve biosecurity surveillance and analysis nationally would also play an essential role in creating a more durable, profitable and competitive dairy industry.

Additionally, ADIC welcomed the government's proposal that water efficiency projects combined with improving existing water infrastructure and developing new infrastructure be implemented. Increased support for these initiatives was a key recommendation in the ADIC's submission to the Green Paper.

"The ADIC is committed to working with government to see swift implementation of the initiatives delivered in the White Paper, to ensure they translate into real outcomes for the dairy industry," Mr Campbell said.

To see the ADIC's submission to the Agriculture Competitiveness White Paper go to website <http://www.australiandairyfarmers.com.au/submissions>. D

White Paper highlights for dairy

- Increase the deposit limit for Farm Management Deposits (FMDs) to $800,000.
- Allowing FMD accounts to be used as a farm business loan offset (banks can allow farmers to use FMDs as a loan offset reducing their interest costs).
- $11.4 million across four years to boost Australian Competition and Consumer Commission (ACCC) engagement with the agriculture sector including a new commissioner dedicated to agriculture.
- $30.8 million to break down technical barriers to trade, including the appointment of five new agriculture counsellors in key markets.
- $100 million to extend the Rural R&D for Profit program from 2018-19 to 2021-22.
- $12.4 million to modernise Australia's traceability systems, to verify produce integrity and secure access to overseas markets.
- $200 million to improve biosecurity surveillance and analysis to better target critical biosecurity risks, including in northern Australia.
- $20.4 million to streamline approval of agvet chemicals.
- $13.8 million for a two-year pilot program to provide farmers with knowledge and materials on co-operatives, collective bargaining and innovative business models.
- A more simplified accelerated depreciation regime for fencing.
- A number of drought-related measures covering both in-drought support and drought preparedness, including:

1. Immediate tax deduction for new water facilities and depreciation of capital expenditure on fodder storage assets across three years.
2. Up to $250 million a year in-drought concessional loans for 11 years; and
3. $20 million for additional mental health and community support services for rural communities in drought-affected areas.

- Separately announced policy measures to address workforce issues including expansion of the Seasonal Workers Programme to the broader agriculture sector (including dairy) on an ongoing basis. This is in line with industry policy objectives.

Calving induction to be phased out

The dairy industry has committed to phasing out calving induction.

Key points

- ✔ National policy to phase out calving induction
- ✔ Improved breeding programs lift fertility
- ✔ Learning from NZ approach to phase out

AFTER extensive consultation with dairyfarmers, industry and veterinary experts, Australian Dairy Farmers (ADF) has agreed to adopt a new policy, which will see the phase out of calving induction nationally.

Earlier this year, more than 35 industry stakeholders, the majority of whom were dairyfarmers as well as veterinarians, met to discuss and develop a national policy recommendation regarding calving induction. Following the industry forum the ADF National Council met and agreed to modify ADF's policy position to the following:

"ADF does not support routine calving induction and will work to phase it out through improved herd improvement practices, tools and technologies."

Chair of the ADF animal health and welfare policy advisory group David Basham said industry was working with farmers, veterinarians, state dairyfarmer organisations and other stakeholders to ensure the phase out worked for both animals and farmers.

"Caring for cows has always been a key priority for Australian dairy farmers — we are dedicated to providing a high standard of care for our animals, and are constantly reviewing our practices to ensure the best outcomes for our livestock," Mr Basham said.

Caring for cows has always been a key priority for Australian dairyfarmers.

"The dairy industry is also aware of the community concerns around the use of this practice. We are committed to working with farmers to help phase it out."

The dairy industry's breeding programs such as InCalf and the improvement of fertility by genetic selection are making a difference and the use of calving induction is reducing. In 2014, fewer than 2% of the national herd were induced (about 24,000 cows) and the industry is now working to reduce the need to use this management tool even further.

A steering group, including dairyfarmers, representatives from the Australian Cattle Veterinarians, Dairy Australia and ADF, was established to develop an action plan. The Steering Group has met twice; developing communications and data collection materials that have been distributed to cattle veterinarians to help progress the phasing-out process.

"The industry is liaising with counterparts in New Zealand to understand and learn from their approach; in particular the setting of annual limits with certain exemptions," Mr Basham said.

A particular concern raised at the industry forum was the use of late calving induction. ADF is aware that several veterinary practices no longer conduct late calving inductions, as they provide no reproductive benefit and should not be performed.

ADF will continue to consult with industry and farmers and is committed to ensuring that the timing, process and outcomes are right for all involved. D

Template to address skills shortage

Under the newly agreed Dairy Industry Template Labour Agreement employers can now hire senior farmhands.

Key points

- ✔ Senior farmhands can be recruited on 457 visas
- ✔ Chronic shortage of skilled labour in dairy
- ✔ Industry has invested in training to increase skills

UNDER the Dairy Industry Template Labour Agreement, finalised with the Department of Immigration and Border Protection on 17 July 2015, dairyfarmers are now able to recruit senior farmhands as well as farm managers from overseas on 457 visas.

Eligibility for the 457 visa was previously restricted to farm managers, which the Australian and New Zealand Standard Classification of Occupations (ANZSCO) recognises as skill level. Feedback indicated, however, that many farm employers were seeking workers with qualifications one level under management — capable of organising day-to-day operations but not necessarily making major decisions.

The Australian dairy industry is in a position to grow substantially in the next decade to meet the burgeoning demand across Asia for high quality, safe dairy products. Yet the industry's capacity to increase production is fundamentally constrained by a chronic shortage of skilled labour in the Australian pool.

'The dairy industry's most valuable asset is the people who work in it, which is why it is important to commit to attracting, retaining and developing the most skilled labour.'

Recognising this, in 2014 Dairy Australia, in collaboration with Australian Dairy Farmers (ADF), approached the Department of Immigration with the Dairy Industry Labour Agreement Template. The agreement is designed to give farmers more options when seeking labour by expanding the eligibility criteria for 457 visas.

Chair of ADF people and human capacity policy advisory group John Versteden said the agreement provided another option for farmers to fill the short-term skills gap for farmhands in Australian dairy.

"The dairy industry's most valuable asset is the people who work in it, which is why it is important to commit to attracting, retaining and developing the most skilled labour," Mr Versteden said. "While our preference is always to hire Australian workers, there are not enough experienced, available farmhands to meet the demand in a growing industry."

The industry has invested heavily in training and upskilling its workforce, including via certificate and diploma courses offered through the National Dairy Education Centre (NCDE) since 2006. Although student numbers are steadily growing, it is still not enough to meet dairy's growing demand as production scales up to meet growing export demand.

Senior farmhands recruited under the labour agreement must have Certificate III or equivalent qualifications in addition to at least three years of recent and relevant experience, or alternatively five years of recent and relevant experience.

Find our further information on the Dairy Industry Template Labour Agreement at website <http://www.thepeopleindairy.org.au/engagement-reward/contracts-and-agreements.htm>.

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Legendairy Capital finalists announced

THE Legendairy spirit is alive and well as Legendairy pride gripped towns across the country following the announcement of the eight Legendairy Capital finalists.

The announcement is part of Dairy Australia's inaugural search for Australia's Legendairy Capital, which celebrates Australia's vibrant regional communities. The successful towns for each dairy region are:

- Meeniyan, Gippsland;
- Peterborough, Western Victoria;
- Stanhope, Murray region;
- Comboyne, New South Wales;
- Monto, Subtropical;
- Port Elliot, South Australia;
- Smithton, Tasmania; and
- Northcliffe, Western Australia.

The national winner will be announced in mid-September.

Dairy Australia program manager Suzi O'Dell said selecting the Legendairy Capital finalists was no mean feat for the panel, who were overwhelmed by the outstanding and passionate nominations.

"We knew Australia was home to plenty of proud, innovative dairy communities but we've been astounded by the quality of nominations and the stories of personal contributions dairyfarmers have made to the social fabric of their towns," she said.

"To be associated with such resilient and vibrant communities is an honour, and all the nominated towns should be incredibly proud of their community and their contribution to the dairy industry. We don't hear enough about the community spirit that is such an integral part of Australia's dairy sector. Celebrating towns that have endured and thrived throughout the years sits at the heart of the program."

As part of the search, Dairy Australia, in association with the Foundation for Rural and Regional Renewal (FRRR), called on people across the country to nominate their town by sharing stories about what makes their town Legendairy.

More than 100 nominations were assessed by an independent panel of representatives, who selected those towns that best addressed the program's criteria. The eight successful towns will receive a $2500 grant to invest in a community project of their choice.

Stanhope, Vic, primary school children show their pride at their town being selected as one of the eight Legendairy Capital finalsits.

One of those eight Legendairy Capital finalists will then go on to secure the title of Australia's Legendairy Capital 2015 and receive a further $7500 to invest in their community project.

"The outstanding community projects will make a vital contribution to these towns, fostering positive community spirit, social capacity and connectedness," Ms O'Dell said.

2015 Australian Milk Quality Awards

The dairy industry is again celebrating the success of top performing dairyfarmers producing high quality milk while boosting their on-farm profitability.

The Australian Milk Quality Awards recognises farms that have the achieved the best milk quality in Australia based on annual average bulk milk cell count (BMCC) across Australia's milk-processing companies.

Dairy Australia program development manager Erika Oakes said the on-farm management of milk quality was key to ensuring the competitiveness of Australian dairy in the marketplace.

"Every year the Australian Milk Quality Awards celebrates the great job being done by dairyfarmers up and down the country to keep milk quality at a consistently high standard," Ms Oakes said. "A low cell count is an indicator that mastitis is well controlled in the herd, improving milk production, cow health and welfare. Farmers achieving a low cell count are also financially rewarded with a premium for their milk and significant cost savings on mastitis treatments and labour.

"For example, analysis shows that a farmer milking 300 cows who lowers their BMCC from 300,000 to 200,000 stands to save $35,700 per year."

Ms Oakes said one way for farmers to improve their milk quality results was to get involved in Dairy Australia's Countdown 2020 program.

"Countdown has lots of information and strategies to reduce mastitis, which improves cow comfort and welfare and saves farmers time at milking and considerable money in terms of lost milk production and animal treatments," she said.

Ms Oakes said the program had recently produced a world-leading mobile app and new Countdown Shed Guides, which levy-paying farmers could access for free at <www.dairyaustralia.com.au/shedguides>.

Dairy Australia Award for Craig Yaxley

An expert judging panel recently awarded Fonterra production team leader Craig Yaxley a Dairy Australia award — comprising $1000 and a certificate for education excellence — as most outstanding student when he completed GoTafe's Diploma of Food Science and Technology (Dairy).

Supported by Dairy Australia and the National Centre for Dairy Education, Mr Yaxley's employer, Fonterra, encouraged his development. He transitioned to the role of team leader at the cheese plant in Wynyard, Tasmania. "I have a lot of new knowledge because of the course," he said. "It wasn't until I was back in the workplace that I realised how much I'd gained and that I could apply the skills I'd learned."

His open and humble approach is refreshing and he made it clear that the skills and relationships he'd taken away from the course were continuing. "I was extremely surprised to receive the award," he said. "I didn't expect it at all. In my mind there were many others entitled to it."

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Vic planning advisory body welcomed

By **Andrew Miller**

VICTORIAN councils, planners and the state's peak farming group have welcomed a State Government decision to set up an advisory committee to look into the state's planning laws.

Agriculture Minister Jaala Pulford said the new Animal Industries Advisory Committee would report on how the planning system could support the establishment and expansion of productive, competitive and market-responsive animal industries in Victoria.

She said the new committee would report on changing farming practices and efforts to boost production, while looking at ways the planning system could be updated

Eminent town planning expert RMIT's Professor of Environment and Planning Michael Buxton said the establishment of the committee was a positive step. It would allow the issues to be considered at a state government level. "It allows proper consideration of issues, across both planning and agricultural portfolios," Professor Buxton said.

He said it was likely RMIT would put in a submission to the committee to consider broader planning concerns it had examined in its research.

Victorian Farmers Federation president Peter Touhey said determining definitions of what was intensive and extensive agriculture was a good step forward. "We need to get that sorted, so people can get on with their business," Mr Touhey said. "We have the opportunity to talk to the committee and get our viewpoint across.

The decision to set up the committee was made in conjunction with plans to 'call in' the intensive farming permit for David Blackmore's Alexandra, Vic, Wagyu beef farm.

Planning Minister Richard Wynne will now make a decision on the intensive farming permit, rejected by Murrindindi Shire Council.

Mr Blackmore said the decision was a "huge relief" — but the decision on the permit would not be made until the advisory committee reported back to the Minister, in early December. He said he changed his farming methods about five years ago, with grazing supplemented by mixed feed rations brought in from outside.

The review also came as the Bass Council rejected an application by Chinese company Yo You for a 1000-head dairy barn and milk processing plant, at Kernot. In refusing the proposal, council said the development did not sit comfortably within the natural landscape of the area. D

Clearing the buffer bind

By **Carla Wiese-Smith**

INCREASING unrest between landholders of competing land use in South Australia has spurred SA parliamentarian Stephan Knoll to consult with industry to develop a low-cost, informal mediation process to handle such disputes.

Mr Knoll said the interface between agricultural, horticultural and residential land uses had become more complex with increased instances of horticultural crops grown alongside broadacre properties, new chemicals and their required buffer distances, and the increasing need to have flexible weed and pest management plans to address growing resistance to certain chemical groups.

He cited a recent vineyard approval neighbouring a Moculta dairy, which saw the two parties eventually negotiate and develop their own buffer.

But the difficulty was that such negotiations only worked on new approvals, Mr Knoll said. Currently, disputes regarding new planning applications were taken before the Environment Resources and Development Court.

"I don't want to impose a system where there are very strict rules, because I think where farmers work together, they should be allowed to do that," Mr Knoll said. "But where there is a dispute, there should be some sort of low-cost mechanism where you've got people who have some expertise who are able to mediate, put in some sort of management plan with some enforceable rights, and if that breaks down then there should be an escalation mechanism."

When Treasury Wine Estates bought land across from Moculta dairyfarmer Murray Klemm's night paddock, the Klemms were concerned about the potential for vineyard spray drift to their pastures as well as hay and silage stored in that area. The two parties ultimately came to a mutual agreement of a 50-metre buffer.

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Beston ASX debut success

Key points

- ✔ Beston lists on Australian Stock Exchange
- ✔ Buys former UDP plants
- ✔ Also invests in farms for organic production

By **Andrew Marshall**

Beston chief executive officer Sean Ebert says the company's model is to try to build productivity on its dairy farms.

BESTON Global Foods Company (BGFC) has completed its public float capital raising and listed on the Australian Securities Exchange with an initial market capitalisation of more than $127 million.

The float was successful despite a number of challenges, including the Greek financial crisis, the China stock market melt-down and increasingly negative sentiment about the performance of the Australian economy, BGFC chairman Dr Roger Sexton said. The BGFC offering had found strong appeal among Asian institutional investors as well as retail investors in Australia.

Beston's relatively short ancestry began with a modest organic dairy investment in South Australia and a stake in the lucrative southern rock lobster export trade earlier this year.

In recent months it has expanded to include beef processing ties in Victoria, two mainstream dairy factories and several dairy farms and buying into a specialist food ingredients and research business in Sydney.

The company's board includes some high profile agribusiness names — GrainCorp chairman, Don Taylor, former Elders and Santos chairman and Flinders University chancellor Stephen Gerlach, and investment banker, wine company boss and IOOF Holdings chairman, Dr Sexton.

Dr Sexton, a one-time Australian Bureau of Agricultural Economics economist and director of the Industries Assistance Commission, has led a two-year push to establish the company, drawing on his own trade relationships in Asia and the investment experience of his Beston Pacific Asset Management company.

Beston Global first tested investors' appetites in February, seeking and receiving $22.4 million in a private capital raising, which funded its 26.5% holding in the Paris Creek biodynamic dairy farm processing business in the Adelaide Hills, plus a 35% purchase of Ferguson Australia's lobster and seafood harvesting and processing business, and the $2.1 million purchase of a 170-hectare dairy farm, milking 347 cows at Wellington, south east of Adelaide.

Its next step is to use up to $130 million raised in its float to further diversify its food footprint with a $3.5 million, or 40%, stake in the Paterson family's meat processing and food services business Scorpio Foods.

Scorpio produces frozen and cooked red meat, pork and poultry products for the domestic and export market from Victorian plants at Colac and ▶

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Shepparton, including burger patties, Italian sausages and 95% of the meat used in Australian baby foods.

Beston's dairy activities will also ramp up considerably following its agreement to buy the United Dairy Power (UDP) processing plants at Murray Bridge and Jervois for just $4.5 million once the ASX listing is completed.

The mothballed sites, originally part of the Dairy Farmers group, were key assets in a $70 million UDP sale to Hong Kong's Five Star United Food early last year, but were soon back on the market after the new Chinese owners went into receivership in Australia in November.

Beston chief executive officer Sean Ebert said his company had already organised with suppliers and the former UDP management committee to have the Murray Bridge plant back producing cheddar by early September and a return to whey powder production from the Jervois site.

Murray Bridge will also produce specialist Italian cheeses and retail dessert packs pitched at markets in Korea and Japan when Victorian processor Australian Provincial Cheese relocates to SA to service new contracts, including Costco in Asia.

We want to fund opportunities for them to grow their milk production and value.

Whey output at Jervois would go towards producing lactoferrin protein used in infant formula and a key ingredient for Beston's Sydney-based health food partner Neptune Bio-Innovations.

Neptune, another partner company set to receive a capital injection after the float, has research and processing connections in Brunei from where it will be involved in exporting branded halal food products to Muslim countries.

Back in SA at Mount Gambier, Beston is also in the throes of buying one of the state's largest dairy farms, the 1230ha Pedra Branca aggregation worth $19.2 million, which runs more than 1500 cows and will be leased back to its former owners, the Doman family.

Also around Mount Gambier, Beston is paying $4.26 million for a 270ha, 340-cow dairy farm and $7.2 million for a 314ha 650-cow dairy farm.

Mr Ebert said 25 million litres of milk from the three district farms would be redirected to the newly acquired Murray Bridge factory, while the overall dairy agenda was to lift productivity at all its farms and begin a conversion to organic status at the 260ha and 314ha farms.

"Our model is to try to build productivity. We want to fund opportunities for them to grow their milk production and value," he said. D

Nominees announced for Dairy Australia board roles

DAIRY Australia has announced nominees to stand for election to its board as non-executive directors at the annual general meeting in November.

There are three vacancies this year, one for a director with agribusiness and strategy skills, one for a director with dairy manufacturing and processing skills and one for a director with milk producer skills.

James Mann, dairyfarmer and chair of DairySA, and David Mallinson, executive general manager — business operations for Murray Goulburn are standing for election for the first time.

Mr Mann is the owner of Donovan's Dairying at Wye, SA , which is one of the nation's leading dairy businesses, developed by him and his team from a greenfields site in 1998. The business has pioneered innovative grazing and production systems for dairy in southern Australia and continues to explore leading-edge opportunities for business sustainability. Mr Mann has been the chair of DairySA since 2002 and has also performed other dairy industry leadership roles.

Mr Mallinson has had a range of roles across Murray Goulburn and other processors (Fonterra, Bonlac Foods, Cadbury Schweppes) and has extensive operational experience (including his current responsibility for Murray Goulburn's manufacturing sites [including China] with more than 1600 employees). He is also a non-executive director on the board of Snapsil Corporation.

John McKillop, who was first appointed to the Dairy Australia board in 2012, has also been nominated for re-election as a director, to fill the agribusiness and strategy vacancy.

Dairy Australia invited applications for the vacancies earlier this year. An industry selection committee conducted the formal process leading to the recommendation of the three candidates to the Dairy Australia board.

The candidates selected align with the board skills matrix, which identifies the necessary skills and experience required for the board as a whole.

"As Australia's dairy industry grows, it demands broad expertise and I am delighted the selection committee has selected individuals who bring extensive experience in dairy and the wider business world," Dairy Australia board selection committee chair Geoff Akers said.

All candidates will require more than 50% of the votes cast at the Dairy Australia 2015 AGM to be elected.

NATIONAL HERD IMPROVEMENT ASSOCIATION OF AUSTRALIA INC.
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What's new in herd recording?

Key points

- ✔ Maximising amount of data extracted from herd test sample
- ✔ Identifiying herd health issues
- ✔ Data sets used to give farmers information

By **Carol Millar**

THE International Committee for Animal Recording (ICAR) recently held its annual conference in Krakow, Poland. ICAR is the global body that oversees how performance is recorded in a number of species (particularly herd test in dairy) as well as downstream activities such as genetic evaluation and Interbull calculations.

The theme of this year's conference was 'Performance Recording in a Genotyped World'.

There were a number of topics that generated interest from an Australian view-point. The main one being that service providers around the world have made substantial efforts in trying to maximise the amount of information from the milk sample collected through herd testing.

As an example, in the past few years Australian dairyfarmers have seen the immense benefit and convenience from the IDEXX pregnancy-testing service from milk samples collected via herd testing.

Cow health paramount

The most noticeable trend in herd recording now is all about health traits. Today's dairy cow is expected to produce more milk and to achieve this, it needs to be in the best of health.

In Europe and North America it is now reasonably common for herd test centres to have sophisticated infra-red milk analyser equipment that can test for ketosis and acidosis in addition to the normal fat, protein and cell count. Diseases such as Johnes can be tested through milk samples as can various mastitis-causing pathogens.

The conference heard of an interesting research project in France measuring Milk Amyloid A — a biomarker of the inflammation of the mammary gland. Using a test developed from milk samples, scientists are able to predict whether antibiotic treatments at dry-off are necessary.

The most noticeable trend in herd recording now is all about health traits.

The results of this study showed that 29% of antibiotic dry cow treatments could have been avoided — potentially a significant cost saving for farmers.

Big data

As well as the increasingly sophisticated analysis of herd test milk samples for health traits, the other noticeable trend was in the way that huge data sets are being interrogated to provide farmers with valuable information about managing their herds.

An example of this is the Transition Cow Index developed by AgSource in the USA. This index is designed to evaluate the effectiveness of a herd's transition cow program during the most critical part of a cow's lactation. TCI is a comprehensive and objective measurement of transition cow management, which is the foundation to the next lactation.

It is important that Australia develops similar tools in this area.

More data needed

It is a mistake to think that genotyping DNA samples from dairy animals means that we can stop herd testing. In fact, the opposite is the case. In order for the scientists and statisticians to be able to accurately calculate the equations needed for sire evaluations, the more data they have from herd tested animals, the better.

New director

As part of the normal governance process, two members of the National Herd Improvement Association of Australia (NHIA) board of directors are up for re-election every year and nominations are called for within the membership. There were five nominations for the two board positions and a postal ballot of members was carried out.

Graeme Gillan was re-elected to his position as a director and after the annual general meeting was also re-elected as chairman of NHIA by his fellow directors.

The general manager of Genetics Australia, Jayne Senior, was elected to the second director position.

The board and members of NHIA would like to congratulate both on their election and look forward to their contributions to the matters of the association for the three years of their terms. D

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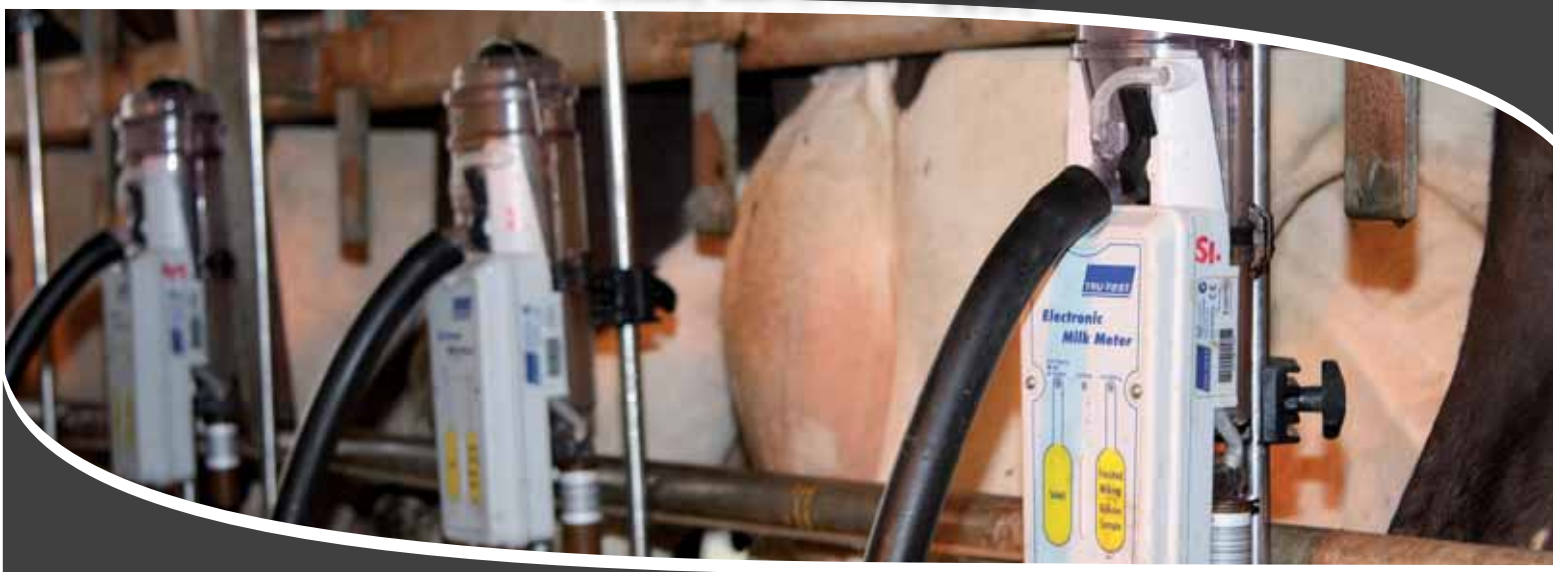

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Dairy Australia
Your Levy at Work

Safer farms more productive

Key points

- ✔ High number of farm-related deaths and injuries
- ✔ Quad bikes and tractor key areas of concern
- ✔ Need to change way farmers view safety

WE want everyone to come home safe. This message was a focus at Farm Safety week recently where the theme 'Safe farms, better productivity' was on display.

With a mission to change the way farmers and dairyfarmers think about safety, Dairy Australia is helping to drive change as it develops practical tools and new programs to assist dairyfarmers live and work in a safer environment.

Although the number of on-farm incidents is decreasing, farm-related deaths and injuries are still high. Figures released by the Australian Centre for Agricultural Health and Safety are a chilling reminder of the importance of safety within agriculture and across the dairy industry. An analysis of media reports in the first six months of this year indicates that 24 people tragically lost their lives in on-farm incidents across all of agriculture, and a further 50 were involved in non-fatal incidents that were serious enough to be reported.

We want to make the place we live and work the best it can be...

"These figures are similar to the same time last year, however, the figures are only a minor part of the issue, as behind every one of these cases there is an individual, a family and a community that has to manage the unnecessary loss of a loved one or friend," centre director Dr Tony Lower said.

Key areas of concern are quad bikes and tractors.

"While we strongly encourage farmers to use other safer vehicles, if continuing to use a quad, then ensure a crush protection device is fitted, wear a helmet and follow basic vehicle maintenance and riding safety practices, including keeping children and passengers off all quads," Dr Lower said.

If using a quad, then ensure a crush protection device is fitted, wear a helmet and follow basic vehicle maintenance and riding safety practices.

Tractors have also featured in fatal incidents with eight cases across agriculture this year. "While we have seen major reductions in tractor incidents, we need to remain focused on the safety of all farm equipment and this is especially true for children with two quad and one tractor incident in 2015," he said.

Changing the way farmers and dairyfarmers think about safety was critical. "We want to make the place we live and work the best it can be and this means encouraging farmers to use safer vehicles and to avoid incidents," Dr Lower said.

A copy of the final report is available from the Australian Centre for Agricultural Health and Safety website at <www.aghealth.org.au>. A guide to the Safe Use of Quads and Side By Sides on Australian Farms is available at <http://www.farmsafe.org.au/content/quad-and-vehicle-safety>. D

Dairy Australia
Your Levy at Work

Is this share-farming agreement legal?

Key points

- ✔ Share-farming must meet contractor standard
- ✔ Several key requirements
- ✔ New Share Dairy Farming Model Code of Practice provides test guide

ABOUT one in five of Australia's dairy farm businesses operate under some form of share-farming arrangement — with lots of variation around how these arrangements are structured. This allows each arrangement to best suit the farm and the people involved but it is also important that the agreement is legal.

A true share-farming agreement is not an employment contract but a form of independent contracting so it must satisfy the tests that show it is not just employment 'under another name'. The nature of the relationship between the parties to a contract will always be determined by the law and not by the label the parties choose to put on it.

Agreements that are not legal leave the farm owner and share farmer open to business risks. For example the appropriate tax may not have been paid (by either party), employment and superannuation entitlements may be outstanding or WorkCover inadequate. These can cause large payments to be required many years later.

What do Australian workplace laws say about share farming?

Australian workplace laws are made up of statutes (eg the Fair Work Act), awards (eg the Pastoral Award 2010) and common law (cases decided by Commissioners and judges in the courts).

These workplace laws make a clear distinction between independent contracting and employment but there is no statute law nor any significant case law that provides a comprehensive definition of what constitutes a share farmer.

Independent contracting has been found by the courts to centre around:

One of the questions asked to test if someone is a share farmer or independent contractor is are they able to delegate or employ others to do some or all of the work.

- that the person is running their own business and therefore brings some assets to use;
- has control over the work which is performed and when and how it is performed;
- takes some financial risk in the business; and
- has the opportunity to build wealth over and above what they would have received as wages.

Employment laws centre around the worker doing the work required by the employer for the employer's business in the manner and at the time the employer requires the work to be performed.

Over time the courts have developed a number of questions that can be used to help determine whether the legal status is one of employment or independent contracting.

How can you 'test' the likely legal status of a share-farming arrangement?

No single factor determines whether an arrangement is in fact a true share-farming arrangement. However, on balance the following needs to be considered:

i) Does the share farmer bring significant assets to the business such as livestock, mobile plant and equipment and potentially land?

ii) In relation to the work undertaken on the farm, does the share farmer have the ability to:

- make relevant management decisions;
- decide how some or all of the work will be performed and when;
- be able to delegate or employ others to do some or all of the work; and
- be responsible for their mistakes and be required to rectify them.

iii) Is the share farmer responsible for a fair proportion of the costs as-

Sham contracting

THE Fair Work Act prevents employers from engaging employees as independent contractors to avoid paying employee entitlements. These are called 'sham contracts'.

The following are prohibited and significant penalties apply:

- dismissing an employee for the sole or main purpose of engaging them as an independent contractor;
- representing an employment relationship as independent contracting; or
- making a false statement for the purpose of influencing or persuading an individual to enter into an independent contract.

sociated with the operation of the business, relative to his or her income?
iv) Does the share farmer have the ability to increase wealth as a result of the work performed under the share-farming arrangement?

Dairy Australia has developed a new Share Dairy Farming Model Code of Practice, endorsed by the dairy industry.

Dairy Australia has developed a new Share Dairy Farming Model Code of Practice, endorsed by the dairy industry, with a Legal Test Guide to assist in determining if an arrangement that is already in place, or is being proposed, is a share-farming arrangement or if under Australian law it is actually some other form of engagement.

SHARE DAIRYFARMING IN AUSTRALIA
Model Code of Practice
The industry-agreed approach to building successful share dairyfarming arrangements

- Is the arrangement fair and affordable? Tool 1 Calculator
- Is it share farming from a legal perspective? Tool 2 Test Guide
- What should the parties discuss? Tool 3 Checklist
- What should be in the written agreement Tool 4 Agreement

The Legal Test Guide provides an overall score of the arrangement derived from:
1. An assets test and score.
2. A control test and score.
3. A financial risk test and score.
4. A wealth test and score.

It is recommended that the parties setting up or reviewing their arrangement work through these steps with a dairy adviser.

The Share Dairy Farming Model Code of Practice and Legal Test Guide can be downloaded from website <www.thepeopleindairy.org.au/sharefarming>.

Written agreements vital

IT is important that the share-farming agreement is in writing. Memories fade with time and if a dispute arises both parties will almost certainly have differing views as to what was agreed.

Courts have great difficulty determining cases where there is no written record. The new Share Dairy Farming Model Code of Practice also has a checklist and a model agreement that can be used to make a written agreement straightforward.

Dairy Australia
National Centre for Dairy Education
Your Levy at Work

A Masterclass in dairy leadership

Guest speaker Anna Bligh, DA chair Geoff Akers and Australian Dairy Farmers director Simone Jolliffe with Developing Dairy Leaders Program participants Andrew Beale, Cororooke, Vic, (at left) and Aubrey Pellet, Hill End, Vic, (second from right) at the dinner in Canberra.

Key points

- ✔ Events for leadership program graduates
- ✔ Program helps attract, retain and develop leaders
- ✔ New program for emerging leaders

AFTER several years of running the Developing Dairy Leaders Program (DDLP), the dairy industry's flagship leadership program, the dairy industry has established an alumni of its more than 60 graduates.

Alumni events will be held to provide opportunities for DDLP graduates to maintain access to ongoing professional development and to maintain the currency of their leadership knowledge, increasing the benefit of the levy investment long after the DDLP program ends.

The first alumni event, a leadership Masterclass, was held in late June in Canberra. The three-day event was timed to coincide with the annual Legendairy Industry Breakfast at Parliament House, where the eight participants met their local members of parliament and gave their first-hand accounts of the opportunities and contribution of the dairy industry.

Other elements of the Masterclass included an all-day seminar conducted by author and speaker Margie Warrell, excursions to explore leadership themes at the Australian War Memorial and the Australian Institute of Sport, a question-and-answer session with Dairy Australia managing director Ian Halliday and an industry leadership dinner with a stirring keynote address delivered by former Queensland Premier Anna Bligh.

"The fact that we had the opportunity to engage with other farmers out of area was brilliant — and the guest speakers were really uplifting," one of the dairyfarmers selected to attend, western Victorian Leighton Hart said. "What occurred to me in Canberra was that it's easy to get bogged down at the farmgate but not realise that you're doing a good job so I really enjoyed (sharing) that."

What I saw is that if you take the time to speak with the right politicians, dairy has a high credibility in government.

Another dairyfarmer and active community participant who attended, northern Victorian Di Bowles said: "I really want to promote the industry because it's great. I was so proud.

"I had more of a confirmation of what I was thinking was right. What I saw is that if you take the time to speak with the right politicians, dairy has a high credibility in government."

Kim Foss, an educator who is also a graduate of DDLP, has been appointed co-ordinator of the DDLP alumni and will also be the education leader of DDLP and the new tier one dairy industry leadership program, Emerging Dairy Leaders Program (EDLP), which starts next year.

These programs are part of the dairy industry's three-tier leadership program framework that is part of a strategy and broader work by Dairy Australia, on behalf of the Australian dairy industry, to attract, retain and develop the people needed to drive the industry.

DDLP is being redesigned to better meet the needs of the dairy industry and dairy communities and instead of being run each year will now run every two years and alternate with the Canberra leadership Masterclass event.

From next year DDLP graduates will earn an Advanced Diploma in Agribusiness from the National Centre for Dairy Education (NCDE) and EDLP graduates will earn a Diploma of Agribusiness from the NCDE. Applications for the 2016 DDLP will open later this year and information about EDLP, which will run in each dairy region in the next few years, will be on the Dairy Australia website soon.

Building a career in dairy

Key points

- ✔ Family faces volatile times
- ✔ Skill development vital
- ✔ Sees bright future for agriculture

By **Annabelle Beale**

WHEN overseas demand plummeted for Australian dairy products in 2008, Will Ryan's family dairy farm suffered a huge blow. Profits for the South Gippsland operation fell by 44%.

The volatile market coincided with the family's acquisition of a property, which was bought the year before, and began one of the most challenging periods for the family's dairy operation.

'Sometimes we have to endure such challenging events before we can realise the extent of our limits.'

"At such time all indicators of the dairy industry looked excellent with the pricing of milk solids firm so farmers were optimistic for the future of the industry — then in one night this all changed," he said.

"Our family business, like many others in industry, lost hundreds of thousands of dollars. This was my first introduction to how the volatility of free markets can impact an industry, a community and a family."

Will Ryan sees a great future in agriculture.

Challenging seasons such as this that can see young people turned off the land in favour of a nine-to-five job with a reliable income.

But not for Will Ryan — the pitfalls were his motivation to understand how businesses could mitigate financial risks and to start a career in agribusiness. He turned to upskilling himself so he could understand all aspects of industry, from soil health to global trade.

In 2008, Will began his Certificate IV in Agriculture, coinciding with a Certificate III with the National Centre of Dairy Education Australia (NCDEA).

The following year he started a Diploma of Agriculture at the NCDEA before taking a gap year to work in Essex, England, as heavy machinery operator during the harvest. "We worked among old World War II machine gun pillboxes and giant bomber ▶

hangars, stacking 70,000 bales on an old airfield that stretched one kilometre," he said.

It was after this time he decided to continue studying and signed-up for an undergraduate degree in agriculture at the age of 22.

In his second year of uni, Will's father Peter was diagnosed with non-Hodgkin lymphoma.

While his dad underwent treatment, Will returned to managing the family property — forgoing an opportunity with Rimfire Resources to look at the Indonesian agriculture sector.

For the next 12 months he managed the family dairy operation four days a week, while working on full-time studies.

After seven months of treatment and being declared in remission, Peter lost his battle cancer.

"Sometimes we have to endure such challenging events before we can realise the extent of our limits," Will said.

"Whether it be myself and family going through such circumstances, or the 2011 banning of live exports which nearly decimated the beef sector throughout Australia, sometimes to understand the true capacity or resilience of an individual or industry, you have to be exposed to such testing times and situations."

In 2014, Will was awarded an emerging leader title with the Gardiner foundation and as a result joined a delegation from the State Government to look at opportunities for the Australian dairy industry in China.

What pushed him to the edge of his studies was a research thesis with the Department of Environment, Land, Water and Planning in his third year of uni, examining the extraction methods for sampling soil microbial DNA in Gippsland dairy soils.

This research attracted him the attention as an emerging leader with the Gardiner Foundation. As a result, last year he joined a delegation from the Victorian Government to look at opportunities for the Australian dairy industry in China.

The accolades continued, and Will was later selected for the United Dairyfarmers of Victoria tour of New Zealand.

He now works as an industry development officer with the Australian Fodder Industry Association (AFIA).

Through his research and overseas scholarships, Will said it was an exciting period to be a part of the Australian protein industry.

"With the average person in China consuming in 0.4 kilograms of dairy products annually versus 35kg/person for someone in a western culture, the potential for protein is huge," he said.

"As the Chinese people begin to change their diets towards more of a western style, more and more protein is looking to be sourced.

"Every year the equivalent population of Australia, about 23 million people, move into the middle class in China — which the ability to spend more money on good quality food and fibre. We have selected the right career path."

Calling the cows home

Key points

- ✔ Heifers trained to respond to sound
- ✔ Potential to attract cows for milking
- ✔ Further trials planned

FUTUREDAIRY researchers have discovered that cows can be trained to respond to sound, opening up possibilities for teaching cows to come to the dairy in response to a particular call. Researcher Dr Cameron Clark said that while there was plenty of anecdotal evidence from farmers that cows could be called to the dairy, this study paved the way for farmers to use cow calling as a powerful management tool.

"It's given us the confidence for further research on the best way to train cows and to look at the potential to train individual cows to respond to their own unique sound," he said. "It has potential application on farms with both conventional milking systems and robots.

"Dairyfarmers can spend more than seven hours a week herding the cows up to the dairy for morning and evening milking sessions. The use of automatic gates and calling sounds could eliminate this daily task."

The concept has even greater potential application in voluntary milking systems where cows move by themselves from the paddock to a robotic dairy and back to the paddock.

One of the challenges with voluntary milking systems is that there is always a small group of cows less motivated to move around the farm. These cows need to be 'fetched' from the paddock for milking. Although it is a small task, it must be built into the routine to avoid these unmotivated cows having milking intervals that extend beyond about 16 hours. Left any longer, these cows are at risk of reduced production and mastitis.

The 'cow calling' study was the first step in understanding how cows respond to sound. To test the concept, student Alexandra Green designed a maze in a paddock using electric fencing, following similar principles that researchers use with studies of rats or mice in mazes. The t-shaped maze had feed bins at both sides of the T.

The three-week study involved six dairy heifers aged about 20 months. Recognising that young heifers are shy, the team started with a few days

University of Sydney student Alexandra Green trained heifers to respond to sound, opening up possibilities for teaching cows to come to the dairy in response to a particular call.

training to familiarise the animals with the maze. "We used the Pavlov's dog principle to teach the cows to associate the sound with a feed reward," Ms Green said.

"Initially we played a sound when the heifers put their head in a feed bin. Eventually we put the sound only with the feed bin that had feed in it. We started playing the sound as soon as each cow entered the maze to see if we could teach them to follow the noise instead of going to the side they preferred."

The team was amazed at how quickly the heifers picked up the signals. "Initially the cows guessed their way through the maze but they quickly started to turn their heads to where the sound was; they would really think about it," she said.

"One of the heifers was hilarious. She got every single test correct from day two onwards. She'd kick up her heels in what looked like sheer delight as though she knew she'd chosen the right way."

Four of the six heifers got a perfect score four times a day for four days in a row. The other two got it right 75% of the time.

A follow-up study is underway with cows wearing a collar that generates a sound. D

Contact: FutureDairy Associate Professor Kendra Kerrisk, mobile 0428 101 372, email <kendra.kerrisk@sydney.edu.au>.

Mark Billing with one of the cows in the herd. All cows have collars to monitor activity.

Top Billing for award winners

Key points

- ✔ Legendairy award winners in south-west Victoria
- ✔ Heavily involved in research programs
- ✔ Developing farm business for next generation

MARK and Sam Billing already have a high profile in the dairy industry with their farm straddling the busy Princes Highway near Colac, Vic. Farmers passing by tend to look over the fence to see well-maintained cows, trials taking place in the paddocks, students being hosted on farm visits, and new technologies being tried.

Now the Billings have boosted their profile even further by being named as the inaugural Legendairy Farmers at the Great South West Dairy Awards. It's a responsibility and honour they take seriously.

Mr Billing admits they were "honoured but a bit shocked" by the award after earlier being named as the Farm Business Managers and the Employers of the Year. Now they are determined to live up to the title.

"There's a bit of responsibility that goes with winning that and we're right on the highway west of Colac so we try to farm best practice and set a good example," Mr Billing said.

"We don't farm for what people think; we farm for what suits the way we want to farm, but people drive past and can be critical or otherwise," he said. Luckily the feedback is positive and the Billing family has successfully farmed the land for four generations, with no plans to sever the ties that date back to the 1920s.

"Dairying is in our blood," Mr Billing said.

The Billings, parents of four children aged under nine, work as a partnership called Craiglands — an ancestral family name — along with one full-time, two part-time and one casual employee.

The farm has grown from small beginnings 90 years ago to milking 452 Holstein cows off about 240 hectares.

So what makes a Legendairy farmer? That's one question that stumps Mr Billing said. "I'm not really sure," he said. "Both Sam and I have an interest in the industry but we're also interested in giving back to the industry."

They like looking beyond the farmgate. Mr Billing is heavily involved in the Dairy Australia Future Dairy project and as chairman of the Fonterra Supply Forum in Australia and director of the Bonlac Supply Company. "We like looking at the bigger picture," he said.

The farm is regularly used for pasture trials and hosting research scientists. They will also give more than 200 Melbourne school students a taste of life on a dairy farm this year. "I love that. It's warts and all; whatever is going on at the time they watch and participate," Mr Billing said.

The Billing farm embraces new technology. All cows have activity monitoring and about 100 of the herd have eating behaviour monitors. A differential feeding system is used to feed taking into account production, body condition and state of lactation.

"We've set up a robust system to ensure the farm gets the best returns and remains profitable, no matter what the weather or farm prices might throw at us," "Mr Billing said.

Like all farms, Craiglands has been through tough times, including the prolonged dry spell of 2012-13, but having a clear goal and flexible business plan has seen it ride the bumps. ▶

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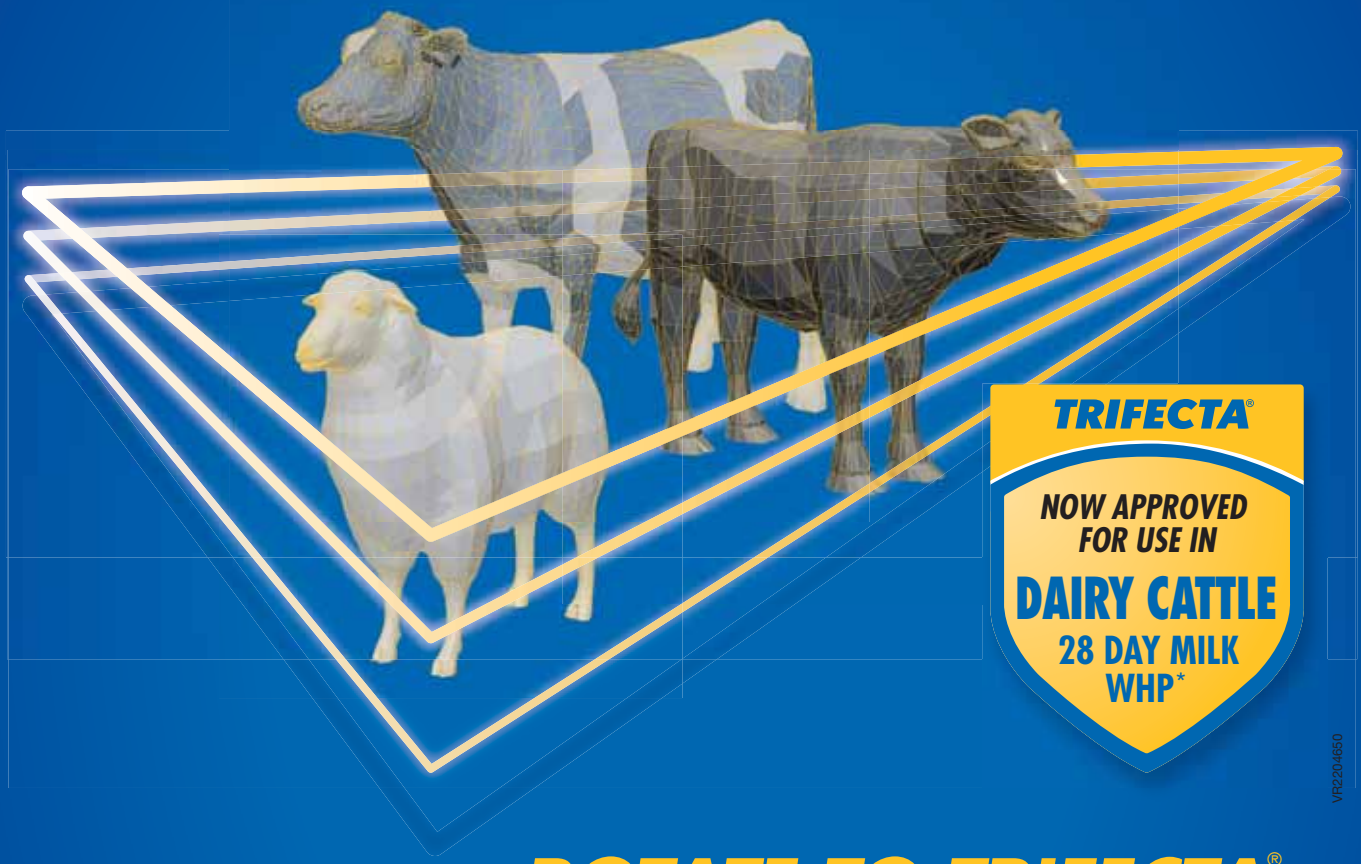

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^ Leathwick, D.M., Besier, R.B., (2014) The management of anthelmintic resistance in grazing ruminants in Australasia – strategies and experiences Vet. Parasitol 204 (1-2), 44-54.

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The farm of Mark and Sam Billing is regularly used for pasture trials and hosting research scientists.

◀ They have also developed an enviable reputation for being a good employer where staff become "part of the family" and are supported to undertake training to further their careers.

While dairying was in Mr Billing's genes, Mrs Billing came from inner-city Richmond. She completed an Agricultural Science Degree at Dookie Agricultural College and was working as a sheep officer at Hamilton with the Department of Agriculture before she met Mr Billing and converted to the dairy lifestyle. Mrs Billing also has a Masters in Agribusiness.

They both have an eye on the future and make sure the farm is in good shape for another generation. "I grew up here and now our four kids are growing up here," Mr Billing said. "Every now and then I stop and think I'm farming the area my great grandfather farmed. That's got some significance for me as I'm getting older. Now we've got it in the back of our minds to make sure it's in shape if our kids want to continue."

Mr Billing hopes they can live up to the Legendairy title and support the communication initiative to raise the profile and reputation of the industry.

"I love the variety of farming," he said. "Today I'm sitting on a tractor putting out some fertiliser; tonight I'll be sitting in front of a computer analysing some data.

> ***'I love the variety of farming.'***

"I'm biased now but even before I thought Legendairy was a great campaign, not only to inform the broader community but to inspire existing farmers.

"Legendairy makes it that little bit easier to be positive about what's going on in our industry. It's important for Victoria and Australia as a business that's bringing money into the country with our exports. It's sustained four generations of our family."

WestVic Dairy executive officer Paula Doran congratulated all winners of the Great South West Awards and commended their dedication to the industry. "The quality of this year's entries was not only exceptionally high, but a true reflection of the dedication and passion of the entire western Victorian region, she said. "What an incredible group of leaders we had on stage."

Ms Doran said the calibre of entrants were so high that it made it difficult for the judges. "All the judges commented on how close the applicants were and how hard it was to pick a winner," she said. "I think this shows how committed local dairy farmers are to improving the dairy industry." D

2015 Great South West Dairy Award winners and runners up

Legendairy Farmers of the year: Mark and Sam Billing
Dairy Australia Farm Business Managers: Mark and Sam Billing
Gardiner Foundation Employers of the Year: Mark and Sam Billing.
Employee of the Year sponsored by Devondale Murray Goulburn: Elsi Neave.
Glenelg Hopkins and Corangamite Catchment Management Authorities' Natural Resource and Sustainability Manager Award: Daniel Croft.
Young Farm Leader sponsored by Moyne Shire: Michael Hawker.
Dairy Farm Photo: Terry Kavenagh

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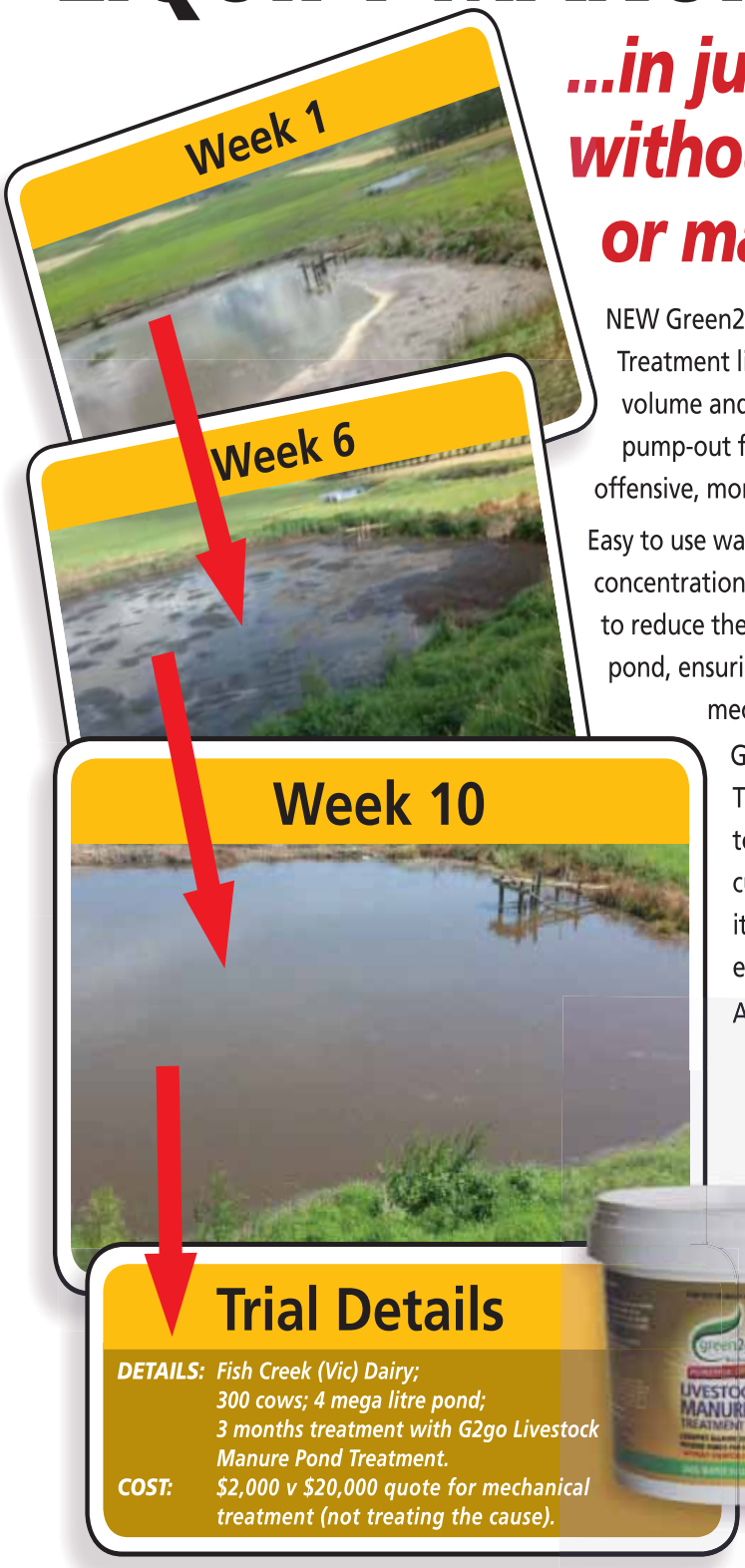

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Building dairy capacity globally

Key points

- ✔ Gardiner invests in professional and leadership development
- ✔ Crawford Fund opportunities in development and food security
- ✔ UDV NZ Study Tour promotes leadership at home

By **Alexandra de Blas**

ZITA Ritchie is passionate about the role of smallholder farmers in food security, and a Gardiner Dairy Foundation scholarship has given her exposure to world-leading researchers, networks and opportunities in this field.

Ms Ritchie has worked for the Victorian Government as a dairy extension officer for almost six years, but has always had a keen interest in international development. A year spent volunteering as an agricultural officer in Kenya with AusAID only increased her desire to combine dairy work with international development. She has also just completed a Master of International Development at Deakin University.

'The average herd size would be about five to eight cows per farmer, very little machinery, so it's predominantly milking by hand, and because of the lack of cold chain storage, there are often milk quality issues.'

With that background, it's easy to see why Ms Ritchie was keen to attend the Crawford Fund Parliamentary Conference in 2014, titled 'Ethics, Efficiency and Food Security: Feeding the 9 Billion, Well'.

"Being able to attend the conference was a great opportunity to hear from a range of speakers, both in Australia and internationally, to understand the kind of work and research going on in the development space," she said.

"It was also really valuable linking in with networks that were working on similar projects. So being able to share experiences and hear from more experienced people who have been working in the field — the kind of training programs they've run, how they have done extension in developing countries, and what's worked and what hasn't."

Gardiner Dairy Foundation strategically invests in people in the Victorian

Dairy adviser training in Lembang, West Java, with Zita Ritchie and John Moran from Victoria.

dairy industry, filling skill gaps and supporting upcoming dairy leaders in their professional development. The scholarship covered the cost of Ms Ritchie's conference fees, flights and accommodation.

Being a scholar of the Crawford Fund/Gardiner program also led to an opportunity for Ms Ritchie to deliver extension training to dairy advisers and smallholder farmers in the Indonesian province of West Java in April.

The five-day program designed to increase knowledge and uptake of better farming practices was a joint project of the Victorian Government, the Crawford Fund, and the West Javanese provincial government.

"They're dealing with completely different issues to what we're dealing with in Victoria," Ms Ritchie said. "The average herd size would be about five to eight cows per farmer,

Zita Ritchie and group of dairy advisers designing extension programs to help farmers improve milk quality.

very little machinery, so it's predominantly milking by hand, and because of the lack of cold chain storage, there are often milk quality issues."

Improving the capability of farmers to reduce contamination issues was a key component of the work.

Ms Ritchie is now the Victorian representative of the Australian-based Researchers in Agriculture for International Development network, which brings together early-to-mid-career scientists with an interest in agricultural research in developing countries.

The opportunity offered by Gardiner Dairy Foundation to attend the Crawford Fund conference led not only to an informative experience for Ms Ritchie, but a professionally transformative one. She would highly recommend it to others with an interest in agriculture in developing countries.

Gardiner supported a further two scholars to attend the 2015 Conference in August: Mary Abdelsayed, from Holstein Australia, and Martin Foerster, from Monash University.

To find out more visit website <http://www.crawfordfund.org/awards/conference-travel-scholarships>.

NZ study tour scholars give back to industry

EACH year, as part of its commitment to helping ensure a steady stream of bright young leaders in the dairy industry, the Gardiner Dairy Foundation, in partnership with the United Dairyfarmers of Victoria (UDV), supports six industry professionals to undertake a study tour of the New Zealand dairy industry.

"The eight-day tour takes these vibrant young people out of their comfort zone and exposes them to best practice in production systems and business in New Zealand — giving them a deeper layer of experience, which they can draw on in their work and community," Gardiner Dairy Foundation chief executive Mary Harney said.

UDV president Adam Jenkins said the organisation was passionate about young people and exposing them to the wider industry "as we are now part of the global dairy network".

"The 2015 group were unique," he said. "They gelled really well and already some of them are starting to give back to the industry. They were highly motivated, would challenge the status quo, bounce off each other and really learn."

Since returning from the tour of nine dairy farms, processing facilities and research sites, the learnings have proved valuable to the participants.

Scholar Kerrilyn Bassett, a farm worker and student from Kyabram Vic, has since been awarded Outstanding Student of

Participants on the New Zealand Study Tour: Kerrilyn Basset, Sarah Saxton, Hayden Hanratty, tour leader Gordon Nicholas, Aaron Thomas, Jason Birmingham, James Goulding from the National Centre for Dairy Eduction and William Ryan.

the Year with the National Centre for Dairy Education and has been nominated for Victorian Trainee of the Year.

"I got a lot out of the tour," Ms Bassett said. She greatly appreciated the opportunity to discuss ideas with "young like-minded people" and to compare the Australian and New Zealand industries.

Taking part opened up new career pathways. "I'd never thought of sharefarming before but now I know more about it," she said. "It's an option for me".

It also gave Ms Bassett the confidence to begin mentoring students in the year below her at TAFE.

Aaron Thomas, a sharefarmer from Binginwarri in South Gippsland, said going to New Zealand was always on his to-do list.

"But one of the biggest things I got out of it was mateship," he said.

Since returning, the group has kept in contact and organised tours in their own regions, creating new connections in different parts of the state.

Mr Thomas, who has a personal interest in the political side of the industry, said the other key benefits were the "contacts and networking". The opportunity to attend the UDV conference and speak with dairy leaders in Melbourne was "very rewarding".

"We are dead-set serious that we want a stronger industry moving forward," Mr Thomas said. Since returning he and fellow scholar Hayden Hanratty have "fired up" the Yarram branch of the UDV, which had been in recess for the past six years. Likewise, 2015 participant Jason Bermingham and 2014 scholar Brad Missen have reinvigorated the Macalister branch. All have taken on office bearer roles.

The 2016 New Zealand study tour will be advertised in September. To find out more visit website <http://udvdairytour.com>.

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

— Alexandra de Blas

Dairy Australia
Your Levy at Work

Australia and China dairy ties fortified

Key points

- ✔ Special dairy reception held in Beijing
- ✔ Celebrates Greater China Scholarship Program
- ✔ Program gives Chinese manufacturers exposure to Australian dairy

THE strong association between the Australian and Chinese dairy industries was further consolidated at a special reception at the Australian Ambassador to China's residence and the annual China Dairy Industry Association (CDIA) conference in Beijing on August 9.

China is Australia's fastest growing dairy export market and is now the largest export market for Australia. In the past eight years (2007-2014), exports increased by more than 300% from 28,000 tonnes to 117,000 tonnes. Value added and premium products such as cheese, milk (mostly UHT) and powders make up the bulk of shipments.

The special reception was organised at the residence of the Australian Ambassador to the People's Republic of China, Frances Adamson, to celebrate Dairy Australia's Greater China Scholarship Program, which has been running since 1999.

Dairy Australia chairman Geoff Akers said the program, involving more than 240 participants so far, had been a key to developing and maintaining long-term relationships with numerous companies and government officials.

"The program has been an outstanding success in terms of the long-term relationships we've established and we're very proud of that," Mr Akers said.

"Many participants are now in senior positions in companies in China and have a very strong affinity with Australia having completed the program. We are also very happy to see a number of new commercial business relationships emerging from the program over the years."

We've learned that our Chinese customers like to have their options open for sourcing products.

The annual, two-week program is designed to give senior and middle level managers from major Chinese dairy manufacturers a better understanding of the Australian dairy industry — from the farm to the factory.

It covers everything from Australian dairy food safety systems and liquid milk processing to cheese making, functionality and applications. Participants visit various dairy factories and dairy farms and meet with key company export contacts.

"We keep active communication with all participants and we're very happy to see great support from the Australian Government and the Ambassador for our programs," Mr Akers said.

Speaking at the CDIA conference, he said China was an important, growing and long-term market for the Australian dairy industry.

"The Australian dairy industry has enjoyed a long and mutually beneficial relationship with the Chinese dairy industry through a range of programs conducted in the market, including the scholarship and alumni program, by working closely together with China Dairy Industry Association (CDIA), and the CDIA Annual Conference and Dairy Expo, and annual series of workshops and seminars in the market," he said.

"We are committed to both the China market and the CDIA for the long term. With the signing of the China Australian FTA, we expect the long-term relationship between the two industries to be further enhanced not only in trade but also in investment."

Mr Akers said the strong demand for Australian products in China was ▶

Australian Ambassador to the People's Republic of China HE Ms Frances Adamson (front centre) and Dairy Australia chairman Geoff Akers celebrating 16 years of Dairy Australia's Greater China Scholarship Program with some of the participants from each year.

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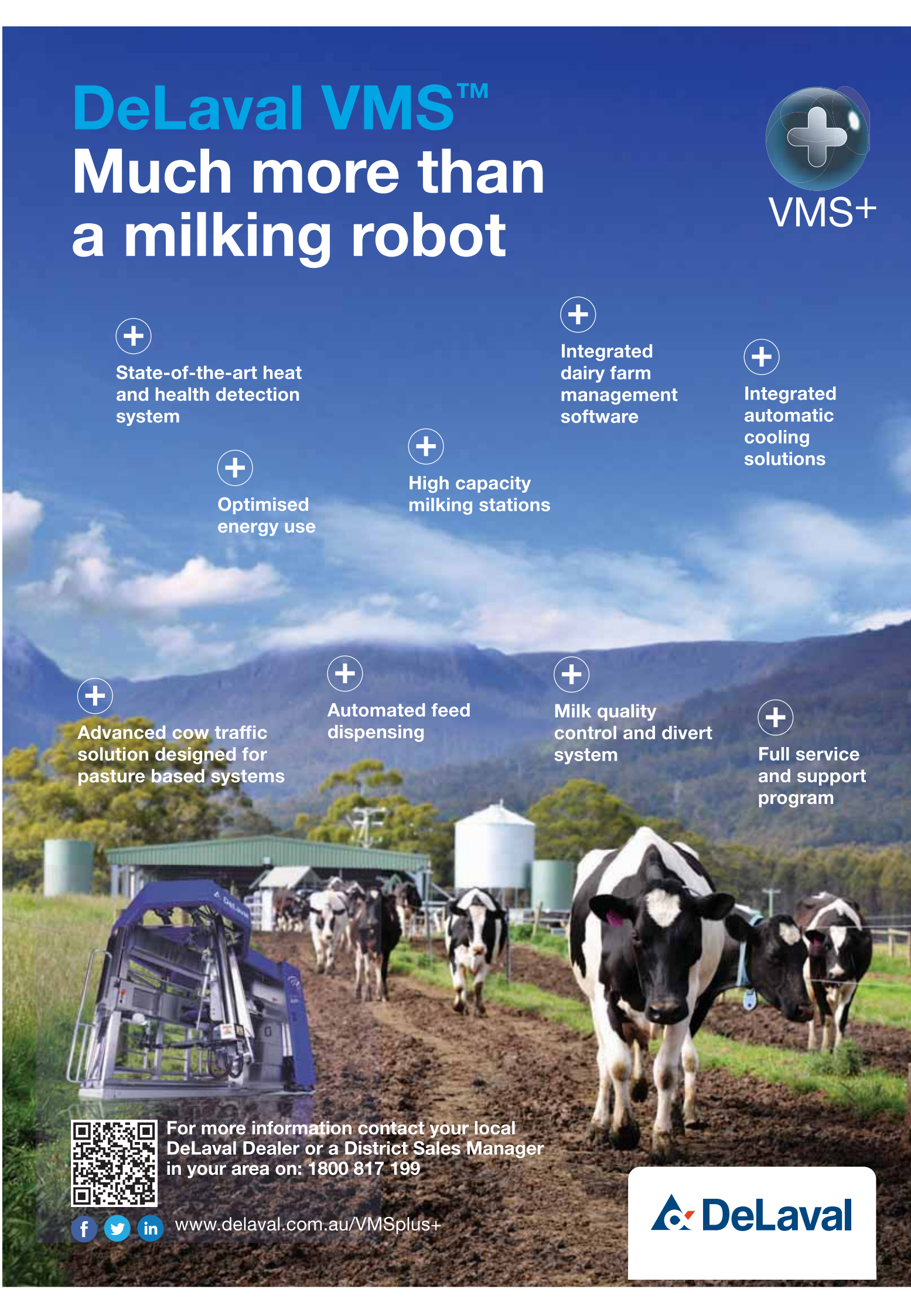

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continuing to grow as the Asian palate became more accustomed to dairy.

"We've learned that our Chinese customers like to have their options open for sourcing products and are keen to diversify where they source their products and ingredients to limit their exposure," he said.

"Food safety, quality and consistency is more important and Australia is in a very good position to satisfy this."

Aside from supplying cheese, milk and powders, Australia has also moved to focus more on supplying branded products for food service, bakery and retail sectors in China.

To learn more about the scholarship program, visit <www.dairyaustralia.com.au/china-scholarship> to watch a short video.

International scholarship program rates highly

DAIRY Australia's international marketing scholarship program continues to remain popular across Asia, attracting high praise from the latest Chinese participants.

The most recent program involved 16 delegates from China Mainland, Hong Kong and Taiwan, representing major dairy and food manufacturers such as COFCO, Sanyuan, Maxim's, I-Mei and Uni President, Yili and New Hope.

The scholarship program provides participants the opportunity to see how everything comes together from the farm to the factory. It covers Australian dairy food safety systems and food standards, liquid milk processing, dairy product tasting, cheese making, functionality and applications. Participants visit various dairy factories and dairy farms and meet with key company export contacts.

Last month, the latest group visited nine dairy factories and three dairy farms — one of which featured a robotic dairy in action. Dairy Australia international market manager Sarah Xu co-ordinated the visit and said the delegates were impressed with the content of the program and how much they learned about the Australian industry. "An important aspect of the scholarship is the opportunity it gives our international customers to meet the suppliers of the product they buy, and the delegates were very keen to develop deeper relationships with the Australian dairy companies in future," Ms Xu said.

Annie Chan from Maxim's Group, Hong Kong, was appreciative of the opportunity and experience provided by Dairy Australia.

"It's very good that we can experience the factory visit to see the real practical way of processing the cheese and the raw milk testings," Ms Chan said.

Tsung-Cheng Lee from Uni President, Taiwan, said the program schedule arranged by Dairy Australia was terrific.

"During the visit I have learned so much more than I expected and have seen so many different aspects of the industry," he said. "The best part of the program is our visits to processing factories and farms. They opened their arms for our tour and visit."

Chen Huifeng, from Sanyuan Foods in Beijing, said a large number of dairy industry representatives had been trained throughout the history of the program.

"The communication between the two industries has enabled the Chinese participants in processing, management and now trading sectors get a good understanding of the Australian dairy industry," he said. "I think this is very beneficial for Australian products being exported to China in future."

One of the factories included in the program is Burra Foods in Gippsland. Burra's general manager commercial Dale O'Neill said the scholarship program was a terrific opportunity to bring some of Greater China's key industry leaders to see the Australian industry at work.

Tasmanian dairyfarmer Garry Carpenter hosted the group on his farm and showcased his robotic dairy in action. He said the program was extremely important for the whole Australian industry.

"We've got to let people in Asian markets know that what we're doing here is really good and clean and we want to do it to the best of our abilities," Mr Carpenter said. "And it's great to see they're coming across and realising where it's actually coming from."

Legendairy breakfast comes to Canberra

Key points

- ✔ Legendairy breakfast held in Canberra
- ✔ Opportunity for farmers to mingle with politicians, media and advisers
- ✔ Creates long-term connections

FOR Queensland dairyfarmer Luke Stock, representing the dairy industry at the second Legendairy Breakfast in Canberra on June 25, was an important and rare opportunity.

Not only did he get to meet and talk to dozens of Federal members of parliament, including a sprinkling of ministers such as the Minister for the Environment Greg Hunt, he also spoke with their advisers and media staffers, which made him realise his potential audience at the breakfast was "...that much greater".

"As farmers, we may have the chance to consult with our local member on issues that concern our industry, but to be at an event like the Legendairy Breakfast with politicians from across the nation should not be taken for granted," he said.

While the breakfast is great chance to advocate to the nation's leaders about all good things dairy, such as the huge and growing scale of the sector or the 43,000 Australians directly employed on farms and in processing, it also gives farmers a chance to talk about some of the challenges they face.

"I spoke about where dairy products sit on the proposed health-star rating system and how high feed costs in Queensland are having a negative impact on the profit of our farms," Mr Stock said.

Luke Stock with his Federal member of parliament, Scott Buchholz.

But it's the long-term results of the Legendairy Breakfast he is anticipating most.

"The contacts I've been able to make from the breakfast have been unique," Mr Stock said. "I have been impressed by follow-up phone calls and emails from members of parliament just wanting clarity and information on different topics.

"If I can give them relevant and correct information they can have a better understanding of our industry. It's a good sign that members of parliament are wanting to hear what's happening on our farms from those of us inside the farmgate."

Mr Stock was part of the dairy industry's Developing Dairy Leaders Program (DDLP) Masterclass in Canberra, which brought together previous participants, some of whom had met the pollies at last year's breakfast

DA's policy strategy manager and co-ordinator of the event Claire Miller said: "If the dairy industry is to be taken seriously, we have to take our message directly to the politicians in Canberra.

"What better way to do that than to show up and give them a taste of what we do best while talking with motivated farmers from our leadership programs?"

'If I can give them relevant and correct information they can have a better understanding of our industry.'

More than 60 upper house senators and members of parliament, and their staff, attended the Legendairy Breakfast including Mr Hunt, who gave an official opening speech. Other notables included Deputy Leader of the Opposition, Tanya Plibersek, Clive Palmer and great dairy supporters Dan Tehan, from western Victoria, and Nola Marino, from Western Australia. D

Dairy separated in nutrition pyramid

By **Emma Glassenbury**
accredited practising dietitian
Dairy Australia

Key points

- ✔ Healthy Eating Pyramid updated
- ✔ Dairy foods now have own section
- ✔ Good basis for promoting nutritional benefits

WELCOME to Dairy Australia's column designed to keep you up to date on some of the latest happenings in the world of nutrition and health science.

'With dairy and alternatives now standing alone on the new pyramid, we have a terrific platform to help us focus on the package of nutrients naturally contained in milk, cheese and yoghurt.'

This is where you'll find some new talking points about the benefits of dairy and also some of the recent work Dairy Australia has under way to ensure dairy is well represented at the national level.

New Healthy Eating Pyramid launched

The well regarded Healthy Eating Pyramid has been revamped to reflect the latest nutrition science and was launched in May by Nutrition Australia.

It's the first upgrade in 15 years and it's good news for milk, cheese and yoghurt, which have been singled out from other protein sources and given their own separate category as a food group that should be enjoyed daily.

Nutrition Australia's Healthy Eating Pyramid has been updated.

Previously, dairy foods were lumped into a general protein category together with meat and other alternatives such as eggs and fish.

This move reinforces the importance of core dairy foods and their ability to provide a unique package of nutrients including calcium — which has recently been outed as the nutrient most lacking in Australians' diets.

In fact, the analysis of the Australian Nutrition Survey, released earlier this year, also shows that many people could do with upping their intake of a range of important nutrients, such as vitamin A, riboflavin, vitamin B6, iodine and magnesium.

Many girls also need more phos- ▶

◀phorus, men need more zinc and older men (over 71 years) need more protein.

Increased dairy consumption equals increased intake of all these nutrients.

With dairy and alternatives now standing alone on the new pyramid, we have a terrific platform to help us focus on the package of nutrients naturally contained in milk, cheese and yoghurt.

Another important upgrade to the new pyramid is the removal of junk foods altogether.

We know that people are now having too many junk foods. In fact, more than 30% of total energy from foods is coming from these discretionary foods.

The nutrition world is working hard to turn this around and the focus is on encouraging people to eat from the core food groups — fruit, vegetables, grains, dairy foods, meat and alternatives.

The pyramid, which reflects the Australian Dietary Guidelines, is a handy educational tool, pictorially depicting the types and proportions of foods people should consume each day for good health.

In addition to the core foods, the new-look pyramid also encourages drinking water, enjoying herbs and spices, and limiting salt and added sugars.

And, in a sign of the times it embraces on-trend foods such as soba noodles, bok choy and quinoa.

So, we now have a thoroughly modernised food pyramid that is ready to educate a whole new generation about the types and proportions of foods people should consume every day for good health. D

Paying tribute to dairy science legend

IT is the end of an era for dairy nutrition science in Australia, with the recent passing of Dr Peter Parodi at the age of 81. Dr Parodi was an international authority on dairy nutrition and the person who discovered and named rumenic acid.

Through an extraordinary 63 years of service to the dairy industry, he made important discoveries that had significant impacts on both human health and the dairy industry in Australia and overseas.

His work brought a new understanding to nutrition and he was instrumental in changing the way the world thinks about milk. Dr Parodi worked closely with Dairy Australia's nutrition science team for decades and his work had a direct impact on changing attitudes to dairy fat. He was writing reviews and commenting on research proposals until six days before his death.

Two key papers remain unfinished and, as a final tribute to a remarkable man, Dairy Australia's nutrition science manager Anita Lawrence is working directly with international journals to bring the papers to publication.

Job kick starts dairy sign collection

GETTING a job selling parts to the dairy industry in 1966 was a sign of good things to come for Colac's Chris Knight. Not only did Mr Knight go on to forge a long and successful career supplying milk-extracting equipment to dairy-farmers around the western Victorian town, the job also marked the start of his collecting hobby.

Today he's living on the farm land he grew up on just east of Colac with his dairy machine sign collection taking pride of place around the home and sheds.

Mr Knight likes to collect a lot of things but nothing beats his assortment of milk machine signs.

"They're special to me because they were from my industry," he said. "They're unique and beautiful in their own right."

The signs vary in size, colour and rarity, but most have a special place in his life.

Having grown up on a farm, Mr Knight was keen to continue working in the industry and he's become a strong supporter of the Legendairy communications initiative to raise the profile and reputation of Australian dairy.

There's a small but dedicated market for collecting dairy signs. Mr Knight recalls one person travelling from Western Australia to the Flowerdale auction for a rare sign that eventually cost him more than $11,000.

Chris Knight with one of his cherished signs.

Mr Knight has displayed some of his collection at the Colac Heritage Festival and likes to see the reactions when people visit his home.

"When you don't know what they are you tend to stand there gaping at them," he said. His wife, Lorraine, supports his hobby, although she's pleased it doesn't take up too much room. "Once she was in an antique shop in Queenscliff and saw a Simplex milking machine sign," Mr Knight said. "She thought she'd never seen one before, so she bought it and gave it to me for Christmas. I was on top of the world for days."

To read more Legendairy stories, head to website <legendairy.com.au>.

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Effective fertiliser use critical

Peter Jones came from the UK with his young family to manage Limberlost, Kayena, Tas.

Key points

- ✔ Equity partnership owned Tas Focus Farm
- ✔ Fertiliser lessons from UK experience
- ✔ Salinity management identified as major issue

By **Andrew Miller**

THE AUSTRALIAN dairy industry is at a significant advantage to its United Kingdom counterparts when it comes to use of fertilisers, according to a Tasmanian farm manager. Peter Jones ran a dairy in Nottinghamshire, UK, before coming to Australia, with his wife, Jo, and young family.

"The rules and regulations aren't so stringent over here — yet — as they are in the UK," Mr Jones said. "I think it will come and people have to plan around that."

European Union directives meant UK farmers where required to work under strict nitrogen vulnerable zones (NVZs).

"There are set nitrate levels and you are only allowed to put certain amounts on at certain times of the year; stocking rates all go hand-in-hand with that, it's a pretty stringent way of farming," he said.

Mr Jones said he expected similar rules to eventually apply in Australia, but it would be better if they were introduced voluntarily and slowly.

"That was one of the things in the UK, it suddenly went from nothing to 'you have to follow this rule' and there was no real stepping stone," Mr Jones said. "People had to put in effluent systems overnight, and a lot of farms I know went out of business because they said they were not going to spend that sort of money."

Tasmanian farm

On his Tasmanian farm, Limberlost, at Kayena, the nitrogen regime is 280 kilograms a hectare a year.

The farm has signed up to the Fert$mart Program to assist with effective fertiliser use.

All perennial pastures are run on the property, with 10.3 tonnes of dry matter/hectare harvested each year.

No forage crops are grown. Hay, silage, grain and pellets are bought with cows fed 1.2 tonnes of grain and 1.4 tonnes dry matter (DM) of silage each year.

Each milker consumes five kg DM/pasture, six kg DM/pellets, three kg DM/maize silage, one kg DM brewers grain and five kg DM/pasture silage each day.

The herd is milked twice daily, taking three hours to complete, at peak milk flow.

The farm has a 50-unit rotary dairy with cup removers, a teat-wand auto sprayer, cow identification, auto drafting and feed metering.

The herd is New Zealand genetics supplied by LIC and comprises pure breed Friesian and crossbred cows.

More recently, embryo transfer has been introduced to encourage more rapid progress.

"The key traits are based on milk components and calving ease, and bulls were chosen for ease of calving, locomotion and milk solids," Mr Jones said.

Calves are born in February and March. There is a low cull rate of 3%.

Mr Jones said Limberlost was trying a nine-week joining regime this year compared with a previous program of five weeks of artificial insemination and five weeks of bulls.

The property puts 18% of first-calf heifers, back into the herd, each year.

Mr Jones said he spent eight months in New Zealand in 2000, before making the move to the southern hemisphere permanently three years ago.

"I probably always had a yearning to come to the southern hemisphere, because of the price of land, the ease of farming and the lifestyle makes it a different proposition," he said ▶

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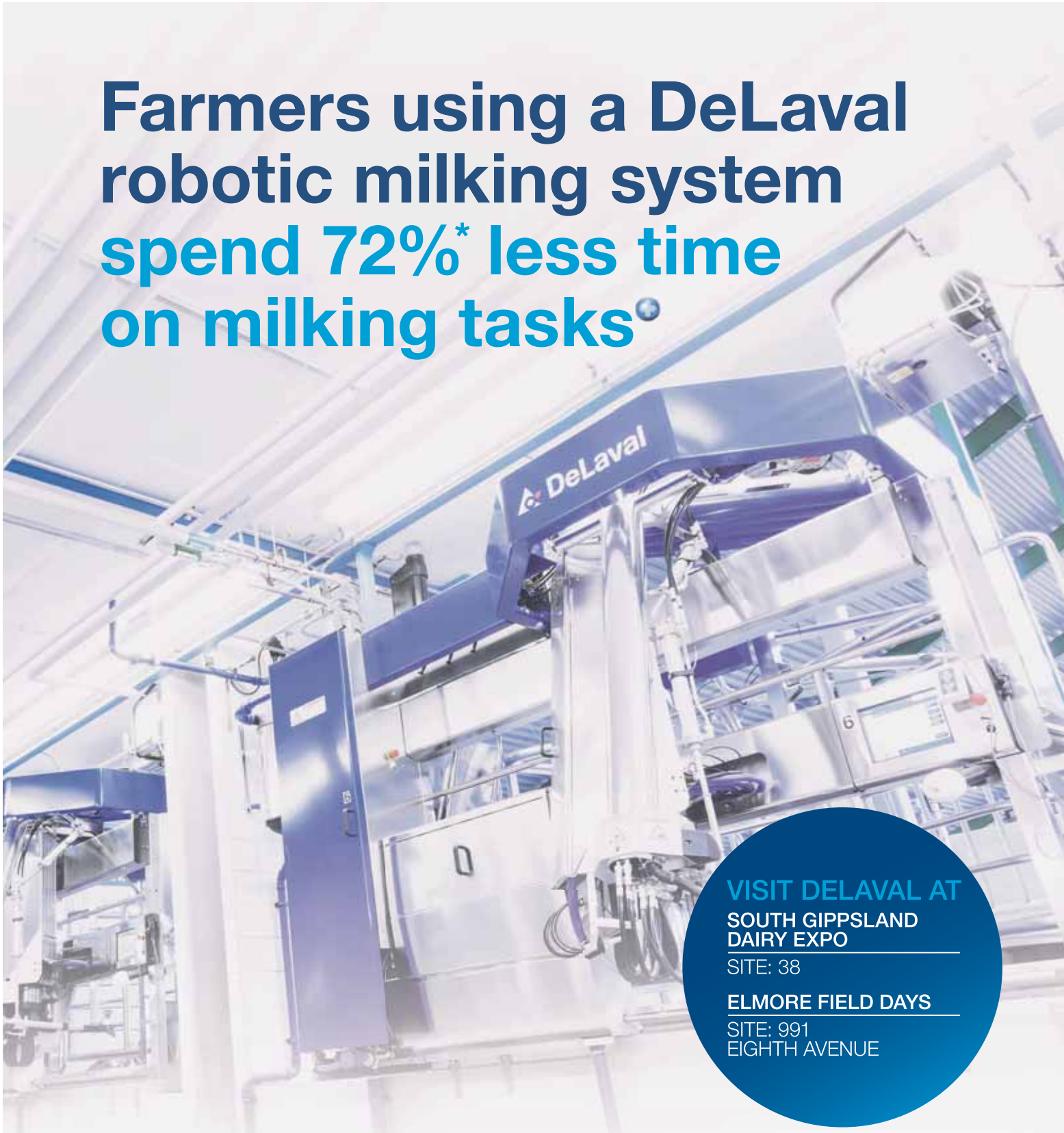

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*From the 2005 report "Working Time Studies in Conventional and AMS Milking Systems" from the JTI - Swedish Institute of Agricultural and Environmental Engineering.

DeLaval

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The property has a 50-unit rotary with cup removers, a teat-wand auto sprayer, cow identification and auto drafting.

Salinity has been identified as an issue at Limberlost, which is under the Fert$mart regime

There were some similarities and differences between systems in the UK and Australia.

"They are grass focused in the UK, the system is very similar but irrigation wasn't something that was used in the UK," Mr Jones said.

"Even though we were in a very dry area, you don't get evaporation like you do here, so that was something we had to learn when we got here."

The main difference was in prices, with a lower cost of production in Australia and potential for three-to-five-year contracts.

"You know where you are but in the UK they house cows and you really have to produce milk at the lowest cost possible," Mr Jones said.

"Supermarkets rule over there, that is one of the down sides of it."

DairyTas extension co-ordinator Liz Mann said Limberlost was one of the organisation's major projects Dairy Focus Farms.

"This farm is about showcasing real decisions on real farms in real circumstances," Ms Mann said.

"People will be able to follow Peter and Jo's journey during the next two years through regular updates."

Salinity had been identified as a major issue, as the farm was close to the Tamar River.

"To reduce the salinity drainage is being improved," Ms Mann said. "Good drainage will allow water to flow through the system and reduce the salt in the soil profile.

"A main drain has been installed around the boundary of the property and another main drain is being installed through the most saline part of the property in order to remove water quickly and efficiently," she said.

A field day was held at the farm earlier this year, the first of three scheduled for the life of the Focus Farm project. Since starting with the project late last year, the Joneses have been meeting regularly with a small consulting team consisting of Andrew Wright from Intelact Australia, as lead consultant, and Sandra Bennett from Serve-Ag as mentee consultant.

'I probably always had a yearning to come to the southern hemisphere, because of the price of land, the ease of farming and the lifestyle makes it a different proposition.'

In these meetings they had examined the farm's physical and financial performances to ensure the business was performing at its best. In addition to the consulting team there was a focus farm support group that met regularly, to discuss business decisions that needed to be made.

"The field day was about letting people see the farm, learn about where it is at and what decisions Peter and Jo are facing going forwards," Mr Wright said.

Mr Jones said being a focus farmer helped ensure he and Jo were doing the best they could for the business. "We are in a situation where we are managing for an equity partnership that converted the farm to dairy in 2007," Mr Jones said.

"The business expanded rapidly, but has stabilised now and I think with being a focus farmer we can show that conversions and equity partnerships, if done correctly, can work." D

Contact: DairyTas website <www.dairytas.com.au> and click on the Focus Farm Project link. The farm can also be followed on Facebook at <www.facebook.com/TasFocusFarm> or Twitter, search for #tasfocusfarm.

The herd is New Zealand genetics supplied by LIC, with a combination of pure Holstein and crossbreeds.


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DR MARK HUMPHRIS
Dr Humphris is a veterinary consultant from Maffra in Gippsland. He has a special interest in mastitis and lameness management on farms. He is committed to facilitating improved lameness treatments as well as practical strategies to prevent lameness on dairy farms.
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John and Vanessa Sharman, Shady Creek, Vic, and son Saxon at the Gippsland Grows Green Grass session at Trafalgar, Vic.

Maximising home-grown fodder

Key points

- ✔ Program focuses on how to grow grass
- ✔ Maximising home-grown fodder to maximise profitability
- ✔ Measure, monitor, manage is mantra

WATCHING grass grow may not be too interesting, but learning how and why it grows has been an eye opener for many Gippsland farmers.

Participants in Gippsland Grows Green Grass, which is funded by The William Buckland Foundation, have been learning how to maximise home-grown feed through a greater understanding of the methods used in successful pasture production.

A Gippsland Grows Green Grass discussion group at Trafalgar, Vic, recently saw the feeding methods of Simon Fiddelaers and Clint Morello put under the microscope.

Mr Morello, who manages the farm for Mr Fiddelaers, said the discussion group had changed the way he looked at his farming methods. "It's actually interesting learning how grass grows — what you need to do and the preparation for it all," he said.

Making the most of pasture to feed 180 milkers on a leased block has had Mr Morello thinking hard about strategies to maximise growth in the paddocks. Learning the fundamentals

— and a fair bit beyond — of grass-growing methodology has helped him turn theory into practical outcomes for the farm business.

"It's more like a science," he said. "I can look now and actually work out if the cows can stay a week in the paddock and if they will have enough feed.

People tend to measure hay and measure grain but they don't measure pasture.

"I never used to know that sort of thing. I would just put them in for a couple of days and take them out again."

Ag Challenge's Glenn Marriott, who is facilitating the program, said Gippsland Grows Greens Grass aimed to put knowledge in the hands of farmers so they could make better decisions about their pasture production.

"It's about engaging people and improving productivity by improving pasture utilisation," Mr Marriott said. "It's about maximising home-grown fodder to maximise profitability."

Mr Marriott said Gippsland Grows Green Grass was not about preaching to the converted, but introducing new ideas to people who might not otherwise have been connected with the wider industry.

With a mantra of 'measure, monitor, manage', Mr Marriott said the message of refining pasture production was starting to spread through the industry via Gippsland Grows Green Grass.

"The feedback we are getting from within the group is that they are now measuring pasture and tracking how much the cows are consuming," he said. "People tend to measure hay and measure grain but they don't measure pasture. It surprises me how much pasture is still not measured."

Two Gippsland Grows Grass groups meet across the Gippsland region, discussing tips for sowing success; soils and nutrients; fertiliser regimes; whole farm nutrient management plans; pasture estimation and dry matter availability; feed plans and using complementary feeds; pasture benchmarking and calculating total pasture dry matter consumed per hectare per year and pests and weeds. Two new groups are planned. D

Contact: GippsDairy, phone (03) 5624 3900.

Trafalgar, Vic, dairyfarmer Simon Fiddelaers, who hosted the Gippsland Grows Green Grass session, with program facilitator Glenn Marriott and GippsDairy projects and events co-ordinator Karen Romano.

Kevin Perry, Trafalgar, Vic, with farm manager Clint Morello, who said he had learned about the fundamentals of growing grass through the GippsDairy program.

Figure 1: The African Black Beetle can be a significant pasture pest. Source: Museum Victoria.

African Black Beetles are spreading

Key points
- ✔ Significant pest in many areas is spreading
- ✔ Limited options for insecticide control
- ✔ Pastures with endophytes reduce numbers

By **Frank Mickan**
Pasture and fodder conservation specialist
Department of Economic Development, Jobs, Transport and Resources
Ellinbank Centre

JUST what farmers need, another bloody pest attacking pastures when farmers they least afford it. Coming to a nearby paddock soon could be a little known pest, the African Black Beetle (*Heteronychus arator*). This mongrel combines the pasture-reducing habits of the Black-headed Cockchafer (*Aphodius tasmaniae*) and the Red-headed Cockchafer (*Adoryphorus couloni*).

The African Black Beetle in its adult stage (see Figure 1) chews the stems just above and just below the ground surface (see Figure 2), often killing the growing points. The C-shaped grub (larval stage) consumes the roots and other organic matter below ground.

The African Black Beetle is usually found in south-western Western Australia, South Australia and from the coastal south-eastern mainland (East Gippsland) up to South East Queensland. It is also a major pest pastures in the north of New Zealand's North Island.

Farmers in East Gippsland have been living with the beetle for many years but now it has been appearing in some areas of West Gippsland (Jindivick, Labertouche, Drouin South, Warragul North) and Victoria's North East valleys, and from the sightings reported, it seems to be spreading.

Figure 2: African black beetles eating grass roots.

Growth stages

The beetle lay eggs from spring to early summer to depths of 10 millimetres and these hatch about late spring/summer, i.e. about six weeks later. The larvae go through three instars. The small instars feed on decaying soil organic matter and chew plant roots as they mature. An instar is the development stage between moults, until the insect reaches maturity. The final larval instars burrow down and pupate at about 100mm depth.

Young larvae do not tolerate high soil moisture, so mortality can be high in wet winters and springs. This is why they are a problem on the lighter soils such as sands, peats and loams.

Most flight activity of the previous generation occurs in late summer to autumn, which coincides with the emergence of the new generation adults, which, in turn, overwinter in free draining soils. They feed in spring, mate and lay single eggs at about 10mm depth.

The adults are usually dead by mid-summer after laying eggs about three months earlier. The beetle survives best and is most active in temperatures above 20 degrees Celsius and become lethargic like snakes at 10^0C to 15^0C.

Some flight activity also occurs in spring, when adults mate and lay eggs. In spring, beetles crawl on the soil or pasture surface at night at a greater level than flight. Unlike the Red-header Cockchafer, the African Black Beetle has one generation per year although there may be 20% overlap in generations from "late starters".

Periods of activity

Table 1 (see next page) shows the periods of activity of the various growth stages of the African Black Beetle. As can be seen, the beetle is a pest to varying degrees over many months of the year although they do not tolerate wet soils.

How to tell the difference between African Black Beetles and Red-headed Cockchafers

The African Black Beetles adults and grubs look similar to those of the Red-headed Cockchafer and a magnifying glass (Downloadable from App store) is needed to pick most differences between them. Differences may be more difficult to discern in the younger instars, particularly head colour. Table 2 (see next page) shows the main differences between the grub and adult stages. Black-headed Cockchafer information is also included in case these are also present in the same pastures.

Control of African black beetle

Similarly to the Red-headed Cockchafer, both the African ▶

◀ Black Beetle adult beetle and grub spend most of their time below ground level so not at all controlled by insecticides.

Chemical control: Given that the beetle does chew the base of stems sometimes above ground, chemicals have been used to varying degrees of success but due to the presence of organo-phosphates in these, they may soon to be banned from use. New Zealand experience has found that if chemicals are used, this is best done against the early summer populations.

Seed Treatments: Seed treatments containing the latest insecticide for autumn-sown pastures will confer some protection for the initial three to four weeks after germination, thereby reducing the number of beetles overwintering, but this is it for chemical intervention.

Endopyhtes: Pasture seed containing the AR37endophyte seems to have a significant effect on reducing beetle numbers but only to similar levels to that exhibited by pastures that contain the standard or natural endophyte. Still, this is better than a completely failed pasture sowings. However, during African Black Beetle outbreaks as against background populations, even the best selected endophytes may be insufficient to prevent damaging populations of larvae from building up or new infestations due to massed adult beetle migration in late autumn or spring.

'It would seem that treating seed and using pastures containing viable AR37 endophyte would be the best way to approach this problem...'

It would seem that treating seed and using pastures containing viable AR37 endophyte would be the best way to approach this problem in the near future. Keep an eye on both the endophyte and insec ticidefields of work, as there are continuing advances each year. D

Table 1: Periods of main and minor activity of African Black Beetle larvae and adults

Growth stage	Winter			Spring			Summer			Autumn		
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Eggs												
Larvae												
Pupae												
Adults												

Main periods of activity Main periods of activity

Source: Tasmanian Department of Primary Industries, Parks, Water and Environment 2010

Table 2: Differences between African Black Beetle and Red and Black Headed Cockchafers

Growth Stage	African Black Beetle	Red-headed Cockchafer	Black-headed Cockchafer
Grub (larva)			
Head Colour	Light brown -- orange	Dark red -- brown	Dark brown -- black
Head	Smooth	Pitted	Smooth, often wider than body
Rear end	Anal slit horizontal, bordered by bare areas, distinctive hair pattern above and below slit	Anal slit horizontal, hair fringe on lower lip and triangular shape	"Y"shaped anal slit, oval shaped hair pattern
Beetle (adult)			
Body Shape	Oval	Rounded	Elongated
Colour	Glossy black -- very dark brown	Dark brown -- black	Light brown -- black
Head	Tapered, fine ridge across the middle	Rounded, shoulders lightly pitted	Wide and flat
Back markings/striations	Minimal pitting	Obvious pitting	Deep pitting
Head/Thorax juncture	Gap not so obvious	Gap not so obvious	Obvious gap

Source: Department of Environment and Primary Industries, GippsDairy, Dairy Australia and Gardiner Foundation, 2013

Seed treatments improve crop success

Key points

- ✔ Variety of seed treatments available
- ✔ Some protect plant from pests and diseases
- ✔ Some provide essential nutrients

By **Pat Bloye**
dairy extension officer
Department of Economic Development, Jobs, Transport and Resources
Warrnambool, Victoria

PROFITABLE grazing systems require prolific plant growth. However, numerous facets in grazing systems restrict these plants from realising their potential.

Forage planning and seed selection can be a complicated process given the modern seed technologies available, such as the ever-growing range of cultivars, novel endophytes and seed treatments (also referred to as seed coatings). One of the biggest drivers of a highly producing forage is quick and healthy germination.

All of the above mentioned seed characteristics will play a role in the success, production and profitability of the forage, however this article will focus on seed treatments.

Understanding the role of specific seed treatments and determining whether they are necessary for a particular situation could mean the difference between successful or unsuccessful establishment of a pasture or crop. Being more informed means farmers can ask the right questions of their local agronomist/seed supplier.

So what are seed treatments, what are the different types of seed treatments and more importantly, what can they offer? Broadly speaking, seed treatments involve coating the individual seed with a specific chemical, bacteria or nutrient to provide the seed with a competitive advantage over the untreated (bare seed).

Seed treatments can be broken down into four main categories, based on their functions. Treatments may provide:

- inoculant (bacteria);
- insecticide/fungicide;
- micronutrients; or
- improvements to mechanical handling properties (ballistic properties).

It is well documented leguminous species, such as clovers, lucerne and vetch, have the ability to fix atmospheric nitrogen (N_2) into plant-available forms such as nitrate (NO_3-) and ammonium (NH_4+).

However this is dependent on specialised bacteria, known as Rhizobium spp. forming root nodules on legumes. Note that legumes are not guaranteed to naturally form nodules.

In a pasture sward containing 12-15% clover, fully functioning Rhizobium root nodules can provide up to 100-150 kilograms nitrogen per hectare, per year. However, clovers with poor nodule formation fix little (if any) atmospheric nitrogen into the soil. Seed suppliers can apply specific seed treatments to inoculate the legume seed with Rhizobium spp. to increase the plant's ability to form this valuable association. There are specific inoculants for the range of legumes sown.

Pasture plants benefit from other forms of seed treatment. Insect pests such as Red-Legged Earth Mite ▶

Figure 1: Treated maize seed. Many seed treatments incorporate a colour or dye, which can be a good guide to the eveness and completeness of the treatment.

Figure 2: Maize seed bag label outlining the seed treatments. In this case, the seed has been treated with Actellic, Vitavax and Gaucho.

(RLEM), Blue Oat Mite and aphids can cause significant damage to emerging seedlings, potentially completely destroying a forage crop. Insecticide treatments (a common seed treatment) are suitable for many seeds and offer protection against these damaging pests during germination, acting for 3-4 weeks post-sowing.

As plants are at their most vulnerable stage during emergence, before substantial root development and establishment, insect pests can have major implications on overall plant density and survival.

For forage cereals, insecticide treatments can also protect against the spread of Barley Yellow Dwarf Virus. If insect pest populations are high post emergence, speak with a local agronomist and consider additional insecticide applications the next time the seed is planted.

For maize crops in particular, fungal damage can be common and severe. Seed treatments containing fungicides are almost standard for maize seed and can reduce the severity of seed rot and root rot caused by various soil-borne fungi, including Fusarium spp. and Pythium spp. These can be extremely prolific during the establishment and early growth period, causing seed decay/seedling blight. In pastures, fungal damage is generally not a common occurrence at establishment.

Some seed treatments also provide essential nutrients for plant germination and development. These treatments include balanced proportions of nitrogen, phosphorous, potassium, sulphur, along with trace elements such as magnesium, iron, manganese, copper, zinc, boron, molybdenum and cobalt. These essential plant micronutrients enhance the plant's ability to germinate quickly, developing a strong established root system.

Seed treatments have the ability to minimise the negative impacts caused by insect and fungal attack, and can increase plant growth and production through the addition of nutrients and inoculants.

The nutrients in seed treatments provide a unique opportunity to supply each individual seedling with a controlled quantity of nutrient. In contrast to broadcasting fertiliser, seed-coated nutrients will be quickly available to the sown species and less available to any neighbouring weed species.

From a practical perspective, workability or 'ballistic properties' of seed is important to achieve uniform plant density in a pasture or crop. Seeds of uniform size and shape with sufficient weight are easily separated, and flow readily through seedboxes and drop tubes without clumping together. Some seed treatments will incorporate a coating or dusting to achieve many of these features and are most applicable for light, 'fluffy', or irregular shaped seeds.

Things to keep in mind

- Seed treatments are not mutually exclusive, i.e. there are treatments that can be used in conjunction with each other.
- Specific seed treatments will increase the weight of an individual seed. In some situations, a seed coating ratio will be provided. For example, a ratio of 1:1.6 indicates a 60% weight gain, i.e. one kilogram of untreated seed is equivalent to 1.6 kilograms of treated seed. Often, inoculating legume seeds will generate the greatest weight gain, although insecticide/fungicide treatments may also increase seed weight significantly depending on coating methods.
- It is extremely important to know the weight gain ratio of treated versus untreated seed to adjust sowing rate for coated seed to maintain seed sowing density (i.e. seeds per square metre). Hence, treated seed may sometimes appear cheaper per kilogram than bare seed, given there is less actual seed.
- As not all seed treatments will be provided with a weight:gain ratio on the label, it is important to speak to an agronomist/seed supplier to know the weight gain and adjust sowing rates accordingly.
- Note that not all seed treatments will increase seed weight.

Remember, the quicker and deeper the roots can get into the ground and become established, the more likely the plant is to survive and perform to its potential. Seed treatments have the ability to minimise the negative impacts caused by insect and fungal attack, and can increase plant growth and production through the addition of nutrients and inoculants. Like all areas of forage planning, the message remains consistent — no shortcuts.

To help farmers learn more about forage management and develop their own forage plans, Forage Planning for Dairy Farms programs will be starting in January/February 2016 in all dairy regions of Victoria. D

To find out more or book a spot, contact Pat Bloye, mobile 0437 761 256 or email <patrick.bloye@ecodev.vic.gov.au>.

Strategy aims to drive down feed costs

Key points

- ✔ Pasture improvement program to lift dry matter production
- ✔ Summer cropping program to fill gap
- ✔ Aim to cut feed costs to 20 cents/litre

By **Shan Goodwin**

DRIVING down feed costs via permanent pasture matched strategically to the needs of a crossbred herd is the backbone of a plan to make a success of pasture-based dairying in a traditional mixed rations stronghold for first-generation farmers Paul and Jo Judge.

Against a backdrop of historically low net cash flow on Queensland dairy farms courtesy of high purchased feed costs, the couple are putting in place a system underpinned by home-grown feed and the production of high-component milk. The idea is to lift profit margins by focusing on quality, and by lowering costs of production, rather than increasing volumes.

Having managed dairy farms in the Northern Rivers and Southern Highlands under pasture-based systems, Mr Judge made the step into running his own show last year, leasing a 90-hectare former partial mixed rations (PMR) operation at Gowrie Junction, near Toowoomba, Qld.

Our feed costs per cow will be less than half what they would be under a TMR (total mixed ration)...

He will milk 140 cows year round off 60 hectares of fertile, black clay soil irrigated flats, with the aim of sending about 1.2 million litres per annum to Brisbane-based processor Parmalat.

Where the industry average feed-related cost for the region is 32 cents a litre, Mr Judge believes he can operate at under 20 cents/litre and already, one year into the project, is sitting at 24 cents/litre.

Extensive paddock improvement was the first step, and ryegrass and oats in winter, followed by summer sorghum, millet and legumes have been planted.

As paddocks are cleaned up, the Judges move to lucerne and fescue, conserving feed in spring.

"The aim is to decrease feed costs with permanent pasture and to minimise the feed gaps in April-May and in October-November," Mr Judge said.

"With a focus on feed budgets, we will use pasture meters and analyse what we are growing to pinpoint areas that aren't doing what they should be and to allocate appropriately to prevent underfeeding or wasting."

Once paddocks are working as planned, grain will need only be fed at 4 to 4.5 kilograms per cow per day.

"Our feed costs per cow will be less than half what they would be under a TMR (total mixed ration) and that ▶

Milk producer Paul Judge and son Clem, 3, in brassica and oats pasture at their Darling Downs, Queensland, farm.

◀provides enormous benefit in terms of profit margin," Mr Judge said.

"High feed costs mean so many dairies here are hanging on by a thread.

"We're meeting our commitments, paying off cows and machinery, by reducing our costs of production. It's also a system we can do as a family unit."

A key component is milking a crossbred herd, which currently has some Brown Swiss content but they are moving towards being a Jersey-Holstein cross to suit the pasture system.

"The idea is to keep size down but litres and components up and breed a low-maintenance cow," Mr Judge said.

"We have honed in on quality since we arrived. We are not pushing out huge litres so we need to keep components and quality up in order to be profitable.

"We want to keep the cell count under 200,000 to attract the premium pay rate and we have just gone 12 months achieving that.

"A big part of that is running a smaller cow and keeping her under less stress."

Yearly component averages are sitting at 3.6% protein and 4.5% butterfat.

At the moment, the farm is averaging 4000 litres per cow per lactation but the Judges believe that can be lifted to 5500 litres.

"As new milkers come on and we fine-tune our calving patterns so we have cows calving every 360 days, that will fall into place," Mr Judge said. D

See our feature starting on page 82 for more stories about growing fodder crops.

Feed costs hit margins

INCREASES in the cost of buying feed is still outweighing milk price lifts on Queensland dairy farms, according to the latest farm financial analysis.

Estimated Queensland Dairy Accounting Scheme results for 2014-15 show a 1.1 cent per litre increase in cash costs and a 0.9 cents/litre increase in cash receipts.

Queensland Department of Agriculture and Fisheries senior scientist farm business management Ray Murphy said cash costs were estimated to be 60 cents/litre and receipts 60.2 cents/litre, resulting in a net cash flow result of 0.2 cents/litre, which was worse than the 0.4 cents/litre recorded last financial year.

Milk receipts, net of pick-up charges and levies, were at 56.3 cents/litre.

The major contributor to the increase in costs was purchased feed, especially felt by farms feeding a total mixed ration whose reserves of home-grown silage had run out. Increased stored feed, thanks to summer storms resulting in better summer crops, added to the increased costs but also meant farmers had an increase in feed inventories.

Summer storms have resulted in many farmers having better summer crops than in 2013-14 and after Christmas they were able to increase the amount of fodder they had in storage.

Some farmers also took the opportunity to buy in silage, increasing their reserves, as it became available.

Good autumn rain has further increased expenditure on home-grown feed as farmers plant winter crops in an effort to increase their stored fodder.

This increase in stored feed has increased cash costs but it is also recorded as a 2.7 cents/litre increase in feed inventories. As a result, Queensland dairyfarmers are cash poor but achieved a slight profit after accounting for increased feed and livestock inventories. Return on assets is estimated to increase from 1.3% in 2013-14 to 3.2% in 2014-15.

All Queensland dairyfarmers are invited to take part in QDAS, which provides financial analysis of individual farm businesses and allows farmers to compare their performance with regional averages and other farms within their regional production system. QDAS reports can be found at website <www.dairyinfo.biz>.

QDAS is free, independent and confidential. Individual farm data is securely stored and farms are never identified when compared with others in their regional production system.

Contact: Queensland farmers wishing to take part in QDAS should call Ray Murphy at the Department of Agriculture and Fisheries Toowoomba, phone (07) 4688 1094.

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GEA's DairyProQ robot rotary milks cows three times a day on this German farm. Each individual milking stall module can also be switched to a manual mode, for example, to attach the teat cups by hand (see person in right of photo).

New robotic rotary dairy released

Key points

- ✔ Separate robot for each stall on rotary dairy
- ✔ Can milk up to 400 cows per hour
- ✔ Robot also configured for mono-box units

By **Wilfried Wesselink**

A NEW milking robot that can be used on rotary dairies or as a mono-box unit was shown by GEA at the Automation Day 4.0 seminar at Teichröda, Germany, earlier this year. The mono-box robot is designed for smaller farms and uses the same equipment as the DairyProQ rotary robot.

The GEA robot rotary consists of a series of individual robot modules. Each stall of the rotary dairy has its own module. In fact it looks like a circle of individual milking robots. On the German farm about 400 mainly black-and-white Holstein Friesian cows are milked three times a day in the 40-stall robot rotary parlour.

At milking time, cows walk from the waiting room to the parlour platform and go into an individual stall, like in a regular rotary parlour. However, in this rotary the milking units are not applied by a human but by an individual robot module specific to each stall. The robot arm with camera and the milking cluster is hidden, so that it is be protected, beside the cow, in the stainless steel stall dividers.

The module has four teat cups. The robot attaches the teat cups, using the cups cleans the teats with lukewarm water and then the pulsation controlled stimulating phase starts. Colour and conductivity sensors analyse the quality of the first milk. This first milk is drained away, just like the water that is used to clean the teats. When everything is all right, the real milking process starts.

During milking, the robot arm stays under the cow. Milking is done per quarter. If a quarter is completed, then the vacuum decreases but the teat cup remains on the teat until milking of all quarters is completed. After milking, the teats are dipped, and then the teat cups are removed and when the rotary platform has reached the exit, the cow leaves the stall.

Pre-dip

Between milkings, the inside of the teat cups are rinsed with water and then disinfected with per-acetic acid and the outside is cleaned with water. After cleaning the teat before milking, the robot is able to pre-dip the teat. But, in Europe it is not allowed to do this with the same teat cup that is used for milking unless it is cleaned between the processes. This would take much time, so was not being done on the German farm.

Without pre-dipping one revolution with 40 cows takes 12 minutes; milking the 400 cows takes two hours.

Co-ordinates

The initial intention was for the robots to operate only with the aid of a time-of-flight (TOF) camera to locate the teats, but the current robot modules also used historically known co-ordinates of the teats.

The individual robots of each milking stall are controlled by a central computer system. The milking process of all individual cows can be followed on a central display. Data from the cows and the milk, for example milk yield, conductivity, solids, somatic cell count, are recorded and can be transferred to a computer, a smartphone or other device.

Supervisor

Each milking stall module handles every step of the milking process fully automatically, but each individual milking stall module can also be switched to a manual mode to attach the teat cups by hand, for example when a cow has a bad udder shape.

If one of the robots breaks down, the dairy can still op-

erate as cows can be milked automatically by the other robots and stalls. A broken module can be removed with a winch to be repaired.

Though the dairy is working autonomously, on this farm two people are around the robot. One is supervising the process and can interfere when needed, while the other person brings cows from the free-stall barn into the waiting room.

'With the size of the parlour the capacity varies from around 120 to 400 cows per hour.'

Karl-Heinz Dorgeist, of GEA, said the DairyProQ parlour would be marketed with 28 to 80 stalls. "With the size of the parlour the capacity varies from around 120 to 400 cows per hour, depending on the cows their milk production, problems during milking et cetera," he said.

Mr Dorgeist said three DairyProQ robot rotaries, ranging 28 to 40 stalls, are in operation on three German dairy farms. More systems with sizes of 28 to 60 stalls are sold in Germany and in Canada. Germany, the Netherlands, Canada and the United States are the focus for GEA for the introduction of the DairyProQ, with the United Kingdom, Australia and New Zealand to follow.

GEA would not release a general indication for either the purchase price or investment costs. "Price and costs of the DairyProQ are fully depending on individual farm situations," Mr Dorgeist said.

New mono-box

At the same event, GEA also released a mono-box robot for smaller farms of up to 70 cows. It uses the same equipment as the DairyProQ rotary robot.

The mono-box will complement GEA's MI-one multi-box system, which is aimed at farms with more than 70 cows.

With the DPQ mono-box, just like in the rotary robot, pre-and-post-treatment of the teat happens with the teat cup that is also used for milking. GEA calls this Inline Everything. The current prototype is a left version. A cow enters the DPQ mono-box on the left side and leaves the box at the front after the trough has moved to the right and a small gate has opened. A right version will be made available later. D

The DPQ mono-box will be introduced on to the market later this year.

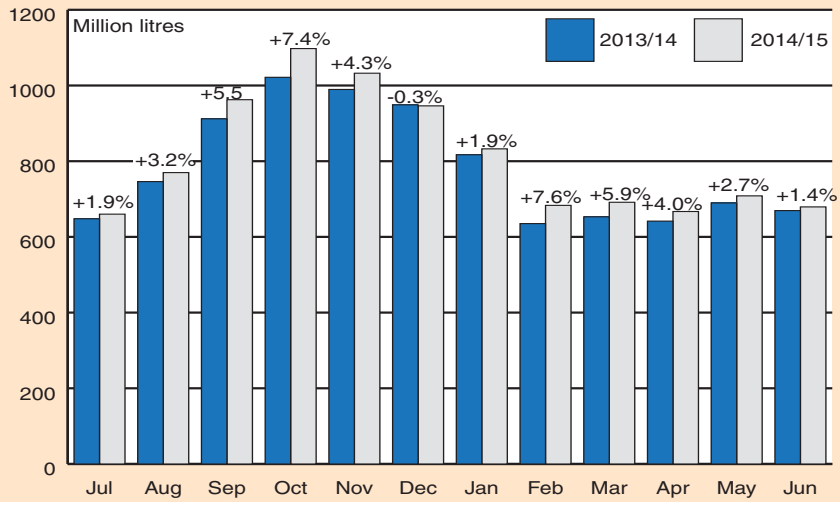
Milk production increases 3.8%

By **Amy Bellhouse**
Analyst
Dairy Australia

Key points

- ✔ Milk production up 3.8% for 2014/15 season
- ✔ Manufactured dairy products up 4.3%
- ✔ Exports of dairy product up 3.2% in volume

Figure 1: Australian Milk Production by Month



FULL-YEAR milk production finished the 2014/15 season up 3.8% on prior year at more than 9.7 billion litres. Production growth was not spread evenly across the regions, with seasonal conditions playing a large role in determining where major changes occurred.

Favourable conditions and competition among processors for milk supply helped to lift Tasmanian and Western Australian production by 10.1%, and 6.9% respectively. Recovering from a drought last season, New South Wales increased 5% in 2014/15. While northern and south-western Victoria were hampered by dry weather, improved conditions in the east of the state enabled an increase of 3.6% overall. Drought across large parts of Queensland played a significant role in production falling 6.1%, while dry conditions also made things difficult in South Australia, with production remaining relatively steady (+0.1%).

Higher milk production has been reflected in increased product manufacturing, with the combined total output of butter, butteroil, milk/whey powders, and cheese up 4.3% for the financial year to April. The figures also reveal significant changes to product mix as manufacturers seek to maximise income in a challenging global market. Production of butteroil (+19.5% year to date [YTD]), skim milk powder (SMP) (+15.3%) and cheese (+11.7%) is up significantly, while whole milk powder (WMP) production has fallen by 24.8%. Butter milk production production is also up (+4.5%), whey powder down (-6.3%) and butter remains relatively stable at -0.1%.

On the retail front, packaged milk sales within Australia for the financial year-to-May show the total market up marginally at +0.7%. By sub-segment, full-cream milk sales are up +3.9%, while reduced fat (-4.5% YTD) and no fat product sales (-6.4% YTD) are declining. At the supermarket level (according to IRI-Aztec scan data), total sales of dairy spreads grew 5.4% in volume terms; with butter as a sub-category growing 7.2%.

Australian dairy exports increased 3.2% in volume during the 2014/15 financial year, according to Australian Bureau of Statistics (ABS) data. This included substantial increases in exports of liquid milk (+25.2%), butter oil (+25.4%) and SMP (+30.4%), while strong domestic demand and reduced production respectively resulted in reduced exports of butter (-23.5%) and WMP (-27.0%). Depressed global dairy commodity prices saw the total value of exports down 10.1%, despite increased volumes and the weaker Australian dollar.

Continued lacklustre demand from China saw volumes shipped to Australia's single largest export market down 4%, with falls in not only milk powders, but also more 'luxurious' products such as cheese, ice cream, and yoghurt. Exports of liquid milk to China continued to grow strongly, however (+117.7%), with butter and whey powder also lifting. Japan (Australia's second largest dairy export market) has demonstrated the strongest demand growth in years — pushing Australian exports to the country up 16.6%. This included strong growth for our main dairy export to Japan — cheese (+16.6%) — and also for SMP (+159.4%), butter (+41.8%) and butter blends (+174.8%).

Remaining on the export front, heifer sales have become an increasingly important source of income for many farms in recent years. ABS figures show that during 2014/15, total exports of dairy cattle fell by 20.6% (compared with 2013/14) to 73,343 head. This is largely due to a significant reduction in exports to China (down more than 16,000 head), where a significant fall in domestic milk prices has dampened demand for heifers.

While reduced demand has seen lower prices for exported dairy cattle, an extremely strong US market for manufacturing beef has continued to support cull cow values: the average per kilogram price was up 23% in 2014/15. Slaughter rates rose 37% (at 75,154 head), suggesting that margin considerations are pushing less productive cows out of herds.

However, it's also likely that producers have been taking the opportunity to trade (now relatively cheap) heifers for older and less productive cows. An appetite for this kind of rebalancing is supported by ABS statistics, which show an increase in the proportion of the herd made up of heifers between 2012/13 and 2013/14.

Contact: Amy Bellhouse, email <abellhouse@dairyaustralia.com.au>.

Caution needed on global price rise

By **John Droppert**
Analyst
Dairy Australia

Key points

- ✔ Positive moves on dairy markets
- ✔ Fundamentals suggest prices to remain weak in short term
- ✔ Disparity between sentiment and physical market requires caution

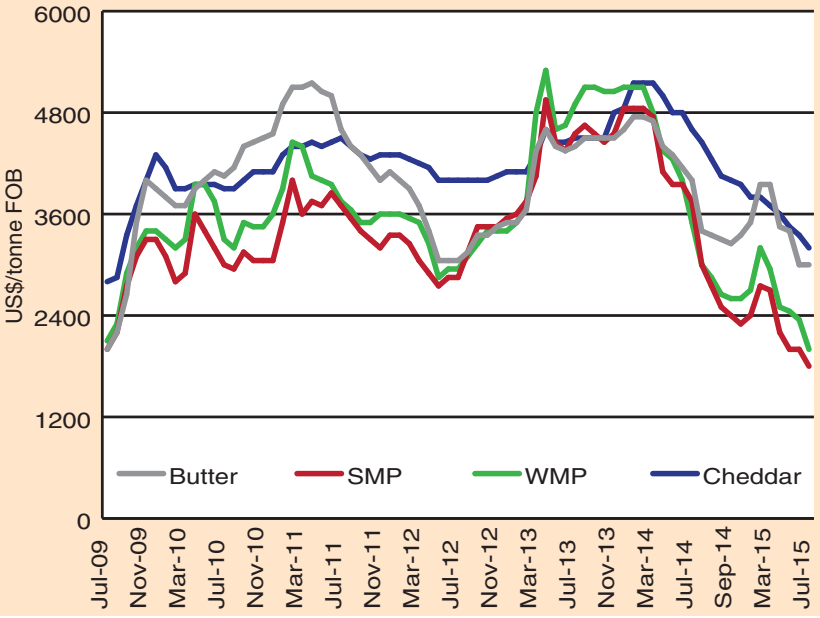
AFTER 10 successive declines, the GlobalDairyTrade (GDT) auction platform produced some welcome news for sellers at its August 18 event. The 14.8% increase in the headline GDT Price Index injected optimism into what has been a subdued market, and could form the basis for a turnaround in sentiment that drives a broader recovery. Although any increase is a positive sign for Australia's dairy exporters, the physical situation in the broader market suggests a significant dose of caution should be applied.

Many buyers remain in relatively comfortable stock positions and until recently have been dictating terms, using falling (GDT) prices as the basis for bids outside the platform. Stocks are slowly being eroded in many import markets, especially China, where low milk prices are reportedly beginning to impact local production.

Instead, stocks are building in exporting countries, as milk production continues to outweigh product demand. The most noticeable stock build-up is in the European Union, where around 100,000 tonnes of cheese, 40,000 tonnes of skim milk powder (SMP) and 75,000 tonnes of butter in the Private Storage Aid (PSA) subsidised storage scheme have been joined by 66,000 tonnes of SMP so far sold into public intervention. Privately held stocks are also growing in the United States, and comparative analysis of exports against milk production suggests that inventory levels in New Zealand are higher than usual.

Milk production is not slowing down particularly quickly, despite the bearish market being reflected in sharp farmgate price cuts. Protests and warnings of a 'dairy crisis' have been seen in parts of Europe, but preliminary data suggests milk production increased 3% during June — continuing the post-quota growth spurt that is only expected to moderate towards the end of the calendar year. Low-cost producers in countries such as Ireland and the Netherlands have been pushing ahead with growth plans, with milk output expanding by about 10% in each country, according to the latest month's data. This is despite milk prices being about 20% lower on average than year-ago levels.

Figure 1: Global dairy commodity prices



> ***'... margins are still comfortably profitable for most US farmers, though they are tightening.'***

New Zealand farmers are coming under severe cash-flow pressure as payout forecasts (and advance rates) are cut further, with Fonterra pruning its farmgate milk price forecast to NZ$3.85/kg milk solids (about $3.80/kg MS in Australian terms) in August. The effect on milk production is most likely to come later in the season as feed becomes limiting, but the cash-flow pressure is being acutely felt now.

The United States has remained something of an outlier in recent months, with booming production largely soaked up by a strong domestic market for butter and cheese. Cheese plants (mainly in the Midwest and north-eastern states) have been running at full capacity through the spring and summer, with most sellers able to readily move everything they produce.

Milk fat is the component attracting most value, with skimmed milk dumped in paddocks at times through the spring and summer due to logistical constraints, or exported as SMP or Non-fat Dry Milk (NDM). Unlike other major dairy regions, margins are still comfortably profitable for most US farmers, though they are tightening. The US market may provide a short-term opportunity for other dairy exporters in the next few months as a destination for butterfat exports while the price disparity between it and world markets persists.

So recent market movements, while encouraging, should be interpreted with a significant degree of caution. Developments in the physical market for dairy products don't suggest a period of product shortage is imminent. Although sentiment can be a powerful driver of pricing, the likely delay of any supply-side adjustment until after the southern hemisphere peak suggests exporters are not out of the woods yet. D

Contact: John Droppert, email <jdroppert@dairyaustralia.com.au>.

Fertility Favourites...

AltaEVERGLADE

(Massey / O Man) No-Fla AltaEverglade- ET

Alta Conceptplus

Alta 511 Fast Track Your Future

AltaEverglade daughter

- Top 10 US sire with 241 daughters ***A2/A2***
- High health traits
- Impressive BPI 275 TWI 280 in Australia
- Calving ease with Components

Australia's #1 Type sire...

AltaEVERGLADE

(Massey / O Man) No-Fla AltaEverglade- ET

Alta Conceptplus

Alta 511 Fast Track Your Future

Cairnbone dtr: Cairnbrae Ensigns Illumination 88pts

Cairnbone dtr: Craigielea Cainbone 5039 87pts

- #1 TWI sire at 392
- #1 Mammary +120
- #3 BPI sire 326
- Industry leading semen fertility +5.3%
- Unmatched linear profile in the Jersey breed

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Talent shines at Victorian Winter Fair

By **Carlene Dowie**

FINLEY, NSW, stud Woodlawn Holsteins took the supreme senior exhibit award at the Victorian Winter Fair at Bendigo, Vic, with a cow that was the interbreed champion at the Sydney Royal Show earlier this year. Nick Flanagan said he was thrilled with the win by the seven-year-old Mooramba Talent Randell.

"It was a big win competing against all the top cows from International Dairy Week," he said.

The Flanagans bought the cow two years ago in Shane and Julie Flynn's Mooramba Holsteins, Toolamba, Vic, dispersal sale.

Mr Flanagan said she was a terrific cow in the herd. "She's so aggressive and powerful, the way you need them to be," he said.

The Flanagans will again breed the cow, now in its fifth lactation, with the aim of bringing it back to the fair next year to defend its title.

Judge Perry Phend, from Wisconsin, United States, said the winner was an "amazing, amazing cow". "It's great to see a cow that old, with all the parts and hardly anything wrong with her," he said. The cow also took the supreme best udder award.

The reserve champion was Bluechip Genetics' five-year-old cow Bluechip Goldwyn Paradise. The reserve finished off a good day for Bluechip, which was named premier breeder and exhibitor at the show.

The supreme senior champion and supreme udder winner Mooramba Talent Randell with owner Nick Flanagan and judges Perry Phend and Lachlan Fry.

The Red senior champion cow was Pardee Contender Perfection-Red shown by the Lucas family, while the reserve was Rusty Red Advent Dinah, shown by Judson Jennings.

Ezra continues winning streak

A young cow continued its streak of wins at major championships, taking the supreme intermediate award at the fair.

Three-year-old Paringa Windstorm Ezra backed up from winning the intermediate award at last year's inaugural Victorian Winter Fair and the intermediate championship at International Dairy Week earlier this year. The cow, owned by Bluechip Genetics and Phil Malcolm, had been bought as a heifer at a sale at Shepparton, Vic, in 2013 from Phil Malcolm's daughter Kellie.

Bluechip principal Phil's son Dean said the cow had exceeded their expectations. "She's a great cow," he said. "She gives lots of milk, she's a trouble-free cow and seems to do everything we want of her."

He said he was pleased with the back-to-back win, as these were never guaranteed.

The Malcolms hope to show the cow at International Dairy Week next year and have it back in milk for next year's winter fair.

Judge Perry Phend, from Wisconsin, United States, said the cow was "wide all the way through and showed a great combination of dairyness and strength".

The cow had a beautiful frame and walked on a good set of feet and legs.

Bluechip Genetics was also successful in the red-and-white show, taking the Red Intermediate Champion with Ryanna Contender Blackrose-Red, jointly owned by Next Generation Holsteins. ▶

Owners Debbie Palmer and Peter Hurley with the supreme junior champion at the 2015 Victorian Winter Fair Bluechip Finalcut Marion, led by breeder Dean Malcolm.

Genetics AUSTRALIA
Breeding better Australian herds

BRED BY AUSTRALIANS FOR AUSTRALIAN CONDITIONS

Australian-developed cow families are again proving their worth as the best source of genetics suited to our farming conditions. The August 2015 ABV release, has a consolidation of the breeding values of our 2015 graduates as well as the strengthening of the proofs of some of our more popular sires.

Emu Banks CHRISTMAS is the new No.1 BPI bull in the Holstein breed. This Roumare son from an 89 point Goldbullion daughter, has quickly gained a reputation for siring powerful daughters suited to our grazing conditions. CHRISTMAS commands a place in all breeding programs offering an ideal blend of milk flow, 85P+F and outstanding protein and fat percentages. This latest proof run has seen him lift considerably for daughter fertility based on the actual reproductive performance of his daughters. Add to this a positive rating for semen fertility and almost 100 daughters in his proof and we have a worthy breed leader.

Our new graduates have confirmed their quality by lifting across the three new breeding indices. Backed by highly regarded Australian families and infused with some of the best genetics from overseas, both **JENKINS** and **FLASHBACK** sire daughters designed for Australian conditions.

Kirk Andrews **JENKINS** is one of a number of Planet sons that have performed well and his BPI of 228 is trumped by an impressive TWI of 273. Even more impressive is his Mammary ABV that indicates he is the best new Holstein available for udder improvement at 113. Positive ratings for SCC and a solid Likeability ABV have made this Planet son one of the most popular sires on the market today. His semen fertility rating of +1.90% makes him one of Genetics Australias best for this important trait.

His dam is a VG **INFORMER** daughter from the highly regarded Jackie family. His granddam is a Luckystrike that has left six VG daughters at Kirk Andrews and she in turn is a daughter of the well-known brood cow Kirk Andrews Donor Jackie VG89.

The Jackie family has a knack of producing bulls with tremendous balanced proofs and JENKINS is no exception. Solid production with a great protein deviation and great workabilities are features, but where the bull really shines is for Type. Quality dairy frames with nice width and body depth are consistently seen in his daughters. Udders are outstanding with superior texture, attachments and ligament.

Carenda **FLASHBACK** is a product of the highly regarded Carenda breeding programme and is a result of the Shottle x Goldwyn “golden cross”. Flashback is a great example of a couple of breeding adages, “the best sons of a sire are often the last” and “in genetics, there is only good and bad, not an old and a new”.

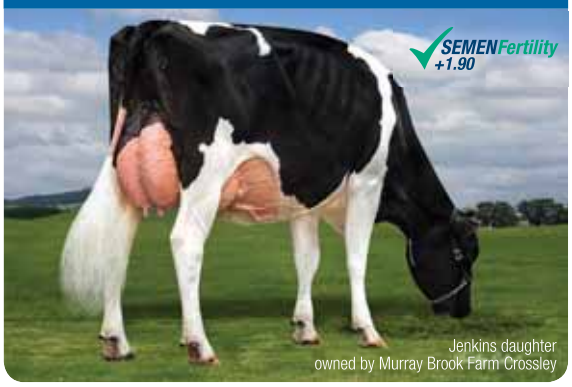
FLASHBACK is the best of the 2015 graduates with a tremendous August proof. 230 BPI, 31kgs of protein with high milk flow, extreme cell count improver at 156, 102 daughter fertility, 107 survival and he improves udders, rumps, feet and legs. He is the complete package.

FLASHBACK is another sire from the highly credentialed “F” family which tracks back to the famous Plushanski Chief Faith. His dam is Goldwyn Fizz VG85. She in turn is from a VG **ALBERTO** from the outstanding brood cow Bullion Fawn VG86. Add to this sire stack bulls such as Donor, Gibbon, Mascot and Blackstar and it is no wonder Flashback is performing so well. As you would expect from a Shottle son and a Goldwyn daughter, health traits come to the fore with solid ratings for cell count and fertility.

These two outstanding new sires are among a strong group of bulls that received their first ABVs in April. However, it is not just the new graduates that impress. DELSANTO, BUDDHA, MEDALLION and BUDLIGHT have all added new daughters to their proofs and continue to deliver on their earlier promises. They are amongst the finest second crop sires on the market today.

These all are great examples of the Genetics Australia philosophy of sourcing the best genetics from around the world, combining them with our Australian developed cow families and testing them in a wide range of commercially focused herds. For further information contact Genetics Australia on Freecall 1800 039 047.

JENKINS



Jenkins daughter
owned by Murray Brook Farm Crossley

- 'Premium' Holstein sire from a great Australia cow family, additional daughters strengthen a solid proof.
- Features high type and udder scores and excellent farmer satisfaction with a positive feed efficiency ABV.
- One of the best Planet sons available and is an A22 beta-casein

7H10848GRAFEETI


Grafeeti daughter – SGD Grafeeti 15008

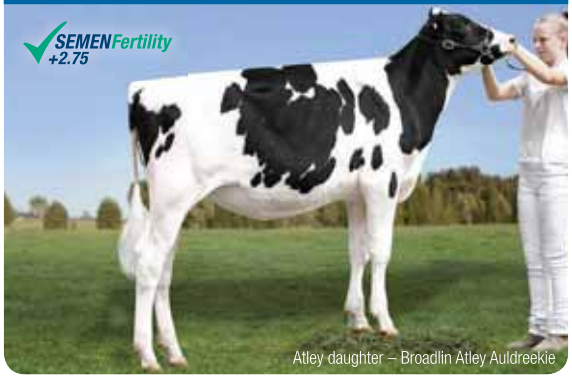
- International sire ranking on all indices in the ADHIS Good Bulls guide.
- GRAFEETI offers a combination of positive components, health traits and excellent type and udder scores.
- An alternative bloodline for many Australian farmers and is recognised globally for positive health and fitness traits.

MEDALLION

Medallion daughter owned by Moscript Family

- Will go down in history as one of the best bulls ever to graduate from the Genetics Australia's Horizon Progeny Test program.
- Features include below average stature, increased body capacity and strength with outstanding udder traits.
- MEDALLION is a great A22 Calving Ease option.

ATLEY



Atley daughter – Broadlin Atley Auldreekie

- One of Australia's most popular genomic sires bred from one of Australia's premier cow families.
- ATLEY features high type and udder scores, outstanding workabilities and a balanced production proof.
- Breed leader for semen fertility. +2.75% places him in the top 5 available sires.

August 2015

Bull ID	A2 Status	ABV	Pedigree	BPI	BPI Rel%	HWI	HWI Rel%	TWI	TWI Rel%	ASI	Protein (Kg)	Protein %	Milk (L)	Fat (Kg)	Fat %	Overall Type	Mammary System	Calving Ease	Rel	Survival	Rel	Cell Count	Rel	Dtr Fertility	Rel	RRP		Pack Special
JENKINS	A22	A	Planet x Informer	**228**	70	**185**	64	**273**	69	152	22	0.25	334	18	0.05	80	**108**	**113**	68	99	72	104	59	128	69	97	61	$30.00	
GRAFEETI		I	Freddie x Goldwyn	**211**	70	**205**	64	**277**	68	68	5	0.07	36	22	0.30	79	**111**	**112**	69	101	64	108	63	139	73	104	72	$38.00	
MEDALLION	A22	A	Informer x Knockout	**169**	92	**135**	86	**214**	92	114	19	0.16	395	11	-0.09	99	**107**	**113**	98	101	99	103	86	95	97	101	96	$24.00	
ATLEY		A	Atwood x Marion	**194**	59	**150**	53	**233**	58	122	20	-0.03	785	36	0.04	70	**108**	**112**	50	100	92	106	47	116	58	100	45	$26.00	
			Average	**201**		**169**		**249**		**114**	**17**	**0.11**	**388**	**22**	**0.08**	**82**	**109**	**113**		**100**		**105**		**120**		**101**		**$29.50**	**$24.00**

SAVE UP TO 18% OFF THE RRP Based on the purchase of EQUAL quantities of ALL (4) sires **$24.00**

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Breeding better Australian herds

◄Double delight

It was a case of double delight for friends Peter Hurley and Debbie Palmer when their heifer was named supreme junior exhibit for the second year in a row at the fair.

The investment in the heifer Bluechip Finalcut Marion has paid dividends for the pair, who bought it last June at the Bluechip Genetics Blue Ribbon sale from Dean and Dianna Malcolm.

"We were under a lot of pressure for her to prove herself as defending champion," Mr Hurley said. "We were thrilled when she won her class and now we're absolutely over the moon she's the champion."

Ms Palmer said the heifer had been flushed and five of its calves were now on the way. The friends have also expanded their investment in dairy genetics buying in partnership with others the calf's mother. ►

Luck of the Irish in heifer sale

THE Northern Ireland Breeders Group bought the $15,000 top-priced heifer at the Australian Holstein Showcase Sale, held as part of the Victorian Winter Fair.

The five-month-old heifer, Glomar Supersire Lady, will remain on the Sale, Vic, farm of the vendors, the Johnston family, where it will be flushed and the embryos exported to Northern Ireland, one of the owners Justin Johnston said.

Mr Johnston said the price was recognition that the calf was from Australia's number one Australian Selection Index cow Glomar Roumare Lady.

The second top price was $13,700 for rising one-year-old heifer Adlejama Atley Perfection 3039, offered by AL and JM Hogg, Biggara, Vic, and bought by Rengaw Holsteins, Derby, Tas. Multiple buyers included G and C Peatling, Moonshay Park, Katunga, Vic, and Green Glory Holsteins, Broadmarsh, Tas.

The $15,000 top-priced heifer with owner Justin Johnston and leader Ella Young, Tasmania.

The Peatlings bought lot one of the night Sweet Atwood Mary for $11,500. This joined heifer was backed by several generations of Sydney and Brisbane Royal Champions and sold by Wenham, Cochrane & Allen, Singleton, NSW.

These breeders also bought the heifer Datumvale Absolute Favourite, sold by M & J Young, Ridgley, Tasmania, for $8200.

Green Glory Holsteins selected the deep pedigree heifers Strongbark Reginald Candy from Jim Strong of NSW, for $11,000 and Oxley Vale Braxy Fussy, from D & Z Polson, Oxley Vale, NSW, for $10,000.

Kaarmona Holsteins of G & R Sprunt paid $9000 for Manna Farm Atley Deo, sold by Willcocks Pastoral Co, Yankilla, South Australia.

Forty Holstein females sold to a gross of $236,350 and averaged $5908.

Highly Ranked Australian

BPI Jersey Sires

VIPOR

Vipor Daughter owned by Ian & Joy Richards

NOWELL VIPER

Valerian x Flowerpower x Taranak

Australia's No.5 BPI Sire

- Vipor is an A2/A2 "Valerian" son who hails from the much admired "Nowell Sandy" cow family and is a full brother to the No.2 BPI Sire "Raceway".
- Vipor has maintained his high ranking position from the April proofs and has now debuted at No.5 on the Proven BPI list, No.2 for HWI and No.6 for TWI.
- Vipor transmits good Type +104 with fantastic Udders +112 and is a positive Component bull with great all-round farmer Workabilities.

BROWNLOW

Mat Sister to MGD: Meldan Brookbi Babe 2 - EX92

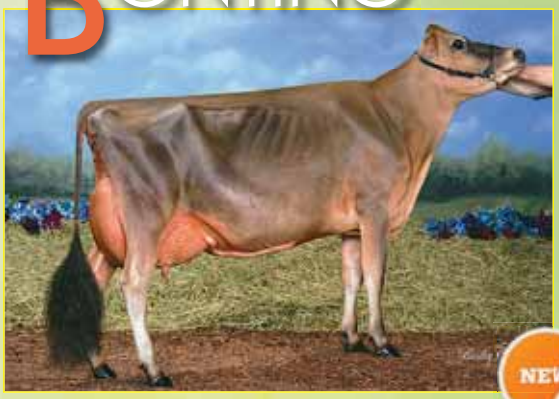
DALBORA BRAX 5097 BROWNLOW

Brax x Tbone x Impuls

Australia's No.2 Genomic BPI Sire

- Brownlow is an exciting New A2/A2 Genomic Sire to the Agri-Gene line-up who hails from generations of VG & VHC cows.
- Sired by the No.3 Genomic BPI Sire "Brax" from a "Tbone" daughter that goes back to the highly regarded "Babe" cow family at Kaarmona.
- Brownlow sits at No.2 on the Genomic BPI list and transmits good Type & Udders with positive Components and will improve all-round farmer Workabilities.

BONTINO



Family Member to Bontino: Cairnbrae Valentino Estelle 2 – EX91
HM Intermediate Champion IDW 2015

CAIRNBRAE BONTINO

Valentino x Tbone x Alf

Top 10 Australian Genomic BPI Sire

- Bontino is an exciting New A2/A2 Genomic "Valentino" son who hails from an EX93 "Tbone" cow that goes back to one of the most elite and sought after cow families in Australia, the "Estelle's".
- This cow family is renowned for producing high ranking AI Sires, Australian Production Award Winners, On Farm Challenge Winners, Top Priced Sale Progeny and Show Winners.
- Bontino debuts on the Genomic BPI list at No.10 and offers over 700L of Milk, positive Components with good Type and Udders. He will also improve all farmer Workabilities.

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Elmar Goldwyn Jessica 4 wins new BPI show award

THE much-awarded Holstein cow, Elmar Goldwyn Jessica 4 (Ex-92-3E), received a new award at the 2015 Victorian Winter Fair.

Bred and owned by the Hore family at Leitchville, Vic, Jessica 4 took out the inaugural Balanced Performance Index (BPI) Highest Female Award, which was presented by the Australian Dairy Improvement Scheme (ADHIS) in collaboration with Holstein Australia and the Victorian Winter Fair Committee.

Of all females animals entered in the Winter Fair, Jessica 4 had the top BPI calculated in April 2015 release of Australian Breeding Values (ABVs).

With a BPI of 255, Jessica 4 is well above the breed average of 0; in fact she ranks number 188 out of all Australian herd-recorded Holstein cows, putting her in the top 2% for genetic merit for profit.

Michelle Axford from ADHIS said Jessica 4 was the sort of cow that many dairyfarmers aspired to breed. "It's special to find a dream cow that produces milk profitably, exhibits strong conformation characteristics and has the genes to produce the next generation of great cows. Jessica 4 has done just that," Mrs Axford said.

This year, for the first time, cows receive three breeding indices — profit (BPI), health (HWI) and type (TWI).

Jessica 4 has impressive ratings in each of these indices. With a Type Weighted Index of 303, it ranks number 25 in the country. Its Health Weighted Index is 203, ranking it 106th in the country.

Contact: Michelle Axford, phone (03) 8621 4240, email <maxford@adhis.com.au>.

Best Balanced Performance Index (BPI) cow in show: Elmar Goldwyn Jessica 4 ET, with owner Steve Hore, general manager, Australian Dairy Herd Improvement Scheme Daniel Abernethy and Jenny Grey, from Holstein Australia.

Judge Perry Phend, from Wisconsin, United States, said the judging "was over as soon as the heifer walked into the ring".

It was a fine, feminine heifer, he said.

The reserve junior champion Bluechip Windbrook Noni, owned by Bluechip Genetics, Zeerust, Vic, also repeated last year's performance.

The junior red champion was Murribrook Acme Starlet-Red, owned by Murray Sowter, Murribrook Holsteins, Moss Vale, NSW. Reserve was Bluechip MrApple Pala-Red, owned by Bluechip Genetics.

The youth show junior champion was Dornbrae Windbook California Imp ET, shown by Rus and Ruth Robbins, and the reserve was Coomboona Elijah Maudie ET, shown by AA Arena, Coomboona, Vic.

Young people

The fair aims to develop the interest of young people in showing, being held during the Victorian school holidays, and featuring a junior handling event.

April Wishart, 11, from Rowlands Park, Cohuna, Vic, took out the the Junior Handlers Under 12 years of age event. Judge Perry Phend, from Wisconsin, United States, praised

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GUTHRIE

BPI 237 /rel. 75%

7HO09420 FUSTEAD GOLDWYN GUTHRIE-ET
GOLDWYN X BLITZ X PATRON

Top 10 Holstein sire for **HWI & TWI**
+118 O/Type **+117** Mammary System
PLUS **Calving Ease & Dtr. Fertility**

GRAFEETI

BPI 211 /rel. 68%

7HO10848 LADYS MANOR RD GRAFEETI-ET
FREDDIE X GOLDWYN X DEBUT

Top 1% Holstein sire for ALL NEW Indices
+111 O/Type **+112** Mammary System
PLUS **Feed Efficiency & Dtr. Fertility**

SHOT AL

BPI 247 /rel. 79%

7HO10176 MR REGALCREEK SHOT AL-ET
SHOTTLE X GOLDWYN X NOBEL

Top 1% Holstein sire for ALL NEW Indices
+108 O/Type **+105** Mammary System
PLUS **Feed Efficiency & Dtr. Fertility**

Left to right:
Shot Al dtr:
Melarry Al Mckenna-ET, VG 88
Guthrie dtr:
Air-Osa Guthrie 15494, VG 89
Grafeeti dtr:
SGD Grafeeti 15008

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- High Type
- Outstanding cow family

ABS sexed semen SEXATION

Planet x SHOTTLE x Morty

29H016888
Seagull-Bay MVP
- Outstanding Health traits
- Positive components
- #28 BPIg Sire

A2/A2

Mogul x Planet x SHOTTLE

Dtr: Hill Valley Planet Noni (photo Bradley Cullen)

Dam: Ammon Peachy Shauna-ET (photo Beth Herges)

29H012772
Ballycairn Oman PELLO
- Somatic Cell Count (Top 1%)
- Calving Ease 104 (Top 1%)
- Daughter Fertility 111 (Top 1%)
- High Production Sire

Oman x Goldwyn x Addison

CSCMELVARA
Wallacedale MELVARA
- Breed leading Udders
- Daughters farmers love
- Cell Count specialist

CSC

A2/A2

NAVARA x Jace x Barber

Currajugle GONZO
- No. 13 Australian Proven BPI Sire
- Heifer specialist
  Calving ease 104 (Top 1%)
- Daughter Fertility 112 (Top 1%)

Planet x Oman x Boss Iron

(l-r) Dtr: Pello Peggy (photo Jane Steel). Dtr: Wallacedale Melvara Melanie VG-87 owned by Wallacedale Jerseys, Poowong, Victoria. (Photo: Bradley Cullen). Dtr: Gonzo Luise 54 (photo Kathy DeBruin)

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April Wishart won the Junior Handlers under 12 years of age class.

the young handler for having her eyes on the heifer all the time.

The Intermediate Handlers 12-15 years age was won by Georgia Sieben, Brindabella Holsteins, Torrumbarry, Vic. Mr Perry said it was obvious that it was not the first time Ms Sieben had led the heifer as it responded well to her commands.

The winner of the Senior Handlers, over 16 years of age, was Brady Hore, Elmar Holsteins, Leitchville, Vic. The judge said the heifer shown by Mr Hore was outstanding.

Georgia Sieben won the intermediate handlers, 12-15 years of age, class.

Emily Robbins with the youth show junior champion Dornbrae Windbook California Imp ET and Holstein Australia representative Toria Patten, Lardner, Vic.

Michelle Bratty, from National Herd Development, with the Paringa Windstorm Ezra, and owners Dean and Phil Malcolm.

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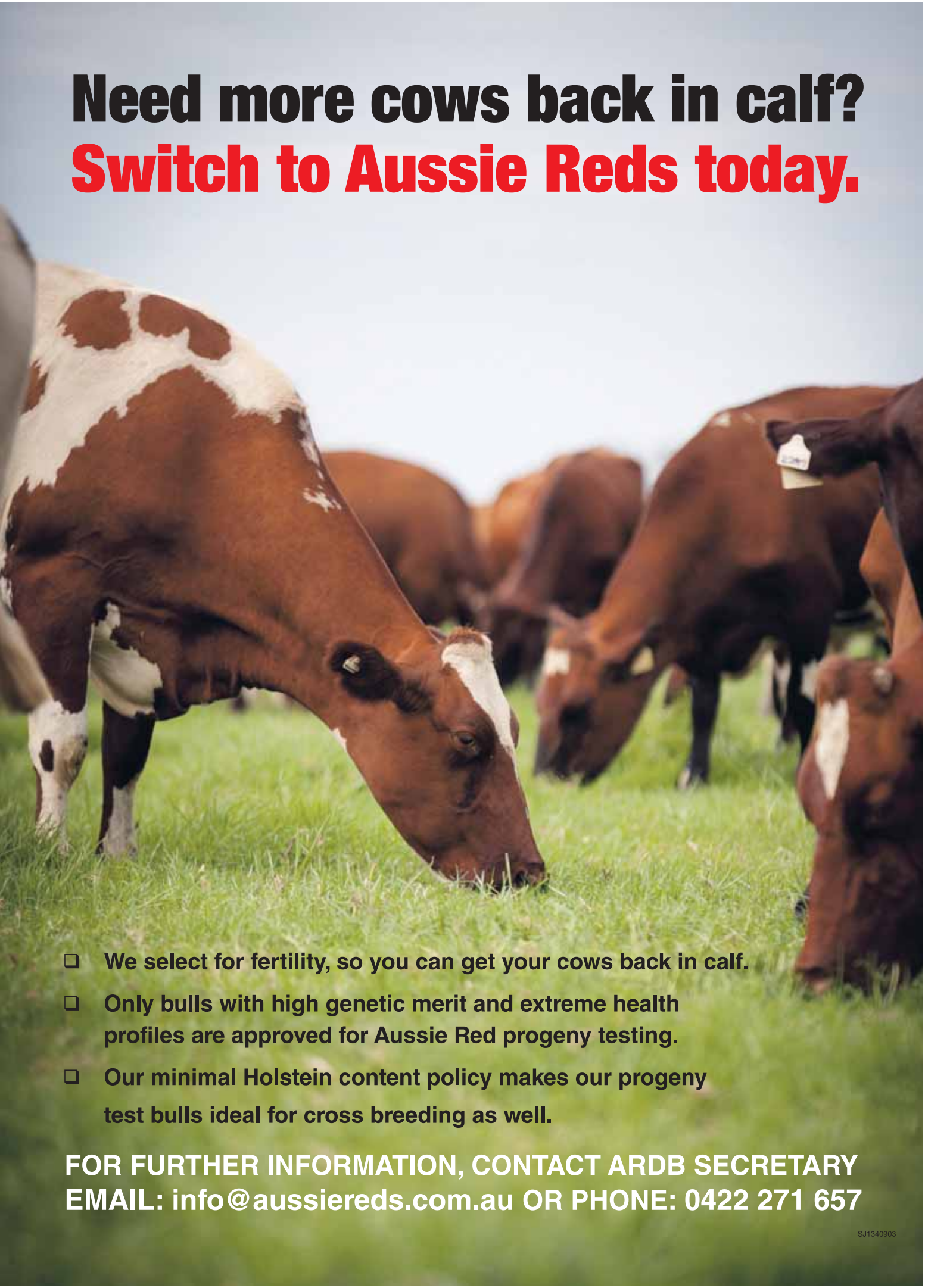

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CBH	Coomboona Holsteins
CRV	CRV Australia
GAC	Genetics Australia
GGI	GGI Australia
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SEM	Semex Australia
UVS	Universal Sires
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VIK	Viking Genetics
WWS	World Wide Sires
TBA	To Be Advised

Good Bulls Guide for Holstein — Balanced Performance Index (BPI) — Australian Proven

			Indices				Production				Survival		Conformation Traits			Workability				Daughter Fertility		Cell Count		Feed Saved		Source
Rank	Bull ID	Bull Name	BPI $	BPI Rel	HWI	TWI	ASI	ASI Rel	No. Dtrs	No. Herds	Sur-vival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Dtr Fert	Rel	CC	Rel	Feed Saved	Rel	
1	CHRISTMAS	EMU BANKS CHRISTMAS-ET	315	79	206	319	251	88	99	31	105	68	107	100	81	102	101	101	78	100	74	107	80	-145	41	GAC
2	GOLDCREST	TOPSPEED GOLDYN-ET	312	74	255	287	221	84	63	30	104	63	101	102	72	103	100	102	72	99	70	142	74	116	38	GAC
3	NIELS	HILL VALLEY NIELS	311	72	258	325	161	84	62	31	108	57	105	104	63	98	102	103	73	103	65	130	73	-16	33	ABS
4	CANBEE	COUNTRY ROAD ROUMARE CANBEE	295	82	205	308	255	92	187	60	103	71	106	103	85	104	102	101	84	93	74	120	82	-49	42	ALT
5	SHOLTZ	ST. CLAIR SHOLTZ-TWIN	257	74	178	258	191	84	54	30	106	66	104	103	72	101	104	104	67	99	73	147	76	-126	38	ABS
6	DELSANTO	MANNA FARM DEL SANTO	254	91	181	277	236	99	1384	222	99	84	107	110	95	100	102	102	97	95	90	118	94	28	46	GAC
7	29HO12772	BALLYCAIRN OMAN PELLO	250	79	200	197	134	87	59	27	106	74	99	97	80	100	101	102	77	111	76	167	82	-49	40	ABS
8	ROUFECTOR	BUNDALONG ROUFECTOR	248	78	165	274	220	88	87	36	105	68	109	106	77	105	103	104	79	95	74	106	80	-70	39	ALT
9	7H8081	ENSENADA TABOO PLANET ET	246	92	215	258	94	99	661	133	110	93	104	110	97	100	103	103	96	101	95	133	98	-69	47	GAC
10	WESTGATE	GALLRAE JOCKO 3438	245	81	202	257	139	90	102	49	108	72	109	106	78	103	103	102	84	100	78	118	82	-26	40	GAC
11	JANEK	RENGAW JARDIN JANEK	238	74	183	222	192	85	85	24	105	60	104	105	70	100	104	103	74	103	64	150	73	38	37	ABS
12	29HO12470	INDIJKS BABYLON	236	88	164	198	165	97	415	96	103	80	102	99	88	100	100	101	92	111	86	148	93	-118	44	ABS
13	GONZO	CURRAJUGLE GONZO	236	84	226	220	65	95	268	80	108	73	100	105	84	103	101	103	85	112	80	127	85	36	42	ABS
14	USEAGE	KAARMONA CALEB	235	85	198	233	156	94	232	66	105	78	103	109	85	101	100	102	89	100	83	130	88	60	42	GAC
15	FLASHBACK	CARENDA FLASHBACK	230	71	184	239	140	80	53	24	107	63	106	104	75	102	104	104	72	102	64	156	69	-30	39	GAC
16	BUDDHA	BUSHLEA PERFECTOR BOLD-ET	229	88	177	196	152	98	787	186	103	80	101	102	92	101	102	103	92	101	82	147	90	-17	45	GAC
17	MIDNIGHTSPEC	HILL VALLEY MIDNIGHT SPECIAL	228	75	152	211	187	84	77	28	102	66	103	104	80	99	98	98	76	96	68	111	72	-92	41	ABS
18	JENKINS	KIRK ANDREWS JENKINS	228	70	185	273	152	80	52	25	104	59	108	113	68	101	102	104	69	97	61	128	69	8	36	GAC
19	KINGTIDE	BUNDALONG PLANET KINGTIDE	224	70	184	161	116	79	45	25	105	60	97	103	70	99	101	100	68	100	63	101	68	-59	37	GAC
20	ALTAMOONWALK	HILL VALLEY MOONWALK	224	76	203	254	90	88	104	32	110	60	103	108	69	103	102	103	72	99	68	131	76	-5	36	ALT
21	CARLANA	KAARMONA CARLANA	221	71	144	202	192	80	49	27	102	63	102	104	75	102	101	101	72	100	66	141	69	-89	39	GAC
22	AJFANTOM	ADLEJAMA REALM FANTOM	219	72	160	201	192	82	61	24	105	61	98	98	74	103	102	102	72	99	60	107	70	76	38	GAC
23	MOTOWN	ECLIPSE ROUMARE MOTOWN	219	75	163	208	161	86	81	40	103	63	101	100	74	100	100	101	80	100	62	137	75	6	36	GAC
24	WYMAN	PIROLO GOLDW. WYMAN	219	88	186	208	94	96	426	79	107	80	102	102	93	95	100	102	91	109	85	174	92	-4	45	GAC
25	REALM	ECLIPSE ROUMARE REALM	218	77	144	195	225	86	73	36	104	66	97	100	73	104	103	101	76	94	74	72	82	44	38	GAC
26	DEANCOX	MANNA FARM DEANCOX	218	80	164	230	183	89	96	46	104	71	106	103	78	101	102	102	82	97	76	100	81	17	40	GAC
27	SUPAPLANET	KIRK ANDREWS SUPAPLANET	217	71	171	150	126	80	49	21	104	60	95	102	71	101	102	103	69	98	66	120	71	-52	37	ABS
28	DARNET	MANNA FARM DRENALIN	216	73	186	244	93	84	67	21	105	62	106	111	70	103	102	101	78	101	65	103	73	-62	37	GAC
29	EUROSTAR	ECLIPSE EUROSTAR	214	81	191	224	112	92	151	66	104	70	105	107	73	100	100	101	84	104	78	145	85	86	38	GAC
30	OPALEYE	DILEE PLANET OLLIE 958-ET	210	71	174	240	143	81	54	29	106	61	106	110	68	98	101	102	70	97	65	122	71	11	36	GAC
31	HOTAYLORMADE	TAHORA TAYLORMADE	209	84	185	211	116	94	179	69	105	76	104	108	81	102	99	101	79	106	79	117	93	69	41	SEM
32	DOLBY	GUM RIDGES ROUMARE DOLBY	208	73	148	211	148	83	51	28	105	62	103	105	67	102	102	102	74	100	70	133	74	-72	36	GAC
33	LAZZARO	GLOMAR LAZZARO	204	79	143	198	133	90	129	40	105	64	107	103	72	104	98	100	79	105	74	116	80	-123	38	ABS
34	PIMENTO	PHILMAR ORNAMENT	197	72	159	156	176	82	64	32	98	62	100	98	71	99	102	100	77	94	65	124	70	156	37	GAC
35	LAIDLEY	GLOMAR LAIDLEY	197	72	146	167	147	82	53	22	104	63	100	95	71	99	101	100	72	101	67	118	74	24	37	GAC
36	CRACKAJACK	ECLIPSE ROUMARE CRACKAJACK	197	84	167	165	138	94	259	69	102	72	95	102	85	99	101	98	91	93	78	117	83	113	42	GAC
37	ALTAGOLDPLAN	SARDI GOLDPLAN-IMP-ET	196	74	187	184	86	85	82	30	105	60	100	105	70	100	101	102	68	100	65	142	75	104	36	ALT
38	7H9321	RALMA GOLD CROWN	195	89	165	173	84	97	542	97	107	83	101	100	94	106	102	103	89	107	89	116	94	-19	45	GAC

continued next page

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from previous page

39	29HO13053	GRAN-J OMAN MCCORMICK	194	93	170	150	72	99	5529	550	106	96	101	100	98	101	98	100	99	114	98	143	99	28	47	ABS
40	CURIO	COUNTRY ROAD ROUMARE CURIO	193	75	130	188	140	84	57	32	104	64	104	102	70	101	100	100	78	96	73	129	77	-119	37	GAC
41	BUDLIGHT	WANDILLA INFORMER BUSTER 8TH-TWIN	193	87	179	235	42	96	321	91	106	79	107	107	87	101	103	103	91	107	84	135	90	-20	43	GAC
42	JIFFEY	RENGAW SHOTTLE JIFFEY	191	78	166	191	76	89	101	33	107	67	100	102	74	102	103	102	77	103	74	178	79	-15	38	AGR
43	BARBADOS	WANDILLA ROUMARE BARBADOS	189	76	160	226	81	86	85	32	102	64	110	109	73	102	103	100	77	102	70	126	78	-59	38	GAC
44	BUDWESIER	CURRAJUGLE BUDWESIER	183	74	169	201	30	86	94	31	107	57	104	106	66	100	102	102	70	103	67	150	74	-75	34	ABS
45	011HO11027	HAMMER-CREEK ALTAKOOL	180	78	160	174	46	88	91	31	108	70	102	102	81	100	96	99	69	107	77	182	79	-56	40	ALT
46	HOAROMIS	HILL VALLEY AROMIS	179	77	138	188	114	90	107	31	105	67	105	105	70	102	101	102	75	100	73	134	75	-42	33	SEM
47	ATTICUS	KIRK ANDREWS ATTICUS	178	74	139	168	140	84	74	36	103	63	103	100	73	101	100	101	79	99	68	100	72	40	38	GAC
48	SHOTTLE	PICSTON SHOTTLE	178	93	163	199	40	99	4162	564	110	98	106	104	99	100	104	104	99	104	99	167	99	-55	47	ABS
49	CHOCOLATE	MIDWAY PARK TENNYSON CHOCOLATE	177	72	152	183	118	83	64	23	104	60	104	107	72	102	103	103	71	108	66	81	73	70	38	ABS
50	011HO10661	SULLY ALTAMETEOR	176	81	164	223	22	88	68	28	110	75	108	109	85	102	101	102	75	106	84	158	87	-100	42	ALT

Good Bulls Guide for Holstein — Balanced Performance Index (BPI) — Genomic ABV(g)s

			Indices				Production				Survival		Conformation Traits			Workability				Daughter Fertility		Cell Count		Feed Saved		Source
Rank	BullID	Bull Name	BPI $	BPI Rel	HWI	TWI	ASI	ASI Rel	No. Dtrs	No. Herds	Sur-vival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Dtr Fert	Rel	CC	Rel	Feed Saved	Rel	
1	ROYALPIC	HINDLEE PICOLA ROYALROUMARE 1414-ET	307	53	239	290	218	65	0	0	105	40	103	105	41	102	102	102	51	104	38	125	52	10	24	GAC
2	VALIUM	CARENDA VALIUM 354	305	51	241	274	204	64	0	0	106	37	101	101	38	100	102	101	52	107	36	120	50	37	23	GAC
3	JUMPON	RENGAW KMA JUMPON	302	57	227	303	231	68	0	0	105	45	105	105	46	100	101	101	56	98	43	126	56	-3	26	GAC
4	VIZABULL	CARENDA VIZABULL 375	302	52	213	286	203	64	0	0	106	38	103	102	39	101	102	102	53	106	37	154	50	-135	23	GAC
5	VANCE	CARENDA PICOLA 349	290	53	226	281	197	65	0	0	106	40	105	104	40	102	102	103	54	104	38	122	51	8	24	GAC
6	CRVBOUWROCKY	BOUW ROCKY	288	51	235	276	147	64	0	0	109	37	104	103	38	100	102	103	51	110	36	145	49	-41	23	CRV
7	VERMOUTH	CARENDA VERMOUTH 394	281	52	218	258	217	64	0	0	102	39	100	105	40	102	101	100	50	103	38	118	50	67	24	GAC
8	REACTOR	CARENDA REACTOR 352	280	55	200	288	223	67	0	0	104	43	105	107	44	103	102	102	57	100	42	117	54	-58	25	GAC
9	JUSTLE	RENGAW MOM JUSTLE	280	59	228	244	151	70	0	0	109	48	102	103	50	100	102	102	60	107	46	126	59	-26	28	AGR
10	MILKMORE	COUNTRY ROAD PICOLA MILLSY-ET	277	54	226	275	193	66	0	0	105	40	105	105	41	102	103	102	55	104	39	120	53	82	24	GAC

Good Bulls Guide for Red Breeds — Balanced Performance Index (BPI) — Australian Proven

			Indices				Production				Survival		Conformation Traits			Workability				Daughter Fertility		Cell Count		Feed Saved		Source
Rank	BullID	Bull Name	BPI $	BPI Rel	HWI	TWI	ASI	ASI Rel	No. Dtrs	No. Herds	Sur-vival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Dtr Fert	Rel	CC	Rel	Feed Saved	Rel	
1	VFOSKE	V FOSKE	335	86	243	329	222	96	158	19	108	76	106	106	84	101	104	104	88	106	82	117	92	-140	40	VIK
2	GEDBO2263	G EDBO	218	80	208	195	97	94	88	11										99	82	60	92			VIK
3	RANDERSDAVID	R DAVID	215	85	191	209	66	95	139	33	110	78	99	100	79	101	100	98	88	104	87	115	91	-27	38	VIK
4	ATOSIKKO	ASMO TOSIKKO	201	87	157	205	140	96	176	23	102	80	98	103	87	99	104	99	89	99	84	145	92	6	41	VIK
5	FASTRUP	R FASTRUP	201	85	159	204	119	95	134	19	107	76	104	102	82	94	100	100	89	103	85	122	90	-18	39	VIK
6	VRSOLERO2851	VR SOLERO	196	73	151	191	126	86	31	11	104	59										115	84			VIK
7	ARBOBAMA	BEAULANDS OBAMA	167	72	122	174	125	89	61	25	105	48	102	101	49	105	100	103	82	102	59	83	70	-24	25	GAC
8	ARBBONJOVI	BOSGOWAN BON JOVI	160	89	113	129	122	99	748	155	102	80	99	100	82	102	101	102	96	104	90	92	95	-26	39	GAC
9	ARBLEVER	LOUVIC LEVER	150	76	150	172	57	91	74	33	103	54	101	105	56	99	96	99	78	102	66	141	78	117	28	GAC
10	RBANGKOK	R BANGKOK	150	85	128	194	34	97	206	19	107	75				97	104	102	92	101	88	180	92			VIK

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A specifically designed, cost effective, specialized, unique, waterproofed Mineral and Vitamin including a higher content of essential elements Selenium and Magnesium to supplement as a loose mix or through mineral dispensers to enhance performance of all classes of cattle.

COMPARE THE ANALYSIS:

Photo: Lothlorien Contender Renita-Red & Bralock Connection Merle, Bralock Jerseys, Berry NSW

FERTILITY PLUS

- Increases fertility in both dairy and beef
- Increases milk yields – lower cell counts
- Eliminates Grass Tetany and metabolic conditions
- Self-limiting – Balancing mineral requirements
- Unique waterproofing process
- Improves your profits – more cows in calf
- Cost effective 12-19 cents per cow per day
- Improves weight gain and maturity in beef and dairy young stock
- Can be fed through feed systems at 30 grams per cow per milking

SUCCESS IS THE ANSWER

Don and Bruce Glasgow started using Fertility Plus to increase fertility in their dairy herd. Fertility has increased around 10%. Don then found by continuing Fertility Plus, his level of metabolic diseases dropped dramatically. Don now uses Fertility Plus as a management tool, increasing production and lowering Somotic Cell Count.

INCREASE YOUR FERTILITY

THE PROOF IS IN THE RESULTS IN DAIRY & BEEF HERDS THROUGHOUT AUSTRALIA

Photo: Don, Bruce & Claire Glasgow, Bena Vic

BEEF

Athol Economou – Violet Town – FERTILITY
Athol runs 300 Euro-British cows and usually has around 10% empty cows. He has used Fertility Plus ad lib in the paddock over the past 12 months and has lifted conception rates by 3%.

John & Sally McVean – Corryong – GRASS TETANY
They run 250 cross bred cows as a vealer operation and since using Fertility Plus, have not lost any cows to Grass Tetany. John believes Fertility Plus has also helped with milk fever and mastitis. Has used Fertility Plus for the past two years, with only two cows empty this year.

Robert & Tim Hayes – Tarcombe Herefords – Euroa
Used Fertility Plus to successfully control Grass Tetany for the past two years.

Duncan Newcomen – Ashwood Park Charolais – Yea
Used Fertility Plus to eliminate Grass Tetany and has found that cattle that were having silent heats are now cycling strongly.

Pam Shelley – Kaludah Herefords – Cooma
Pam was getting very low conception rates in the AI programs with cows having silent heats or not cycling. Since feeding Fertility Plus, the cows are cycling and getting in calf. Cows only take Fertility Plus when they need it.

DAIRY

John & Gemma Monk – Kyabram
Improved conception rate in last Spring joining, up by 10% in their 300 cow herd.

Justin & Brooke Evans – Three Creeks Illawarra's – Greta
Introduced Fertility Plus a month prior to joining and continued through a 9-week joining period. First round conception rate of 83%. An easy use product with no loss due to weather or rain damage.

John & Linda De Win – Yarram
Found when using Fertility Plus that cows that showed no sign of heat are having strong heats and getting in calf.

Jim Peacock – Tongala
After commencing Fertility Plus, cows that were not producing well, looked better and started coming on to the rotary dairy better. Improved milk yields and better conception rates.

Stephen Pendrick – Stratford
After commencing using Fertility Plus during joining not only conception rates improved, but production went up and SCC down. Stopped Fertility Plus after joining and found milk production went down and SCC up.
Re-introduced Fertility Plus as a management tool – increased production more than pays for Fertility Plus.

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SEM	Semex Australia
UVS	Universal Sires
TLG	Total Livestock Genetics
VIK	Viking Genetics
WWS	World Wide Sires
TBA	To Be Advised

Good Bulls Guide for Jersey — Balanced Performance Index (BPI) — Australian Proven

			Indices				Production				Survival		Conformation Traits				Workability				Daughter Fertility		Cell Count		Feed Saved		Source
Rank	Bull ID	Bull Name	BPI $	BPI Rel	HWI	TWI	ASI	ASI Rel	No. Dtrs	No. Herds	Sur-vival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Dtr Fert	Rel	CC	Rel	Feed Saved	Rel	
1	0200JE08165	BROADLIN HATMAN	356	65	251	379	290	78	42	21	104	53	109	111	62	103	105	105	68			97	66	-68	30	SEM
2	RACEWAY	ABERDEEN VALERIAN SANDOWN-ET	339	80	260	344	222	90	114	44	105	70	107	112	82	104	104	105	84	101	75	88	81	-66	39	GAC
3	CAIRNBONE	CAIRNBRAE TBONE ENSIGN	326	72	249	392	203	83	61	22	106	59	113	120	69	100	101	102	75	102	64	119	72	-117	33	ALT
4	CSCAMBITION	RIVERSIDE AMBITION	324	74	276	306	197	84	64	26	104	62	104	108	70	104	100	103	79	102	68	92	74	100	34	ABS
5	VIPOR	NOWELL VIPER	316	71	268	324	186	81	51	20	106	62	104	112	69	106	103	103	71	101	70	68	71	55	33	AGR
6	ELTON	CAIRNBRAE JACES ELTON	314	92	222	332	218	99	3814	428	105	95	108	107	96	104	105	104	99	101	97	121	98	-133	44	ABS
7	NAVARIAN	COLNARCO NAVARIAN	313	74	240	311	221	85	76	34	105	62	105	108	65	101	102	103	80	102	68	122	78	-27	31	GAC
8	CSCEDISON	CAIRNBRAE TBONE EDISON	299	73	168	302	280	84	75	33	102	61	103	104	73	103	103	102	79	98	63	111	73	-232	35	ABS
9	BOSGREGSTAR	WHITE STAR GREG	280	77	178	198	251	89	140	46	100	63	98	94	74	103	102	105	78	104	63	97	78	-84	35	CRV
10	MAXAPPEAL	RIVERSIDE MAXIMUM APPEAL	262	75	202	294	156	87	63	27	106	62	107	105	70	103	102	103	68	101	73	105	77	-62	33	ABS
11	ROUNDHILL	ABERDEEN VALERIAN ROUNDHILL-ET	245	74	194	235	147	84	72	32	105	62	105	105	68	102	102	103	76	104	72	91	76	-13	33	GAC
12	BROADSIDE	BROADLIN 2420 SPIRITUAL	243	74	198	238	158	84	62	37	105	64	103	105	74	100	102	102	74	102	66	106	75	36	35	GAC
13	VASILIS	KAARMONA VASILIS	233	73	176	226	148	84	65	22	106	60	102	100	62	102	102	102	74	99	68	90	77	-31	30	AGR
14	LARFALOT	LIGHTWOOD LUCRATIVE	232	92	158	261	164	99	2174	306	106	94	107	104	96	101	102	102	99	98	97	123	97	-118	44	GAC
15	BOSMURMUR	OKURA LIKA MURMUR S3J	231	88	184	217	130	97	521	67	103	80	99	97	88	98	100	101	93	104	84	151	95	7	41	CRV
16	VAVOOM	ROCKLEIGH PARK VALERIAN VAVOOM	227	75	147	179	175	86	71	27	103	62	100	98	65	101	102	103	76	102	69	91	79	-95	32	ABS
17	ALMERBOND	ALMERVISTA BOND	225	71	169	233	134	84	69	24	105	54	101	108	61	103	104	103	75	99	63	120	72	-86	30	ALT
18	VANAHLEM	PANNOO ABE VANAHLEM	214	91	167	244	128	99	2087	302	106	82	107	109	96	103	107	106	98	98	91	110	94	-77	44	ALT
19	SANDBLAST	NOWELL SANDBLAST	209	88	171	168	174	98	693	133	97	80	102	105	88	100	102	103	95	103	87	106	90	129	41	AGR
20	TAILBOARD	NOWELL TARSAN	208	92	152	209	156	99	1552	266	102	94	104	103	91	100	101	101	98	97	97	132	98	-15	42	GAC
21	CSCMELVARA	WALLACEDALE MELVARA	207	74	174	233	116	86	101	37	107	62	107	112	73	102	104	104	79	100	61	124	72	-7	35	ABS
22	ARIES	NOWELL ZODIAC	200	74	151	143	132	84	64	23	103	63	99	99	70	103	102	102	76	102	71	118	75	-7	34	
23	RASCAL	NOWELL RASCAL	188	69	165	221	76	79	42	17	105	58	109	109	63	102	100	101	72	96	66	83	72	-22	29	
24	DELIAN	LOXLEIGH DELIAN	181	76	133	209	129	87	78	44	104	64	108	106	66	102	98	101	79	101	71	83	80	-46	32	GAC
25	MAXIMUM	SUNSET CANYON MAXIMUM	180	88	150	204	63	97	275	60	106	86	106	102	86	100	102	101	87	103	91	126	91	-46	40	AGR

Good Bulls Guide for Jersey — Balanced Performance Index (BPI) — Genomic ABV(g)s

			Indices				Production				Survival		Conformation Traits				Workability				Daughter Fertility		Cell Count		Feed Saved		Source
Rank	Bull ID	Bull Name	BPI $	BPI Rel	HWI	TWI	ASI	ASI Rel	No. Dtrs	No. Herds	Sur-vival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Dtr Fert	Rel	CC	Rel	Feed Saved	Rel	
1	DROGO	BEULAH BRAX DROGO	328	44	259	348	222	56	0	0	107	30	107	107	33	103	105	105	44	98	28	109	41	-9	16	GAC
2	BROWNLOW	DALBORA BRAX 5097 BROWNLOW	300	43	225	312	208	55	0	0	107	30	105	107	33	102	104	105	43	100	28	115	40	-49	16	AGR
3	CRVBRAX	PANNOO BRAX	298	50	233	350	182	62	0	0	109	37	112	112	41	103	107	106	51	99	35	102	48	-89	20	CRV
4	GRIFF	KAARAMONA GRIFFIN	297	50	224	310	202	62	0	0	107	37	107	110	40	104	105	106	50	101	34	94	47	-71	19	GAC
5	CSCBANDANNA	ARALUEN PARK BANDANNA	296	50	217	320	190	62	0	0	108	39	108	109	42	102	102	104	51	100	36	98	49	-115	20	ABS
6	BORAT	BROOKBORA TBONE BORAT	291	52	204	306	212	63	0	0	107	40	105	105	43	103	105	105	53	97	37	112	50	-104	21	GAC
7	LEVIGENES	BROADLIN LEVI	288	51	205	289	219	63	0	0	106	39	105	105	43	102	104	104	52	99	38	98	50	-68	21	GAC
8	DOUBLEUP	BROADLIN DOUBLEUP	284	46	194	234	250	59	0	0	104	31	99	99	36	102	100	102	47	103	26	100	42	-15	18	GAC
9	SHAQ	NOWELL SHAQ	280	56	198	284	192	67	0	0	106	46	106	105	48	104	105	104	57	102	43	108	54	-108	23	
10	BONTINO	CAIRNBRAE BONTINO	278	49	192	292	204	62	0	0	107	36	104	108	38	102	104	105	48	98	34	116	49	-148	18	AGR
11	CRVMUMFORD	WHITE STAR MUMFORD	275	50	183	266	232	62	0	0	103	37	104	106	41	102	103	105	50	100	34	92	50	-100	20	CRV
12	CSCFERRARI	INVERLAIR HEIGHTS RACEWAY FERRARI	270	53	198	281	181	64	0	0	106	42	106	107	45	103	103	104	54	99	40	101	52	-89	22	ABS
13	SEGA	KADDY LARFALOT SEGA - ET	266	65	157	259	248	76	33	15	102	52	105	100	59	103	106	104	67	94	58	104	65	-162	28	GAC
14	SANDSTORM	KADDY ELTON SANDSTORM	265	58	168	249	237	69	0	0	102	48	102	100	51	104	106	105	59	97	46	113	57	-106	24	TLG

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Agri-Gene highlights in ABV release

AGRI-GENE had a number of highlights in the August Australian Breeding Values release.

French Planet son Edelweiss had a significant increase in all three new Australian indexes and is a Balanced Performance Index (BPI) leader that is a component improver with good all-round type and health traits.

Double Dutch continues to impress and its early Australian milking daughters are showing the strength and consistency that it has shown all through Europe where it is a permanent fixture among the top index sires in many countries.

Galaxy received its first full Type and Production Index (TPI) daughter proof in the United States, which saw a huge increase for its type traits in Australia: up from +100 to +112 for overall type and from +103 to +113 for udders.

Galaxy has all the excellent health traits of its sire but is a better all-round type package and is also now available as sexed ultra semen.

The release of the Jersey proofs has seen A2/A2 Valerian son Nowell Viper (Vipor) debut at number five on the BPI list, number two for Health Weighted Index (HWI) and number six for Type Weighted Index (TWI). It offers good type with fantastic udders, is a positive component bull and is a farmer favourite with great workabilities. Vipor hails from the much admired Nowell Sandy cow family and is a full brother to number two BPI sire Raceway.

Agri-Gene is excited by the release of two new Australian A2/A2 top 10 genomic BPI Jersey sires, including Dalbora Brax 5097 Brownlow, which sits at number two on the genomic BPI list. It is sired by the number three genomic BPI sire CRVBrax from a Tbone daughter that goes back to the highly regarded Babe cow family at Kaarmona. Brownlow offers good type and udders with positive components and will improve farmer workabilities.

Cairnbrae Bontino is an exciting new Valentino son, which hails from an EX93 Tbone cow that goes back to one of the most elite and sought-after cow families in Australia, the Estelles. This cow family is renowned for producing high ranking artificial insemination sires, Australian production award winners, on-farm challenge winners, top-priced sale progeny and show winners. Bontino debuts on the genomic BPI list at number 10 and offers more than 700 litres of milk, positive components with good type and udders. It will also improve all-round farmer workabilities. D

Article supplied by Agri-Gene, phone (03) 5722 2666, website <www.agrigene.com.au>.

Genetics suppliers to collaborate

TWO international herd improvement organisations are collaborating in Australia to provide the country's dairyfarmers with access to a wider range of genetics products. LIC, which supplies pasture-based dairy genetics from New Zealand, has entered an exclusive distribution agreement with Dutch-based dairy genetics supplier, CRV. LIC's Australian subsidiary business will distribute CRV's global genetics products to Australian farmers alongside its own genetics offering.

LIC chief executive Wayne McNee said the agreement would strengthen LIC's proposition in Australia. "LIC has been supplying Australian dairyfarmers with New Zealand genetics for more than 15 years, but the inclusion of genetics from CRV will allow us to cater to a wider range of farmers and grow the business in Australia," he said.

CRV Oceania managing director Angus Haslett said the agreement would provide Australian dairyfarmers with a range of genetics solutions while maintaining CRV's strong reputation in the country. "We see it as a very positive move for Australia's dairyfarmers who are as much in need of quality genetics at competitive prices as any other country in the world," he said.

Mr McNee said about 90% of Australia's 6700 dairy farms operated some degree of a grass-based system, but the popularity of the larger, North American and European-style Holstein-Friesian cow had limited LIC's ability to provide genetics to a larger proportion of Australian dairyfarmers. "Inclusion of genetics from CRV, combined with our portfolio of grazing genetics, will strengthen our proposition to Australian dairyfarmers less focused on grass-based farming systems," he said. D

Article supplied by LIC, website <www.lic.co.nz>.

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- Muzzle width 104

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- Temperament 104
- Front teat placement 116
- Survival 108
- Likability 104

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Cairnborne shows type credentials

THE latest round of Australian Breeding Values (ABVs) have been released with genetic outliers confirming their transmitting ability, as well as new emerging stars starting to shine for Alta Genetics.

Cairnbone (Tbone X Alf x Lester) added daughters for production and type and is now the number one choice for type improvement for Jersey breeders in Australia. Its overall type ABV of 113 is the highest of all publishable Jersey sires, and with a linear profile displaying only positive figures, it is easy to see why. It also has the number one mantle for udders at 120. Cairnbone has lifted for all three ranking systems and is now the number three Balanced Performance Index (BPI) sire at 326 (72% reliability), the number five Health Weighted Index (HWI) sire at 249 (65% reliability) and the number one Type Weighted Index (TWI) sire at 392 (71% reliability).

Cairnbone offers great improvement for somatic cell and daughter fertility and to round out its complete proof, is also the number one semen fertility sire for all breeds at +5.31%.

Canbee added nearly a third more daughters to its production proof and still remains the number one protein sire in the breed at 42 kilograms and the number one Australian Selection Index (ASI) sire at 255. Now with 187 milking daughters Canbee offers an unbelievable production profile of 1236 litres milk, 51kg fat (-0.02) and 42kg protein (+0.15 92% reliability). Canbee is also the highest ranked BPI sire for 80%+ reliable bulls and still holds a position in the top 5 TWI bulls.

Canbee also boasts great milking speed and temperament ratings and is a high survival sire.

The new emerging star is Barcardi. This Tbone son made great gains for production this August.

Barcardi increased daughter numbers since April and increased by more than 400 litres of milk to 510 litres and 9kg protein to 24kg (+0.14%).

It also increased for all ranking systems and now has a BPI 256 (64% reliability), HWI 179 (57% reliability) and TWI 284 (64% reliability). It still requires additional herds to reach a publishable reliability, but Barcardi is clearly a star on the rise. Gains were also made for survival while type remained virtually unchanged with the addition of more daughters and is now 107 overall type and 106 mammary with 12 daughters in four herds. Barcardi still leads the breed for workability ratings and is equal number one for likability on its first 13 daughters.

Article supplied by Alta Genetics, phone (03) 9330 3444, website <www.altagenetics.com/australia>.

Honours for Semex manager

AUSTRALIAN dairy artificial breeding stalwart Jim Conroy has been awarded a Medal of the Order of Australia (OAM) in the Queen's Birthday Honours. Mr Conroy, from Bacchus Marsh, Vic, is general manager of Semex Australia and was recognised for his contribution to the cattle breeding industry in Australia and to polo.

He said he was taken aback when first told he was to receive the honour. "I didn't think it came to people like me," he said.

"But there's nothing more gratifying than being recognised for something like that by your industry peers."

Mr Conroy has been involved in the dairy breeding industry for 45 years.

He has been a keen advocate for involving young people in the dairy industry, founding the Australia-Canada Youth Fellowship in 1995 and sponsoring the National All Breeds Dairy Youth Camp.

He also founded the Semex/Holstein Australia On-Farm Competition and has been a long-time supporter of shows, including the Royal Melbourne Show, as chair of the Royal Agricultural Societies of Victoria Dairy Cattle Committee, and International Dairy Week.

He has also been a member of the advisory and type assessment committees of the Australian Dairy Herd Improvement Scheme.

Mr Conroy said he was proud to have been involved in bringing the best dairy genetics to Australia's dairyfarmers. "My focus has always been on getting it right for customers," he said.

It was important for the dairy industry to be recognised through awards such as this. "Dairy produce is Victoria's largest export earner and the genetics industry is an important part of that," he said.

Two new GA appointments

LEADING artificial breeding organisation Genetics Australia has announced the appointment of Mike Huth to the newly created position of field sales manager.

Operating from Cobden in Western Victoria, Mr Huth will have responsibility for managing and co-ordinating the co-operative's field sales team, which includes a number of full-time sales staff and commissioned agents.

Genetics Australia general manager Jayne Senior said this important role would include mentoring the sales team to provide expert breeding advice and supporting technology to dairy and beef farmers, and genetics re-sellers throughout Australia.

"Mike will also directly represent Genetics Australia in Western Victoria and South Australia, as well as acting as a breeding specialist for the Genetics Australia Jersey Program," she said. "Mike is very well known to many Australian dairyfarmers, having more than 20 years' experience in the genetics industry, mostly recently as the general manager for CRV Australia."

Genetics Australia has also announced the appointment of Brett Sweetnam as its new sales representative for Northern NSW and Queensland. "Brett is also well known to many dairyfarmers, having previously worked with World Wide Sires Australia in Western Victoria, as well as running his own genetics business," Ms Senior said.

"He has an in-depth knowledge of dairy and beef genetics, particularly international genetics marketed by Genetics Australia, as well as the Australian ABV (Australian Breeding Values) system." D

Article supplied by Genetics Australia, phone (03) 5367 3888, website <www.genaust.com.au>.

Viking reds dominate ABVs

VIKING Genetics is more than satisfied with the latest Australian Breeding Values (ABV) release. The Viking Reds have had a strong influence on the Australian red gene pool now for more than 25 years and have really come to the fore of the latest ABV release. In the Red breeds, Viking Reds hold eight of the top 10 positions on the Balanced Performance Index (BPI) index, seven out of 10 on the Health Weighted Index (HWI) index and night out of 10 on the Type Weighted Index (TWI). This shows that the Nordic Total Merit (NTM) system of breeding works extremely well under Australian conditions and management systems.

Last year there was a lot of talk among red breeders as to how well their V Foske daughters were performing. The latest ABV release confirms the dominance of this sire. V Foske has achieved number one status across all three new indexes.

VikVFoske is set to become the greatest red sire Australia has ever seen, being 117 BPI points clear of its nearest rival, G Edbo. V Foske has good daughter numbers as well for a red sire with 158 daughters in 19 herds in its Australian proof. V Foske has been a wonderful sire in the Viking population and now has 8356 daughters in its proof and is being used all over the world. Its scores for daughter fertility and longevity still has it among the elite sires in Viking.

Viking Genetics Holstein sire D Sol has received an ABV with 292 daughters in 26 herds. It transmits moderate production with positive components and fantastic health traits to its daughters. D Sol has more than 12,000 daughters in his proof in Scandinavia.

Viking has only been marketing the Holstein and Jersey breeds in Australia for five years but the feedback has been extremely positive for these breeds as well. Easy calvings, improved fertility and somatic cell count while still increasing production has been noted on Viking's first lactation Holsteins. Calf vitality (good doers) has also been a strong feature of Viking calves, which is attributed to the focus on the strong health profile of the sires.

A strong list of extra selection criteria has the Viking sires not only scrutinised for daughter fertility and calving ease, but all other health and fitness problems that affect the profit margins of modern dairy cows such as mastitis treatments, early and late reproductive disorders, metabolic diseases, feet and leg problems, claw health and calf growth rates and young stock survival just to name a few. D

Article supplied by Viking Genetics, phone (02) 6071 3007, website www.vikinggenetics.com.au>.

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Fodder beet fills winter gap

Key points

- Fodder beets help reduce grain feeding
- Require careful attention to detail
- Take care when introducing to cows

By **Elizabeth Anderson**

South Australian dairyfarmers Matthew and Tracey Cowie in a crop of fodder beet they are using to help fill a winter feed gap.

DESPITE some early issues, fodder beet has proved a winner for South Australian dairyfarmers Matthew and Tracey Cowie. The Cowies milk 430 New Zealand crossbreeds on a spring-calving, pasture-based system at Oamaru Farm, Kongorong, SA.

They dry off their cows over winter, ahead of a spring calving, and looked to fodder beet as a crop on which to winter the stock.

The Cowies are the first dairyfarmers in the south-east South Australia to trial fodder beets, something they looked at as they were aware of the crop having been used in New Zealand for several years for wintering stock.

Mr Cowie said the 4.5ha of fodder beets were planted in the first week of November with the milking cows turned onto the crop in April.

This allowed the Cowies to hold off on feed grain and stretched out the conventional pastures for longer.

"It also helps keep the milking cows going longer," he said. "There is no loss of production at that stage of lactation and we're saving pastures for later in winter, ready for spring calving."

Mr Cowie said the fodder beets also resulted in cost savings. They had been feeding the cows three kilograms of grain, but were able to reduce this to 1kg, while water use was also reduced. The crop required a total irrigation of 3.5 megalitres a hectare.

The Cowies said there were some teething problems with the first crop, but they will be more confident using the crop in future.

Mrs Cowie said one of the first problems they faced was in trying to find a way to plant the crop. In the end they repurposed a carrot planter, adjusting it slightly to get it to the right seeding rates. "That was one of the hardest things to work out," Mrs Cowie said.

Mr Cowie said the planter turned out to worked well, so they would most likely use it again next year.

Weed competition was the other big concern.

Elders Mount Gambier agronomist Jim Burford said farmers really needed to be on top of weed control. "You've got 10-12 weeks until canopy closure so until then you can have weed issues," he said.

> ***'There is no loss of production at that stage of lactation and we're saving pastures for later in winter, ready for spring calving.'***

"You can be limited in what chemicals you can use, which can be expensive. Start planning well ahead of germination and pre-emergence."

Mr Burford said the crop could be tricky to grow for the first time. "You can read literature and see you've got to do this, got to do that, and you think it's a bit pedantic," he said.

Mr Cowie said being pedantic was critical.

Another issue was in keeping the water up to the plant. "The leaves felt the problem with water and wilted but they were pretty resilient and recovered well," Mr Cowie said. "We didn't get quite as much growth."

He said they had worked on estimations of 25-30 tonnes of dry matter per hectare, which made it cost-effective.

However he said he was positive they could achieve the higher yields that next year.

The fodder beets were also used as a pasture renovation tool

The Cowies were cautious when introducing the fodder beet into the cows' diet.

"You've got to keep cows fully fed with a gradual introduction," Mr Cowie said. "There can be problems with potential blow up, so you've got to be careful. We only offered 2kg per cow per day."

Given the crop's large bulb, the cows also had to learn how to approach the plant.

The Cowies began by chopping up the plant and putting it in the cows' paddock.

The cows quickly adjusted and were then enthusiastic about the feed, with a hot wire allowing them access to a section of the crop each day. "Cows love it as the bulb is really sweet," Mrs Cowie said. D

Care needed when feeding fodder beets

DAIRYNZ scientists are urging farmers to take care when feeding fodder beet to their dairy herds. The caution comes as vets report increased issues with cows becoming ill or even dying as a result of problems experienced on fodder beet crops.

Beets have become increasingly popular in New Zealand in the past two years because they are high yielding and are suitable as a supplement for dairy herds. They are particularly popular in Southland and Canterbury, but are now being grown in both the North and South islands.

Despite the fact that they are an excellent source of metabolisable energy, there is concern that some cows are being offered too much of the high sugar crop in their daily feed intake or are not getting sufficient time to adapt to fodder beet being part of their winter diet.

"We have had reports of farmers offering cows unlimited access to fodder beet," DairyNZ nutritionist Dr Jane Kay said. "Because of its high concentration of sugars, fodder beet is a feed that should not be offered in this way."

DairyNZ senior scientist Dr Garry Waghorn said fodder beet's high sugar component meant that excessive intake of beets could lead to lactic acid production in the cow's rumen, which could cause acidosis.

The transitioning stage for fodder beet becoming part of the cows' winter diet was critical to ensuring that cow health and the nutritional value of fodder beet were optimised.

Dr Waghorn and his associates at DairyNZ have conducted trials on the impact of fodder beet feeding. They have found that even following the recommended transitioning program across 14-21 days some cows could not cope with high levels (more than 70%) of fodder beet in the diet.

The cows like the sweet taste of the fodder beet.

"Cows vary in the rate that they adapt to a new feed type and in the amount that they can eat," Dr Waghorn said. "Move too quickly or feed them too much and you will kill some of them."

The DairyNZ trial work found that cows need to be transitioned carefully onto the crop across a 14-to-21-day period.

A typical transition would involve ramping up the fodder beet input by an additional 1 kilogram dry matter (DM) per cow every second day, from a starting base of 2kg DM per cow a day.

DairyNZ trials at Lincoln transitioned cows at an average of 0.5kg DM per cow per day, taking 17 days to get them up to their 8kg DM per cow per day allocation.

Dr Waghorn said it was critical to ensure that cows were also offered sufficient silage, hay or straw before feeding the fodder beet, to slow down their intake of fodder beet.

Once transitioned it was also vital that farmers continued to pay attention to the proportion of fodder beet in the diet.

"At one stage in our trials we had cows eating 85% fodder beet and 15% straw," Dr Waghorn said. "Half of these cows became sick, required treatment and had to be taken off the diet."

This was in a very controlled environment, and he emphasised the importance of offering enough supplement to a herd to ensure all cows achieved adequate intakes to avoid acidosis.

"This trial work has shown that the herd should not be offered more than 70% of their diet as fodder beet," he said. "The remainder of the diet should be a long fibre source, such as silage, hay, or straw, and the cows should be fed this before their beet."

This is about 8kg DM per cow per day in beets and 4-5kg DM per cow per day of the other feed(s).

Good practice in managing a herd on fodder beet also means that farmers need to accurately measure the crop yield.

This includes knowing the percentage dry matter offered in each break, and remembering that this could vary within and between paddocks.

It was important that the cows grazed a "mix" of the roots and tops, and care was needed to ensure cows were eating the entire break offered, and uneaten beets were not accumulating behind them.

"Full attention to the crop and the cow is required to manage this feed successfully," Dr Waghorn said.

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Growing fodder beets in Tasmania

Key points

- Optimising number of plants critical to successful crop
- High requirement for boron and magnesium
- Base irrigation on evapotranspiration estimates

FODDER beets are a high-yielding forage crop that provides forage to fill late autumn and winter feed gaps. Fodder beets, while similar in appearance, are not related to forage brassicas, but are related to sugar beets, beetroots and silver beets.

Successful production of fodder beets requires careful planning and execution of all steps in the crop production process.

Fodder beet cultivars can be separated into two types: harvesting or grazing types. For harvesting types the majority of the bulb grows below ground. This makes them more suited to mechanically harvesting with specialised beet harvesters and stockpiling or ensiling for later use.

In contrast, grazing types produce the majority of the bulb above the soil surface, which enables utilisation by direct grazing. Grazing types often have bulbs that are softer, making them easier for stock to eat.

Optimising the number of plants established is critical to growing a successful fodder beet crop. On-farm research has shown that under Tasmanian conditions the crop cannot compensate lower than optimal plant densities. Maximum yields are attained at plant densities between six and eight plants per square metre.

Depending on the degree of seedbed preparation and soil type, attaining these plant densities may require sowing at rates up to 120,000 seeds/ha. A row spacing of about 50 centimetres is recommended.

Fodder beets require a fully prepared, fine, weed-free seedbed. Previous crops or pastures should be sprayed with a broad-spectrum herbicide. This should be followed by several cultivations.

While beet crops grown in other regions of the world are sown using specialised beet planters or precision drills, research in Tasmania has shown that if the crop is intended for direct grazing, there is no benefit of using a precision drill over other high quality drills (e.g. Airseeders).

Dr Keith Pembleton with a fodder beet, which can be a useful crop for dairyfarmers to grow.

The crop should be sown in mid to late spring when soil temperatures are greater than five degrees Celsius and after the last frosts. Waiting until soil temperatures are greater than 10^0C before sowing will ensure a more even germination and improve seedling vigour.

Fertiliser requirements

Fertiliser decisions should be based on a soil test. As a guide, to reach its maximum yield, the crop will require 70kg/ha of phosphorus, 200kg/ha of potassium and 170kg/ha of nitrogen.

Phosphorus fertiliser should be applied before planting while nitrogen and potassium applications should be split between an application just before planting and a side dressing at canopy closure.

Fodder beets have a high requirement for boron and magnesium. As beet species evolved in saline areas of the Mediterranean they also require the application of salt (50-100 kg/ha) when grown on non-saline soils.

Irrigation may be required over summer to prevent moisture stress. However, the crop is susceptible to water-logging so overwatering should be avoided. Irrigation should be scheduled based on estimated crop evapotranspiration or by the use of soil moisture monitoring equipment.

While one of the advantages of fodder beets is its resistance to the major pests of forage brassicas (e.g. Diamondback moth), there are a number of pests which fodder beets are susceptible to during establishment (e.g. red-legged earth mite and cutworm).

Careful monitoring and the use of appropriate chemical controls will minimise the impact of these pests on crop yields.

Fodder beets are slow to establish and consequently are susceptible to competition from weeds. Ensuring that the seed bed is weed-free before planting and having a plan to minimise weed pressure post planting is critical to the success of the crop.

Typical forage quality of fodder beets grown in Tasmanian is 12% dry matter, 13% crude protein, 23% neutral detergent fibre, 12% acid detergent fibre, 27% water soluble carbohydrates and 11 megajoules of metabolisable energy per kg dry matter. Leaves are higher in crude protein than bulbs but have lower energy content.

The crop should be striped grazed with a fresh break being provided to cattle on a daily basis. Cattle may not initially take to eating the bulbs due to their size. Breaking bulbs into smaller pieces in the first few days of grazing will encourage cattle to eat them.

Beet leaves can have low levels of oxalates, which can cause scouring, and immature crops can have a high nitrate content. Similar to forage brassicas, when feed to milking cows the proportion of fodder beets should not exceed one-third of the cow's daily diet. D

This article is an edited version of a fact sheet prepared by Keith Pembleton and Richard Rawnsley, Tasmanian Institute of Agriculture Dairy Centre.

Forage security for summer dry

Key points

- Forage crops to help mitigate climate risk
- Helps make use of effluent
- Provides good quality feed in dry part of season

By **Jeanette Severs**

FOR Marian Macdonald, growing forage crops in summer is security against potential rising grain and fodder prices and lack of rainfall.

The South Gippsland, Victoria, dairyfarmer is growing more forage crops this year, in expectation against a forecast tough summer.

Ms Macdonald is part of a Forage Planning for Dairy Farms discussion group, a project in Gippsland linking local agronomists with dairyfarmers to plan and sow high quality homegrown forage, aimed at filling feed gaps due to climatic variability.

Ms Macdonald runs a 200-hectare dairy farm with a 260-cow Friesian milking herd calving in May and producing an average annual 520 kilograms milk solids.

Annual fodder harvest produces 100 rolls of hay and 600-800 rolls of silage, off the mostly ryegrass paddocks.

The farm is traditionally dryland farm, but from September Ms Macdonald will be utilising a 50-megalitre irrigation licence to spray effluent and fresh water on the paddocks.

Marian Macdonald is planning for an expected dry summer by planting more forage crops.

Like many dairy farms, effluent is collected and sprayed onto pasture — in recent years by hiring a contractor using a Slurry Kat.

Ms Macdonald chose the process because the operator can monitor the nitrogen and phosphorous in the effluent, providing more intelligent application.

"I can choose how much is applied per hectare, paddocks furthest away from the pond get sprayed and we reduce the likelihood of leaching excessive nutrients into the environment," Ms Macdonald said.

Supplying her milk to Fonterra, this year she has secured her income between set parameters as part of risk management.

"I'm certainly relieved to have locked in a bottom to the price we are paid for 70% of the farm's milk," Ms Macdonald said. "If the milk price collapses, we'll go backwards at a rate of knots but will still be farming next year."

The uncontrollable rainfall pattern is also part of her risk management.

South Gippsland recorded 295.9 millimetres of rain by the end of July, more than 100mm lower than average, and it was scattered throughout the year.

Planning was needed for an expected strengthening El Niño, coupled with Bureau of Meteorology predictions of only average rainfall for South Gippsland between August and October.

"It means we're likely to have less surplus grass in spring to conserve as hay and silage," Ms Macdonald said.

"It's a double whammy because the El Niño suggests we're likely to need more fodder than normal over summer and autumn. It means we'll need more conserved feed than normal and, very likely, at a time when we'll be starved of cash flow to pay for extra loads to be delivered.

"Invariably, when your local area is starved of fodder, you have to get it from far-flung places, where they are having a good season. So there'll be additional transport costs."

Her risk management plan included selling off less productive cows at the end of July.

"Thankfully, cattle prices are high right now and the sale of those 13 cows will feed the rest of the herd for three weeks," Ms Macdonald said.

A meeting with her agronomist

Cows grazing a fodder crop on Marian Macdonald's Gippsland farm.

helped formulate a plan for extra on-farm cropping with the cows grazing brassicas in summer. Past summer crop programs have included forage sorghum, millet, rape, turnip and chicory.

"I use it as a substitute for other forms of expensive and high quality feed," Ms Macdonald said.

This year she is extending the amount of acreage committed to brassicas — 31.1ha of 161ha useable land will be sown to summer forage crops. This is a significant increase of nearly 400% on past years and is assisted by the newly acquired irrigation licence.

"We're dramatically increasing our forage crops because we're concerned fodder will be scarce and unaffordable," Ms Macdonald said.

In September, 4.1ha of marco turnips and 4.38ha of barkant turnips will be sown, for an expected yield of eight tonnes of dry matter (DM) from each crop.

We're dramatically increasing our forage crops because we're concerned fodder will be scarce and unaffordable.

The marco turnips will be grazed from late November to early December with the barkant turnips grazed from late December to early January.

"Turnips are a quick, very high quality bulk feed and we put them in not only to feed the cows but to minimise pest infestation," Ms Macdonald said.

In October, 5.62ha of pure millet will be sown for grazing from November to autumn. Expected yield is eight tonnes DM, under light irrigation.

Chicory and millet crops will also be sown in October, into 17ha, to graze from November to autumn, with an expected yield of eight tonnes DM, also under light irrigation.

"We sow millet into low-lying areas and graze it as if it was grass," Ms Macdonald said. "The chicory adds some extra forage and allows us to extend grazing in those paddocks."

While grazing crops has not made a measurable difference to milk production, it has proved a cost-effective measure to ensure cows are receiving high quality feed at a time of lower pasture availability and minimising stress on the farm budget and operator. D

Slurry is applied by a contractor who monitors the phosphorous and nitrogen being applied.

Agronomic Selection Criteria		Market Information			Intellectual Property Status		Background Information
Type Species	Winter activity or flowering activity	Brand Name	Variety *	Australian Marketer	PBR**	TM***	Plant Breeder
LUCERNE							
Highly winter active	11	SF Force 11	✔	Seed Force			Forage Genetics, USA
	10	SARDI Ten	✔	Heritage Seeds	Y		SARDI
	10	SARDI Ten Series 2	✔	Heritage Seeds	P		SARDI
	10	SF Force 10	✔	Seed Force			Forage Genetics, USA
	9	Australis	✔	Seed Genetics International	Y		Seed Genetics International
	9	Blue Ace	✔	Seed Genetics International	Y		Seed Genetics International
	9	CUF 101		Many			
	9	Hallmark	✔	PGG Wrightson Seeds	Y		QLD DPI
	9	L91		Seed Distributors		Y	Pasture Genetics
	9	L92	P	Seed Distributors	P		NSW DPI
	9	Multileaf ML99	✔	Seed Distributors		Y	Pasture Genetics
	9	Pegasis	✔	Heritage Seeds	Y		NSW DPI
	9	Sequel		Many			
	9	Sequel HR	✔	PGG Wrightson Seeds	Y		QLD DPI
	9	Silverado	✔	Upper Murray Seeds	Y		Ian Kaehne
	9	Siriver		Many			
	9	SuperCharge	✔	Seed Genetics International	Y		Seed Genetics International
	9	SuperNova	✔	Seed Genetics International	P		Seed Genetics International
	9	SuperSonic	✔	Seed Genetics International	Y		Seed Genetics International
	9	SuperStar	✔	Seed Genetics International	Y		Seed Genetics International
	9	Titan 9	✔	AusWest Seeds, Stephen Pasture Seeds			University of Queensland
	9	WL 925HQ	✔	PGG Wrightson Seeds		Y	Forage Genetics, USA
	8	Magna 801FQ	✔	Valley Seeds			Dairylands USA
	8	Magna 804	✔	Valley Seeds			Dairylands USA
Winter active	7	Flairdale	✔	Alfagreen	Y		Lehmann EE & MR
	7	Genesis II	P	Heritage Seeds	P		NSWDPI
	7	Haymaster 7	✔	PGG Wrightson Seeds			Forage Genetics, USA
	7	L70	P	Seed Distributors	P	Y	Pasture Genetics
	7	L71	P	Seed Distributors	P	Y	NSW DPI
	7	Q75	✔	Seed Distributors	Y		Pioneer, USA
	7	SARDI Seven series 2	✔	Heritage Seeds	P		SARDI
	7	SARDI Seven	✔	Heritage Seeds	Y		SARDI
	7	SF 714QL	✔	Seed Force			Forage Genetics, USA
	7	SF Force 7	✔	Seed Force			Calwest, USA
	7	Silverosa GT	P	Upper Murray Seeds	P	Y	Ian Kaehne
	7	Titan 7	✔	AusWest Seeds, Stephen Pasture Seeds			University of Queensland
	7	Trifecta		Many			
	7	UQL 1	✔	PGG Wrightson Seeds	Y		QLD DPI
	6	Aurora		Many			
	6	Hunterfield		Many			
	6	Icon	✔	Seed Genetics International	Y		Seed Genetics International
	6	SARDI-Grazer	✔	Heritage Seeds	P		SARDI
	6	Stamina GT6	✔	PGG Wrightson Seeds		Y	Calwest, USA
Semi dormant	5	Hunter River		Many			
	5	L56		Seed Distributors		Y	Pioneer, USA
	5	SARDI Five	✔	Heritage Seeds	Y		SARDI
	5	Seed Force 5	✔	Seed Force			Calwest, USA
	5	Stamina 5(STM)	✔	PGG Wrightson Seeds	Y	Y	Calwest, USA
	5	Venus	✔	Heritage Seeds	Y		NSW DPI
Winter dormant	3	Q31		Seed Distributors		Y	Pasture Genetics
FORAGE BRASSICA							
Forage Rape		Goliath (Swift Utility)	✔	PGG Wrightson Seeds		Y	Forage Innovations Ltd.
		Hobson	✔	Valley Seeds			Advanta

Agronomic Selection Criteria		Market Information			Intellectual Property Status		Background Information
Type Species	Winter activity or flowering activity	Brand Name	Variety *	Australian Marketer	PBR**	TM***	Plant Breeder
		Interval	✔	Heritage Seeds			Advanta
		SF Evergreen	✔	Seed Force			Joordens, NED
		SF Greenland	✔	Seed Force			Joordens, NED
		Stego / Leafmore	✔	Heritage Seeds			Joordens, NED
		Subzero		Seed Distributors		Y	Pasture Genetics
		Titan	✔	PGG Wrightson Seeds			Forage Innovations Ltd.
		Winfred	✔	Agricom			Joordens, NED
Kale		Caledonian		Heritage Seeds			SCRI
		Coleor	✔	Cropmark Seeds		Y	Agri Obtention
		Gruner		PGG Wrightson Seeds			Forage Innovations Ltd.
		Kestrel		PGG Wrightson Seeds			Forage Innovations Ltd.
		SF Voltage	✔	Seed Force			Oseva Uni, Czech
		Sovereign	✔	Agricom			Forage Innovations Ltd.
Leafy turnip (hybrid)		Appin		PGG Wrightson Seeds			Forage Innovations Ltd.
		Bouncer		Seed Distributors		Y	Pasture Genetics
		Hunter		Agricom			Forage Innovations Ltd.
		Pasja	✔	PGG Wrightson Seeds			Van Dyke Semo, NED
		Pasja II	✔	PGG Wrightson Seeds			Forage Innovations Ltd.
		SF Pacer	✔	Seed Force		P	Vandyjke, NED
Swede		Aparima Gold		PGG Wrightson Seeds			Forage Innovations Ltd.
		Dominion		Agricom			Forage Innovations Ltd.
		Highlander	✔	PGG Wrightson Seeds			Forage Innovations Ltd.
		Invitation		Heritage Seeds			SCRI
		Major Plus	✔	PGG Wrightson Seeds			Forage Innovations Ltd.
Turnip		APT		Agricom			Forage Innovations Ltd.
		Barkant	✔	PGG Wrightson Seeds			Barenbrug, NED
		Dynamo		Heritage Seeds			SCRI
		Marco	✔	Cropmark Seeds		Y	Eurograss Holland, NED
		Polybra	✔	Valley Seeds			Advanta
		Rival		Agricom			Forage Innovations Ltd.
		SF Envy	✔	Seed Force			Joordens, NED
		SF G2	✔	Seed Force			ILVO, Belgium
HERBS							
Chicory	Short term	Commander		Heritage Seeds			Suba & Unico, Italy
	Short term	Grouse	✔	Agricom			Grasslands Innovations Ltd
	Perennial	Balance		Seed Distributors		Y	Pasture Genetics
	Perennial	Chico		Cropmark Seeds		Y	Suba & Unico, Italy
	Perennial	Choice	✔	Agricom	Y		Grasslands Innovations Ltd
	Perennial	Le Lacerta	✔	Valley Seeds	Y		Fadisol
	Perennial	Puna	✔	PGG Wrightson Seeds			Grasslands Innovations Ltd
	Perennial	Puna II	✔	PGG Wrightson Seeds	Y		Grasslands Innovations Ltd
	Perennial	SF Punter		Seed Force		P	Suba & Unico, Italy
Plantain	Perennial	Ranger		Seed Distributors		Y	Pasture Genetics
	Perennial	SF Boston		Seed Force			
	Perennial	SF Endurance		Seed Force			
	Perennial	Tonic	✔	Agricom	Y		Grasslands Innovations Ltd

This Pasture Variety Database is sourced from the Australian Seeds Federation and its members and is intended for information purposes only.

* Variety Confirmation: Confirms if a brand of a species qualifies for the use of the term 'variety' by way of meeting one or more of the definitions for a 'variety' as nominated by the International Union for the Protection of New Varieties of Plants, Organisation for Economic Cooperation and Development or Plant Breeders Rights.

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Matt Harms - ONFARM Consulting

11am Wednesday, 23rd September

WHAT DOES SUCCESS LOOK LIKE?

Is it a splash of cash or true wealth?

Panel members: **Matt & Robyn Colwill (Mardan), Daryl and Fay Sinclair (Stony Creek), Damien Murphy (Dumbalk), Marty Thomas (Moo's at Meeniyan) & Russell Mann (Rabobank)**

What does success look like in the dairy industry today? Does it mean accumulating the most wealth, splashing the most cash, having the best cows or the highest production? What are the quiet achievers accomplishing in their business, what does success look like and how do they do it? The panel members will share their stories of their business and how they define success.

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- Call in for a chat at site 67!

Reid Stockfeeds

- Discuss market information, new season grain prices and expected trends.
- Find out about feed quality and security.
- Information and ideas on feeding efficiency.

South Gippsland Shire Council

- Recognise that the dairy industry makes a significant contribution to the regional community.
- Council is committed to supporting the agricultural industry and its essential support businesses and services.
- Come along to the Matt Harms session -

What Does Success Look Like?

IS IT A SPLASH OF CASH OR TRUE WEALTH?

Expo one-stop shop for dairyfarmers

Key points

- ✔ **What:** South Gippsland Dairy Expo
- ✔ **Where:** Korumburra Showgrounds, Korumburra, Vic
- ✔ **When:** Wednesday, September 23, and Thursday, September 24, 2015

THE Strzelecki Lions Club is hosting the South Gippsland Dairy Expo in Korumburra on Wednesday, September 23, and Thursday, September 24, started each day at 9am.

The South Gippsland Dairy Expo provides an opportunity for members of the dairying fraternity to be able to showcase the latest in dairy innovation and technology. South Gippsland is lucky to be the home of some exceptional dairy enterprises that form a significant part of the rural community.

The Dairy Expo would not be the success it is without tremendous support and help from its community volunteers. Once again, the Korumburra Rotary Club will be in charge of the Kids Activity Pavilion, and the Poowong Kindergarten will be co-ordinating the food for the patrons of the event.

Peter, Craig and Jenny McCormack, dairyfarmers at Ranceby, Vic, with Graham Wood of Graham Wood Machinery, Grantville, and one of his silage feeders at last year's expo. ***Picture by Jeanette Severs***

In addition to these organisations, the Strzelecki Lions Club has various other community volunteers who assist with the event each year.

The Dairy Expo started 16 years ago with the committee having a core objective to deliver a 'one-stop shop' to local dairyfarmers, so that if farmers were busy, they could visit, do their business and leave, having spent a valuable couple of hours. Today the event still has the same focus.

Terry Allan, of Wastenot Hayfeeders & Stockfeeders, Maryborough, Vic, is a regular participant at the South Gippsland dairy expo. Last year he met Brett and Zoe Allan (no relation) and their son, Jordan (8 months) who are part of a family dairy farm near Leongatha. *Picture by Jeanette Severs*

This year Holstein Australia has organised Phil Hentschke to deliver a presentation titled 'The Type of Animals you Own Equals Profit for your Business'. The presentation will take place on Wednesday at 1pm and Thursday 11.30am.

Well-regarded consultant Matt Harms will be hosting a session on Wednesday at 11am.

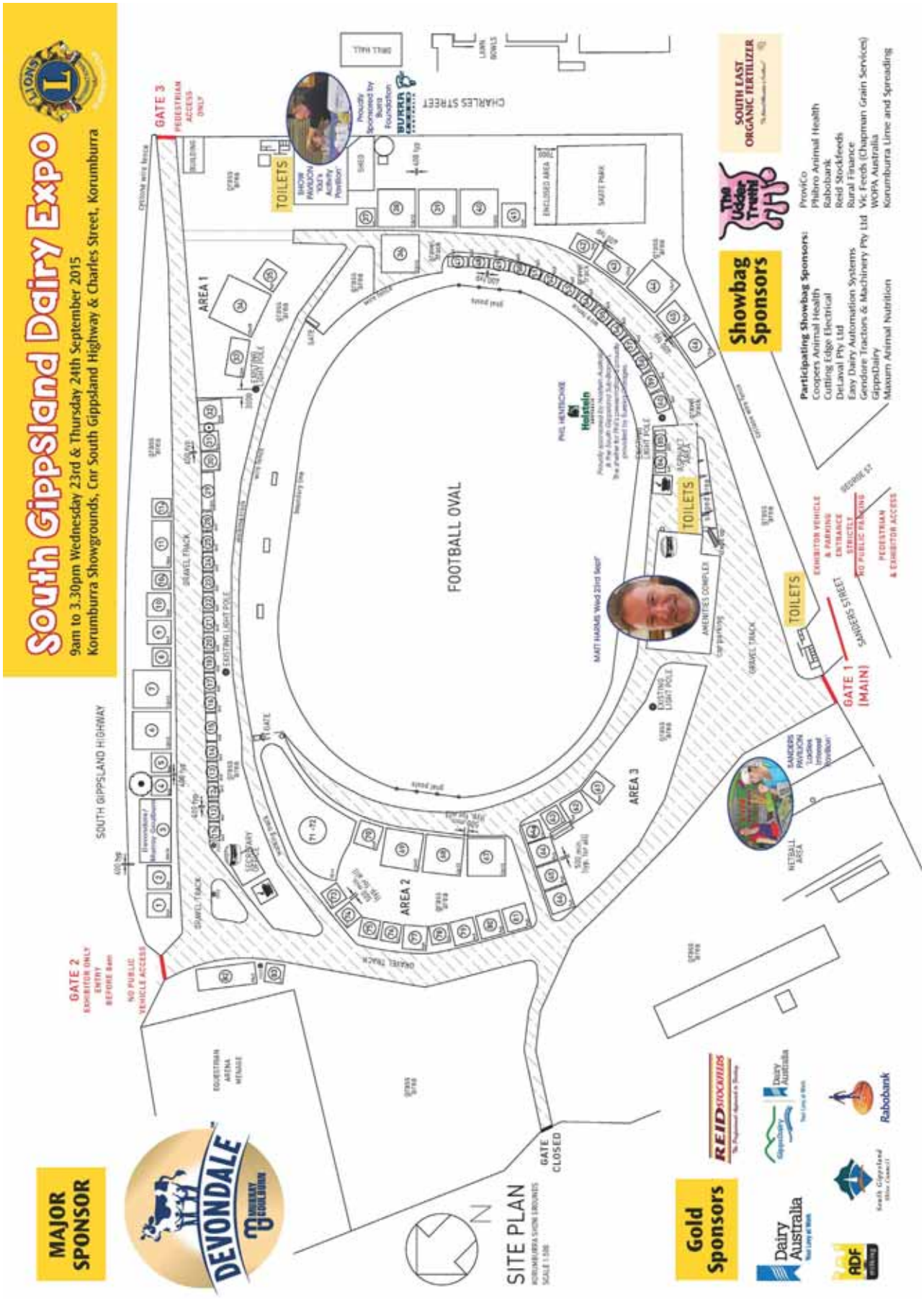
The Strzelecki Lions Club has a Dairy Expo committee, who are all volunteers and some of whom are dairyfarmers. Many of these people have been on the committee since it started and collectively have raised and disbursed over $340,000 back into the local community.

The South Gippsland Dairy Expo could not happen without the loyal support of the major and gold sponsors. Devondale Murray Goulburn & MG Trading has been the major sponsor of the Dairy Expo for 15 years and once again will have a hospitality marquee at the expo so be sure to call in and have a chat to their enthusiastic team.

As always, the expo has a terrific group of gold sponsors, many of who support the Dairy Expo each year. Soak up the atmosphere in their marquee and be sure to support those who support the industry: ADF Milking, Rabobank, Reid Stockfeeds, South Gippsland Shire Council, GippsDairy and Dairy Australia.

The Udder Truth Showbag, sponsored by South East Organic Fertiliser is back, after a successful introduction to the Dairy Expo last year. Our participating exhibitors are extremely excited for expo visitors to be participate. Buy a $2 showbag at the gate, listen to the simple steps and hopefully come away $3000 richer. D

Contact: Dairy Expo secretary, Deanne Kennedy, phone (03) 5659 4219 or email <admin@jaydee.net.au>.


South Gippsland Dairy Expo
9am to 3.30pm Wednesday 23rd & Thursday 24th September 2015
Korumburra Showgrounds, Cnr South Gippsland Highway & Charles Street, Korumburra
SITE PLAN
FOOTBALL OVAL
AREA 1
AREA 2
AREA 3
GATE 1 (MAIN)
GATE 2
GATE 3
GATE CLOSED
TOILETS
SOUTH GIPPSLAND HIGHWAY
CHARLES STREET
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Bargain Boots 76

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Korumburra Rotary Club Kids Activity
Pavilion Sponsored ..... Burra Foundation Show Pavilion
Ladies Interest Pavilion ..... Sanders Pavilion

Computer Systems/Software
Jantec Systems 28
Easy Dairy Automation Systems 69

Dairy Grooving/Rubber Matting
Core'n Saw 20
Surefoot (RPS Industries) 23
Concrete Texturing Services — Concut Vic Pty Ltd 48
Highfields Industries 55
Congroove Dairy Grooving 56

Dairy Plant & Machinery
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Effluent Control
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Erosion Control
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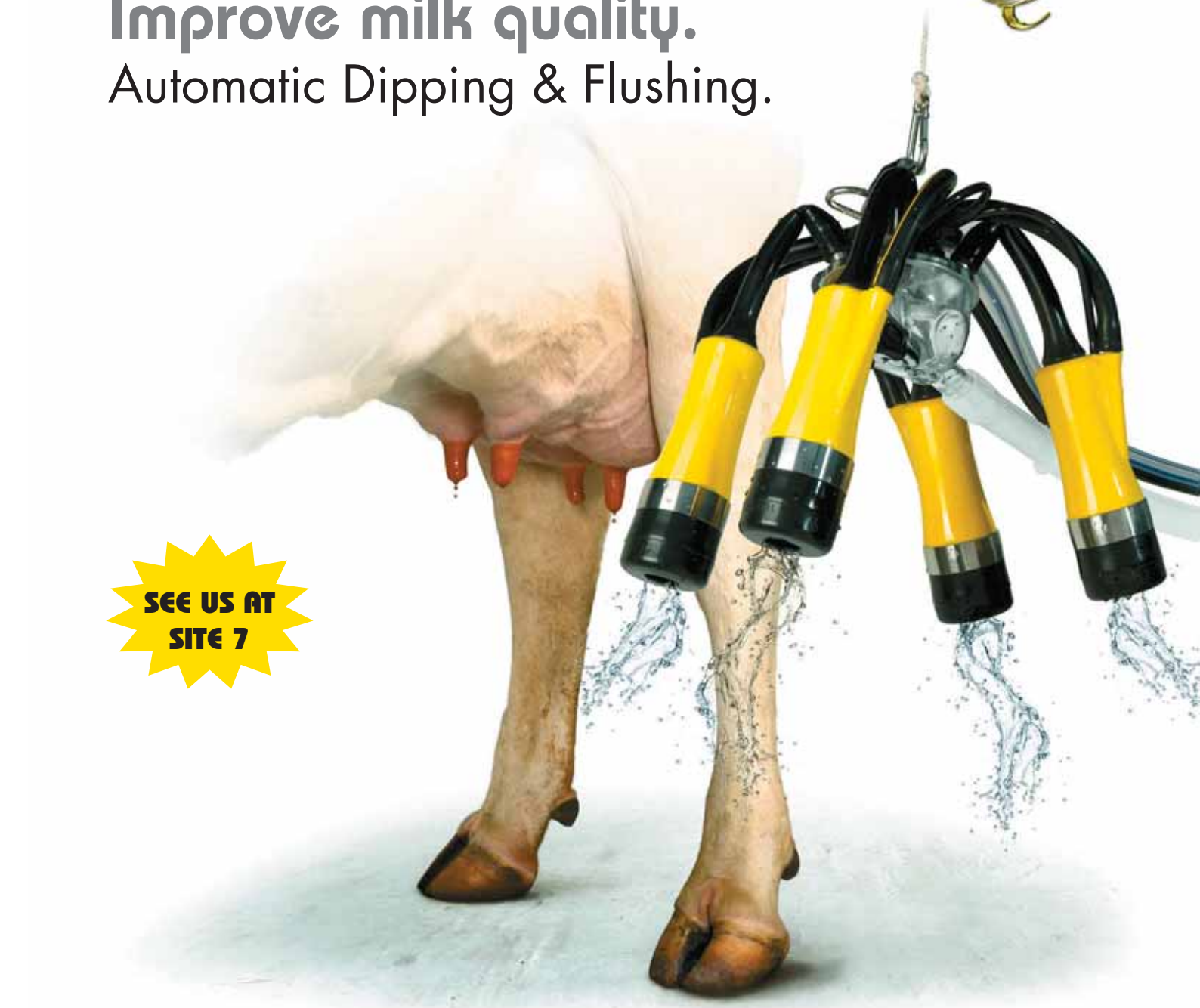

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DeLaval automatic feeding solution

FEEDING is often the biggest expense on any dairy farm. The labour costs related to and the feed itself amount to up to 70% of any farms' production costs. Making feeding methods more efficient does not just save costs, it increases milk yields. DeLaval is updating its solutions to fit those requirements and the latest inclusion of Optimat to its feeding solutions is contributing to this.

Automatic feeding solutions allow farmers to provide the exact measurements ensuring every cow gets the right quality of fresh feed frequently throughout the day, resulting in less stressed cows, fed at the right amount and producing more milk as a result.

"We have farms with 60 cows and others with 600 cows using our automatic feeding system, Optimat," DeLaval feeding systems assortment manager Beata Kruba-Wroblewska said. "They all see benefits in feeding efficiency."

One such farm is Karl Fredik Okkenhaug's in Norway. His herd of 70 cows is now fed eight times a day. Cow traffic has improved and milk production is up. "Since implementing the new feeding system, milk production has increased by about five litres per cow," Mr Okkenhaug said.

Farms using automatic feeding can give their herd feed more frequently during the day. If the feed is fresh, the cow is more likely to eat it abundantly. This results in higher milk yields but also in less waste on the feed table. In fact, using a system like Optimat can reduce feed wastage by 50% and more.

Optimat can be integrated with DeLaval DelPro Farm Manager where individual cows can be fed according to their needs.

Systems like Optimat also allow for providing exactly the right amount of feed to each group of cows no matter their lactation cycle. Optimat can be integrated with DeLaval DelPro Farm Manager where individual cows can be fed according to their needs with the help of concentrate feed stations making sure that each single cow gets the right feed. This will avoid underfeeding the high producing early lactation cows as well as over feeding of the low producing cows at the end of lactation.

Feeding is one of the most time-consuming tasks on a farm, which is why so many dairyfarmers feed just twice a day, even if more frequent feeding would help increase milk yields. Farmers using Optimat have been able to considerably decrease the number of hours spent on feeding. Typically they go from 21 hours a week spent on feeding to just four hours a week on a 300-cow size farm. In addition, the work can be scheduled more efficiently, allowing more time for other activities on the farm. D

See Delaval at site 38 at the South Gippsland Dairy Expo.

Gippsland farmers happy with robots

WEST Gippsland dairyfarmers, Darryl and Trudi Hammond, installed six Lely Astronaut A4 milking robots in March. The Hammonds are one of the growing number of Australian dairyfarming families who have undertaken the installation of a Lely robotic milking system, securing a future for the next generation on their farm. Their farm is located at Buln Buln, just out of Warragul and has been in Trudi's family for 46 years and milks 450 to 500 cows at peak.

The Hammonds were previously milking through an automated 20 unit double-up herringbone, which needed replacing, so they looked through the available options of installing a rotary compared with a robotic system.

"We had a look at all brands of robotic dairy farms and not only were the Lely farmers happy, but the cows were also walking around leisurely," Mr Hammond said. "I love a good challenge, and the concept of having more time to get other jobs done around the farm was a win-win.

"We chose Lely because of their whole package; they had the ideas, the skills and they were hands on. We already had a relationship with Murray and Daniel from Traf Tractors & Machinery, who are also the local Lely Center Trafalgar.

Trudi and Darryl Hammond with son Finn are happy with the installation of robotic milking for their 450-500 cow herd.

"The Lely Center have really taken ownership for us, they are involved and passionate. The technicians are always positive and happy."

The system is voluntary and feed driven, therefore removing cow stress.

The Lely Astronaut A4 automatically cleans the milk lines and the robots three times a day, and automatically washes the vat after the milk is removed.

"Milking cows is a mundane job, and most farmers spend too much time in the dairy and not enough time outside," Mr Hammond said. "This system is a business that makes money and gives us the lifestyle we need. Family is pivotal for us, and we now have more time to spend with the family, also involving our kids in the process."

The improved well-being of the cow is achieved with the Lely Astronaut through using the ABC grazing system - where fresh grass is available twice or a possibly three times in a 24-hour period to reward the cows with fresh pasture post milking. A Lely Grazeway is used to automatically draft the cows to the new pasture area. D

See Lely Center Traf and Maffra (Trafalgar Tractor & Machinery) at site 34 at the South Gippsland Dairy Expo.

Clean calf equipment to avoid disease

Key points

- ✔ Bacteria can accumulate on calf-feeding equipment
- ✔ Can cause serious illness and death
- ✔ Need detailed cleaning protocol

By **Jeanette Fisher***

LATELY I have been doing quite a bit of work in America and while I was working recently it occurred to me that no matter what the calf-raising system, the same problems recur all around the world. One problem I see regularly is milk-feeding equipment that has not been cleaned well enough.

Neonatal calves are vulnerable to disease. If calves are to survive to the stage where they become productive members of the milking string, they need to have the best care in the first few weeks of life.

"The best care" means good passive transfer, adequate nutrition, a clean, low stress environment and protection from the elements. Adequate sanitation of milk-feeding equipment is part of a clean environment and yet it is interesting that even on dairies where one could eat one's dinner off the floor, calf-feeding equipment is not always cleaned to a high enough standard.

The financial consequences of having dirty milk feeding equipment are just as high as having a dirty milk vat. It is known that:

• calves that face immune system challenge do not grow as fast as those reared in a clean environment;

• calves that fail to double their birthweight by eight weeks of age are less efficient producers of milk than calves that do;

It is essential that all calf-feeding equipment is clean.

• calves that have poor early life growth rates have a reduced feed conversion efficiency for their entire life, meaning that they have higher feed costs per litre of milk produced; and

• calves that are treated for scours are 2.5 times more likely to be prematurely culled than their healthy peers.

Calves that are fed from dirty equipment have to divert nutrients away from growth and into fighting the microbial challenge. The consequences of this nutrient diversion will be calves whose feed conversion efficiency drops, resulting in poor growth rates, calves that become ill and calves that die.

Even on calf-feeding equipment that appears to be clean, there can be an invisible threat that can contaminate calf milk and cause disease. This threat is called biofilm.

Biofilms are matrices comprised of milk residues, bacteria and polysaccharides (complex carbohydrates) that the bacteria excrete to protect them and to help cement them to surfaces. The cement-like substance makes removal of biofilm difficult and forms an insulating film that protects the bacteria within it from desiccation and also from the actions of cleaners and disinfectants.

Bacteria use tiny appendages (flagellae, fimbrae, pili) to attach themselves onto almost any surface in a dairy, including stainless steel, aluminium, rubber, and the type of poly plastics used to make test buckets.

Biofilm can contain many different bacteria such as *Staphylococcus* and *Streptococcus* but one of the most significant bacteria in biofilm on calf-feeding equipment is *Escherichia coli (E. coli),* because it is endemic in the dairy environment.

Whatever the type of bacteria, they glue themselves to the milk residues and then excrete the polysaccharides to form a protective matrix. Once the initial bacterial settlement has been formed, other bacteria move in and build on to the original settlement forming matrices, which resemble bacterial "ghettos". The more the matrices develop, the more milk residues stick. The more milk residues there are, the more bacteria are attracted to the food source and so on.

The presence of biofilm is an indicator of inadequate sanitation. If poor

sanitation practices continue, the previously invisible biofilm may become visible as a light brownish and possibly roughened film.

The more scratched, pitted, corroded or cracked surfaces are, the harder they are to clean and so they become ideal environments for biofilms to establish. Once a "ghetto" is established it becomes bacterial heaven, with milk residues providing a constant food source and the polysaccharides forming a protective barrier against disinfectants. Common disinfectants, even household bleaches are ineffective against the bacteria, which are protected by the matrix. Even prolonged soaking in a strong bleach solution is not able to lower bacterial populations enough to reduce calf scour rates.

'They can cause gastro-intestinal disease, which is the number one killer of calves.'

Biofilm can incorporate many different bacterial species but particularly important from a calf health perspective are coliform bacteria. Some members of this group of bacteria pose a particular threat to calves from birth to 14 days because of the sheer numbers that can exist in the calves' birth environment. They can cause gastro-intestinal disease, which is the number one killer of calves. Some types of *E. coli* secrete toxins, which alter the fluid secretion mechanisms in the gut, thus causing profuse diarrhoea. Other types cause damage to the gut itself as well as altering the ion ("body salt") transport in the gut. If the calf does not die of dehydration first, this type of infection can lead to bacterial septicaemia, which can be difficult to treat.

Once the bacteria emerge from the biofilm into the milk (or colostrum), they start to multiply and so long as the milk remains warm, the bacteria will continue to grow rapidly in number. At 37 degrees Celsius, coliform bacteria can double their numbers every 20 minutes, which can quickly lead to coliform counts of more than one million colony-forming units (cfu) per millilitre. When fed to calves, this will certainly cause them to become ill and possibly die.

Cleaning protocol

The best way to prevent the formation of biofilm on calf-feeding equipment is to draw up and follow an effective cleaning protocol.

Following the protocol below will minimise the formation of biofilm.

1. Rinse with lukewarm, not hot, water to remove any dirt and milk residue.
2. Wash using hot water and a chlorinated detergent. Keep water above 49^{0}C (too hot to hold hands in) at all times.
3. Scrub inside and out to remove remaining dirt and milk residues.
4. Rinse with warm water and an acid rinse or Virkon. Leave the rinse on the equipment and allow to dry.
5. Dry by allowing equipment to air dry, preferably on a rack. Do not stack buckets or feeders inside each other.

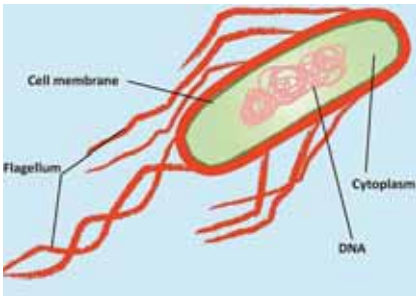
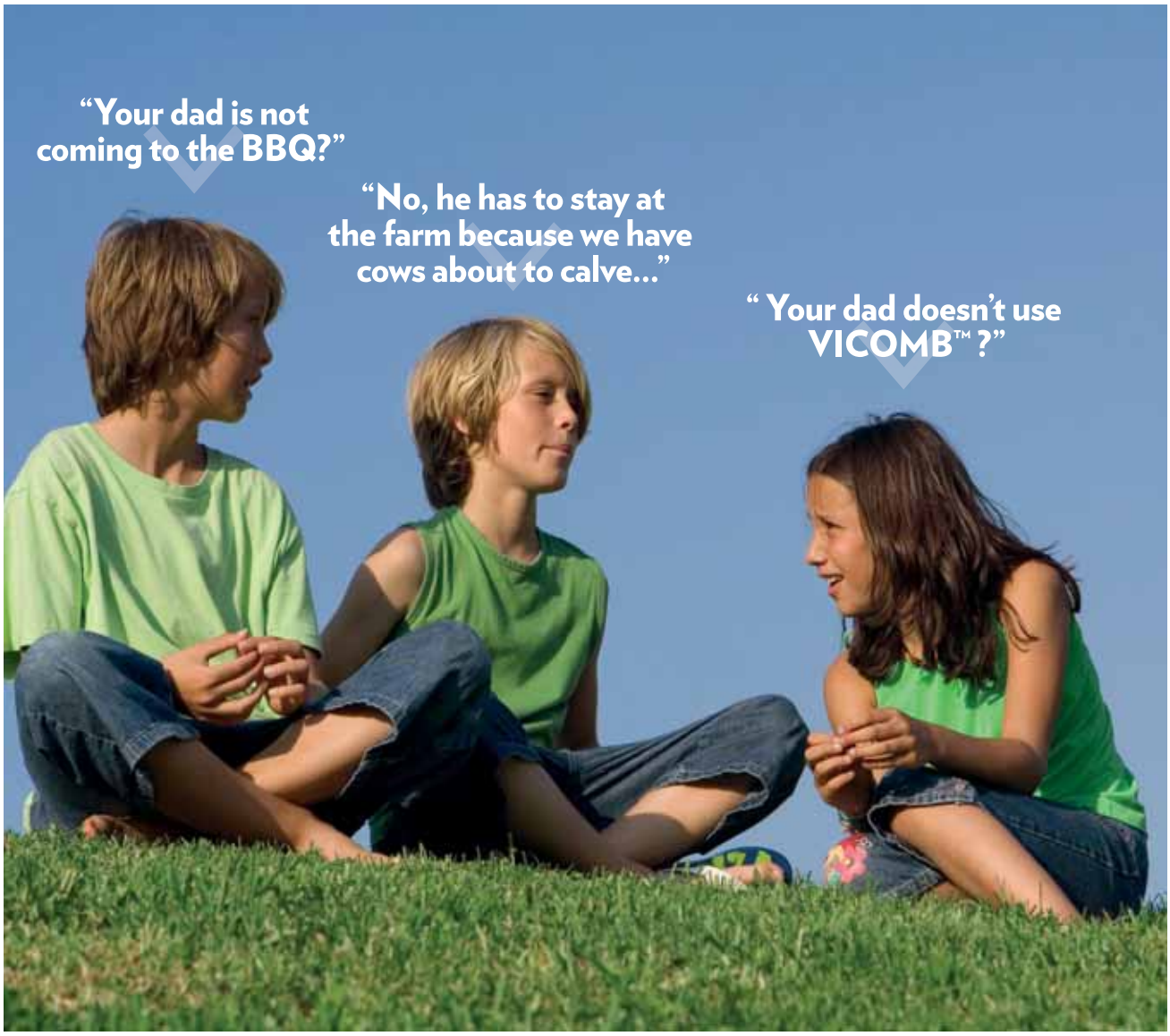


Figure 1: Diagram of E coli bacteria showing flagellum

Do not sit buckets upside down on a concrete floor.

Common cleaning errors are:

- not cleaning at all;
- rinsing equipment with cold water only;
- rinsing equipment and not turning it upside down to dry;
- rinsing with water that is too hot as this causes overheated protein, which bonds to surfaces and can be difficult to remove;
- wash water may be too cool, which causes particles of fat and/or protein to fall out of suspension and stick to surfaces;
- no scrubbing; elbow grease might be a pain but it is effective at removing dirt;
- no detergent or disinfectant. Detergents disperse and remove accumulated organic matter from surfaces, allowing disinfectants to reach and destroy microbes. Disinfectants (sodium hypochlorite, which is household bleach, is cheap and effective) destroy or inactivate bacteria and some viruses.



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Formulating and adhering to an effective management plan for milk feeding calves will ensure that they have the best chance of achieving high growth rates.

◀ The effectiveness of any cleaning program needs to be monitored, rather than just waiting for a spike in sick calf numbers to indicate a breakdown in procedures. A good monitoring system would consist of:

1. Keeping a daily dairy detailing which person has fed the calves and cleaned the equipment.
2. Printing and laminating standard operating procedures (SOPs) and placing them near the wash area.
3. Training staff members to follow the SOPs every time milk-feeding equipment is used.

Even on calf-feeding equipment that appears to be clean, there can be an invisible threat that can contaminate calf milk and cause disease.

4. Regular sampling and culturing of calf milk to track levels of contamination.
5. Keeping and evaluating accurate records of the number of sick calves and the number of dead calves and the cause of sickness or death.

Formulating and adhering to an effective management plan for milk feeding calves will ensure that they have the best chance of achieving high growth rates and surviving to become cows that produce milk as efficiently as possible. D

**Jeanette Fisher operates a dairy heifer advisory business, Heifermax, and can be contacted through her website, <www.heifermax.com.au>.*

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High-milk diet little impact on growth

Key points

- ✔ Calves feed different amounts of milk
- ✔ Ad-lib access to pasture and starter meal
- ✔ Little advantage in higher milk diet

By **DS Cardoso, RE Hickson, RA Laven, LW Coleman, and PJ Back**
Institute of Veterinary, Animal and Biomedical Sciences
Massey University, New Zealand

The grazing system for the calves involved frequent shifts to fresh spring pasture.

REARING replacement dairy heifers is an important part of the dairy system because well-grown cows have better fertility and milk production, and last longer in the herd. However, calf-rearing is labour intensive and expensive, particularly during the pre-weaning period.

An experiment was conducted at Dairy 1, Massey University in New Zealand, to evaluate growth rates of heifer calves fed different volumes of milk in the pre-weaning period. The study included 60 heifer calves. Target weaning weights were 100 kilograms for Friesian, 90kg for Friesian-Jersey and 80kg for Jersey calves.

Calves were fed two litres of stored colostrum twice daily until 15-21 days old. Then, they were moved onto fresh pasture with ad libitum access to calf starter meal (20% crude protein [CP], 14 megajoules of metabolisable energy [MJ ME]) in two treatments:

- low milk: four litres/day; and
- high milk: a gradually increasing ration up to eight litres/day from four weeks.

Once calves were within 10kg of the ▶

◀ target weaning weight, they were fed four litres of milk daily until weaning, with free access to calf meal (16% CP, 12.3 MJ ME). The grazing system for the calves involved frequent shifts to fresh spring pasture. Calves were offered ad libitum pasture and moved to a new paddock every 2-3 days.

Contrary to expectation, there was no advantage in growth rate from increasing milk ration from four litres/day to eight litres per day for these calves.

Feeding a greater amount of milk (531 vs 366 litres) did not significantly affect the average daily growth rate of calves (0.78 vs 0.72 kilograms/day) but did allow the calves to be weaned six days earlier (84.8 vs 90.6 days).

Calves in the low-milk treatment consumed 24.1kg meal/calf compared with 16.4 kg meal/calf in the high milk treatment (or 0.27 vs 0.19 kg/calf/day respectively).

Contrary to expectation, there was no advantage in growth rate from increasing milk ration from four litres/day to eight litres/day for these calves. The calves in the low milk treatment had a small increase in meal intake, but both groups ate a relatively small amount of meal. The early access to high quality pasture may have resulted in a preference for eating pasture over meal, in comparison to confined calves that usually consume much higher volumes of meal.

The high milk feeding system incurred increased cost for little benefit in terms of pre-weaning growth. The consequences after weaning in terms of fertility and milk production will be monitored during the following seasons.

Table 1: Growth rates of heifer calves fed different volumes of milk in the pre-weaning period

	Low	High
n	30	30
Birth weight (kg)	30.4	31.9
Weaning weight (kg)	95.6	96.7
Average daily gain (kg/day)	0.72	0.78
Milk consumed (litres)	366[a]	531[b]
Days to weaning	90.6[b]	84.8[a]
[ab]Values with different letters are significantly different		

The experiment evaluated growth rates of heifer calves fed different volumes of milk in the pre-weaning period.

Contact: For full details of experiment see website <http://www.nzsap.org/proceedings/2015/brief-communication-do-high-milk-diets-affect-growth-rate-heifers-prior-weaning>.

New insights into colostrum feeding

Key points

- ✔ Colostrum quality not impacted by breed or age of cow
- ✔ Time of colostrum feeding critical to calf IgG levels
- ✔ Digital refractometers show promise

By **LW Coleman, RE Hickson, J Amoore, RA Laven and PJ Back**
Institute of Veterinary, Animal and Biomedical Sciences
Massey University, New Zealand

Digital refractometers are an inexpensive means of instantly getting information about the IgG concentration in a sample.

FEEDING newborn calves an adequate volume of colostrum is of well-recognised importance. Calves are born with a naive immune system because maternal immunoglobulins (predominantly IgG) are not passed through the placenta.

Maternal colostrum is needed for the calf to establish its immune system. IgG concentration varies among cows and decreases with increasing time since calving. Pooling colostrum from freshly calved cows is common practice on New Zealand dairy farms to minimise the effect of individual cows with low IgG concentrations.

An experiment was conducted at Dairy 1, Massey University in New Zealand, to characterise the relationship between IgG concentration in the first-milking colostrum from dairy cows and calf blood within 48 hours of birth. The experiment also evaluated a digital refractometer for estimating quality of colostrum in terms of IgG concentration.

The study included 204 cows and 63 heifer calves. The cows were first-calving and mixed-aged Friesian, Jersey or Friesian-Jersey crossbreds in a pasture-based system milked once a day.

The experiment showed that colostral concentration of IgG was adequate (greater than 3000 milligrams per deciliter) in 70% of samples from individual cows and in 80% of samples from pooled colostrum. Mean IgG ▶

This highlights how critical is that the colostrum is fed to the calves as early as possible, within the first 6-12 hours after birth to enable adequate uptake of IgG from colostrum.

New research from New Zealand suggests feeding colostrum as early as possible after a calf is born is critical to ensuring adequate immunoglobulin transfer.

◀concentration was 3600-4300 mg/dl, which was lower than values reported for overseas cows.

Interestingly, there were no differences in the colostral IgG concentrations among cows of different breeds or different parity (number of calvings). The length of time until the first milking (up to 24 hours due to the once-a-day system) may be one of the variables that contributed to the low IgG concentrations.

All calves in this study were removed from their dams within 24 hours of birth (sometimes before suckling from their mothers), offered two litres of colostrum morning and afternoon for the first day in the calf shed (between 0-32 hours old), and a blood sample was collected the following morning (at about 24-48 hours of age).

Serum samples from 83% of calves in the study had adequate IgG concentrations (more than 1600 mg/dl). However, there was no relationship between IgG concentration in the dam or pooled colostrum available to the calf and the IgG concentration in calf serum.

It is likely that the time that colostrum was fed to the calves influenced how much IgG was transferred.

This highlights how critical is that the colostrum is fed to the calves as early as possible, within the first 6-12 hours after birth to enable adequate uptake of IgG from colostrum.

Digital refractometers are an inexpensive means of instantly getting information about the IgG concentration in a sample (expressed as Brix percentage).

The refractometer used in the experiment was an OPTi digital hand-held refractometer (Brix 54, Bellingham + Stanley, Thermo Fisher Scientific) calibrated with distilled water.

The correlation between IgG and Brix percentage was 87% for individual colostrum samples, 81% for pooled colostrum samples and 64% for calf blood. While these correlations show promise, the appropriate Brix percentage threshold to use on-farm for identification of adequate versus inadequate IgG in colostrum is the subject of ongoing research at Dairy 1. D

Contact: For full details of experiment see website <http://www.nzsap.org/proceedings/2015/colostral-immunoglobulin-g-predictor-serum-immunoglobulin-g-concentration-dairy>.

Breeding top Jerseys starts with calves

Key points

- ✔ Calf management critical part of genetic improvement
- ✔ Aim to breed top Jerseys
- ✔ Quality calf milk replacer essential

TREVOR and Anthea Saunders at Shady Creek, north-east of Warragul, Victoria, are dedicated Jersey breeders. "Our aim is to be in the top 2% of Jersey herds in Australia," said Mr Saunders, who is a former president of Jersey Australia.

"Currently we are just out of that. We are genomic testing our heifers and we are enjoying that project. The more we use the genomic testing, the greater the improvement of the genetic base of our herd. We have the number one heifer in Australia at the moment."

The Saunders have been at Shady Creek for 11 years this November and have developed the farm, with its lighter sandy soils, to suit the management style they wanted to grow their stud.

The property covers 150 hectares for the milking cows and with another 60ha used to run young stock, under the Johne's Disease Calf Accreditation Program (JDCAP). JDCAP is an audited calf-rearing program that aims to reduce the risk of calves being infected by minimising their contact with manure and dairy effluent from adult cattle and reducing exposure to potentially contaminated milk.

We aim to grow our calves out properly so that they can achieve their genetic potential later on as milkers.

They milk on a 44-unit rotary with automatic cluster removers and automated feeding, controlled through the National Livestock Identification Scheme (NLIS) tags, which they say takes the problems out of their feeding management. Milking is all year round, with about 50% calving in March and the first two weeks of April, then the rest in June and July. Herd numbers peak at 400.

The Saunders look after the cow management and employ some part-time milkers. They utilise contractors to look after the farm production tasks such as hay, silage, cultivation and fencing.

Mrs Saunders takes control of calf rearing and is determined to give calves the best possible start. So the optimum feeding procedure becomes a major consideration. They use Urban automatic calf feeders installed in three bays of the calf shed where the different groups, each of 24 calves, are treated individually as sensors read their ear tags.

The calves receive the first eight hours of colostrum through the mothers, and are then taken off onto a manual feeder where they receive colostrum only.

"They are strong enough to be tak- ▶

◀ en off after 24 hours," Mrs Saunders said.

The calf milk replacer to be used in the automatic feeder is critical and the Saunders worked with local vet Grant Nielsen from the West Gippsland Vet service, who manages their calf management program. They previously had problems with salmonella and *Escherichia coli*.

"When we were looking at the calf milk replacers, we wanted animal-derived components, not vegetable-sourced ones as the calf's digestive system works better to get the best possible out of them," Mrs Saunders said. "Plus probiotics are important. They are fed milk at the right temperature at the right time, 1.5 litres at a time.

"We chose the MaxCare Ultimate formulation purely on its specifications — particularly the high protein and fat percentages. The calves make a better curd and it optimises the nutrient consumption and extraction from the feed."

Milk powder manufacturer Maxum Animal Nutrition has three different formulas in its MaxCare Calf Milk Replacer range. The top-of-the-range formulation Ultimate contains the highest nutrient density available in the Australian market with 28% protein and 22% fat as well as probiotics, amino acids, vitamins and minerals.

"Calves are fed ad lib up to 10 litres a day for the first two weeks," she said. "The feeder allows them 1.2 litres per feed every two hours until they reach their quota for the day. From two to 10 weeks they are on six litres a day and then the milk allowance is ramped down to two litres at three months of age.

The calves are the future of Araluen Park, so Trevor and Anthea Saunders say there is no point is skimping.

"Our calves look better than they ever did on whole milk. This formulation mixes really well for the automatic feeders.

"Our calves are our future, so there is no point is skimping — we need to get the best growth that we can. I've reared calves for 30 years and I can tell how well they are doing. It's important for one person to do that.

"We aim to grow our calves out properly so that they can achieve their genetic potential later on as milkers."

They get a feeding history for each calf through the auto feeding system computer.

The calves are on ad lib grain and water from birth, but no hay. "We believe the 'scratch factor' is more significant with grain feeding than hay," Mrs Saunders said. "Later on they get about two kilograms a day day of grain from six weeks to weaning.

"From the six litres per day they are getting at two months and two weeks, it is dropped down to two litres at weaning at three months."

Araluen Park has a target of 150 calves per year but the Saunders admit they have had a bad run with getting heifers this year so they have about 56 heifers at the moment.

The Saunders said ultimately they wanted to enjoy looking at their cows every day.

"We are achieving over 1700 kilograms of milk solids per hectare, and as this property is not irrigated we are really excited about that," Mr Saunders said. "We'll come down from 440 head to 350 to milk in October. We're not aiming at building numbers; we are selling more than we are buying. We are sourcing high-profile good cows that will add value to the herd and we have top cow families from the United States. You have to be excited about it and we are really lucky that we like cows and our genetics. People come from all over the world to see our cows." D

Article supplied by Maxum Animal Nutrition, email <sales@maxumanimal.com.au>, website <www.maxumanimal.com.au> or contact Tom Newton, mobile 0439 773 145.

Keeping calves free of antibiotics

Key points

- ✔ Program to reduce risk of antibiotic residues in calves
- ✔ Ensure everyone who handles calves understands plan
- ✔ Keep accurate records of all calf treatments

IT is important that everyone caring for calves on a farm understands how antibiotic residues may happen and ensures that all calves sent for slaughter are free from antibiotic residues.

Any antibiotic residues in calves sent for slaughter are a major concern for the Australian dairy industry. Calves are frequently tested at abattoirs for the presence of antibiotics. Detection of antibiotic residues could result in loss of this valuable outlet for calves.

For the past two years Dairy Australia has run a program to help dairyfarmers reduce the risk of antibiotic residues in their calves. The following advice is based on the findings of its investigations on farms where antibiotic residues have occurred.

Take these 10 simple steps to keep your calves residue-free:

1. Prevent disease — develop a plan for colostrum management, prevention and treatment of calf diseases — ask a vet for advice if unsure what to include.

2. Training — make sure that everyone who cares for calves understands and follows the management plan.

Keep calves destined for sale separated from the calves to be reared.

It is risky and ineffective to mix oral antibiotics with milk.

3. Separate housing — keep calves destined for sale separated from the calves to be reared.

4. Dedicated equipment — feed sale calves with separate equipment that is clearly marked and used only for this purpose.

5. Fluid therapy — use electrolytes as the first option for treating sick calves. Remember many common causes of calf scours do not respond to antibiotics.

6. Follow directions — use antibiotics carefully and only after discussing the treatment options with the vet. Always read the label and observe the meat withhold period. Don't feed sale calves with waste milk from antibiotic treated cows.

7. Manage treatments — treat calves individually, preferably by injection to minimise cross contamination. It is risky and ineffective to mix oral antibiotics with milk.

8. Identify treated calves — make sure any treated calves are highly visible and kept away from other calves until the drug withhold period has elapsed.

9. Keep records — record every treatment, for every calf, every time.

10. Avoid contamination — buckets, feeders, drench guns and syringes that have been in contact with antibiotics are common sources of contamination. Mark them clearly and do not use them for feeding or dosing sale calves. D

For detailed advice on managing antibiotic residues, refer to chapter 6 of the Dairy Australia publication *Rearing Healthy Calves — how to raise calves that thrive*. This is available online at <www.dairyaustralia.com.au/healthycalves>. To order a hard copy or for more information about residues, contact Dairy Australia manager animal health Kathryn Davis, phone (03) 9694 3723 or email <kdavis@dairyaustralia.com.au>.

WHAT'S ON

September 24: Melbourne, Vic Contact:	**Royal Melbourne Dairy Program** Victoria's show for young stock and young people Phone (03) 9281 7416 , fax (03) 9281 7592, website <www.rasv.com.au/dairy>
September 28-30: Lorne, Vic Contact:	**Association for the Advancement of Animal Breeding and Genetics international conference** Livestock genetics industry event focusing on on breeding objectives, economics, application of new tools and industry tours Website <www.aaabg2015.org>
September 20-24: Vilnius, Lithuania Contact:	**International Dairy Federation World Dairy Summit** One of the premier events on the international dairy calendar. Website <http://www.idfwds2015.com>
September 23-24: Korumburra, Vic Contact:	**South Gippsland Dairy Expo** Featuring seminars, activities and exhibits for dairyfarmers. Phone (03) 5659 4219, email <jaydeeevents@dcsi.net.au>, website <www.dairyexpo.org.au>
October 5: Melbourne, Vic Contact:	**InCalf Reproduction Symposium 2015** Tools for better herd fertility Jess Delon at Dairy Australia, email <jdelon@dairyaustralia.com.au>
October 6: Melbourne, Vic Contact:	**Countdown Mastitis Symposium 2015** New science for mastitis control Jess Delon at Dairy Australia, email <jdelon@dairyaustralia.com.au>
October 6-8: Elmore, Vic Contact:	**Elmore and District Machinery Field Days** General farming field days for northern Victoria Phone (03) 5432 6176, email <info@elmorefielddays.com.au>, website <www.elmorefielddays.com.au>
October 23-24: Lismore, NSW Contact:	**North Coast National Dairy Spectacular** Dairy industry exhibition Phone (02) 6621 5916, email <secretary@northcoastnational.com.au>
November 16-18: Brisbane Contact:	**TropAg2015** Tropical agriculture, research, productivity, sustainability phone (07) 3255 1002, website <http://tropagconference.com.au/>
November 22-25: Valdivia, Chile Contact:	**International Conference on Lameness in Ruminants** Conference tackling one of big issues for dairy farms Website <http://lamenessinruminants2015.com/>
November 27: Melbourne, Vic: Contact:	**Dairy Australia's 2015 annual general meeting** The AGM for Australia's peak dairy organisation Dairy Australia, phone (03) 9694 3777, website <www.dairyaustralia.com.au>
Diary dates	**To have dates for a major event included in the diary, send information to Carlene and Alastair Dowie. Phone/fax (03) 5464 1542, email <carlene.dowie@fairfaxmedia.com.au>**

Developing high trust team leadership

By **Kerry Ryan**

Key points
- ✔ Team culture vital for high performance
- ✔ Big challenge in family businesses
- ✔ Courageous conversations essential

I'VE recently been working on a number of projects that have reinforced my view that developing a high trust team culture relies heavily on proactive evaluation of individual performance and team relationships. The risk from taking perceived harmony for granted must be eliminated to maintain the highest levels of motivation and morale. This is especially important given the challenges of volatile milk prices and pressures of a new farming season.

There is a high return for embracing this as a major contributor to smoothing management pathways. Top leaders know the damage unresolved issues can cause. They also know people and team issues are so much easier to deal with as they arise rather than letting them fester.

Adopting this approach ensures leadership time is spent more on preventing rather than solving problems. It eliminates "dramas" and the stress of emotionally charged conversations otherwise needed to get the team or individual back on track.

Effectiveness means quality conversations that realistically evaluate team dynamics. Like any successful sports team there should be constant focus on making sure everyone knows their job, is doing their job, and that there is a high trust environment that ensures people are open to challenge about their role and relationships without feeling threatened.

This is not about looking for trouble. It is all about finding the parts of the management and operations machine that will benefit from some maintenance. It's also about acknowledging that sometimes what looks like harmony may in fact be lack of leadership driven by familiarity and complacency — two key contributors to eventual relationship breakdowns.

Fostering a high trust environment

1. CLEARLY defined and agreed vision for business and team values
2. COMMUNICATE values regularly in conversations and plans
3. PROVIDE frequent opportunity for team to check quality of relationships

Experience has taught me the relationships of most concern are those where there appears to be a natural fit.

This is especially common in family businesses where family members balance working as day-to-day colleagues with the complexities of maintaining personal and family relationships. Their well-meaning but misguided approach may be to simply avoid confronting disappointments.

It's also about acknowledging that sometimes what looks like harmony may in fact be lack of leadership driven by familiarity and complacency ...

Going below the surface to ensure robust collaboration and collegiality will identify areas to work on for continuous improvement. It will also produce evidence that things are tracking by ensuring everyone has a regular opportunity to have their say about how well relationships are functioning.

Dysfunction and breakdowns are usually obvious. Identifying their causes to justify early intervention is not so easy. This requires the courage to question and challenge along with the wisdom to know when to act. Getting this combination right helps managers be ahead of the game.

There are three key cornerstones to fostering a high trust environment.

First is a clearly defined and agreed vision for business and team values. This involves consultation to get agreement about what the business wants to be recognised for and then making sure team behaviours align with that vision. Team values commonly include commitment to trust, respect, reliability, loyalty, support for teammates , and being focused on identifying solutions — not just problems.

The second is to ensure those values are regularly acknowledged in conversations and plans so expectations are communicated and reinforced. This ranges from strategic plans and management meetings to job descriptions and performance reviews. Throughout the business there needs to be reference expectations that deliver more than just operational outcomes. This means evaluating both what was achieved and how it was achieved.

Finally, there should be frequent opportunity for the team to check in on the quality of their relationships and the resulting culture. Agendas for management and operations meetings must go beyond a functional focus. Time should be allocated for the "heart talk" that encourages discussions about how well the team is working together. Delving into this area can be challenging at first but making these types of conversations routine gets everyone comfortable with talking at a deeper level. It's great practice for when genuinely courageous conversations are needed.

There are ideas on how to achieve this on my website, including an example agenda for staff meetings for illustration.

Taking responsibility for the quality of relationships is a high payback initiative. This means you are really working "on the business" by challenging the people to grow, promoting resilience, and ensuring your business is in the best shape to thrive in these challenging times. 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>.*

Lepto: 'redwater' and 'slack udder'

By **Sherri Jaques***

Key points

- ✔ Abortion storms, slack udder and redwater signs of lepto
- ✔ Many animals show no clinical signs
- ✔ Vaccination program helps prevent disease

AS discussed last issue *Leptospirosis* can be a significant zoonotic disease within a dairy herd. The bacteria is found in the environment and comes from the urine of infected cattle, pigs, rodents and wildlife, in mud and pasture and is contracted through mucus membranes of the eyes, nose and mouth or through cuts in the skin. Heat and dry weather prevent it from surviving well in the environment. In wet damp conditions, however, it survives well. Flooding or wet weather can spread the infection onto a farm.

Leptospirosis can affect young calves and adult cows. It causes outbreaks of disease in herds that have low levels of protecting antibodies, but usually only sporadic signs in herds with higher levels of protection. The two main serovars seen in cattle are *L. hardjobovis* and *L. pomona*.

There are three classic 'signs' of *Leptospirosis* infection in dairy herds:

- abortion storms (also has many other causes);
- 'slack udder' (can be confused with mastitis); and
- 'redwater' (also has many other causes).

Both strains can cause abortion storms on unprotected properties in cattle from mid-to-late lactation. *L. Hardjobovis* can cause abortion from five months of pregnancy, usually about 12 weeks after infection, and with *L. Pomona* normally a little later in pregnancy and about six weeks after infection. Sometimes weak, but still alive, calves are born.

'Redwater' is red or brown urine and is more commonly associated with *L. Pomona* infection in calves, but can be seen in adult cattle as well.

Both strains can cause a sudden drop in milk production that is known as 'slack udder'. The drop in milk production is marked and will last for 10 to 14 days. In cows in late lactation the drop in milk production can result in early drying off. There is often a yellow change to the milk with *L. Hardjbovis* while red or brown milk changes are more common with *L. Pomona*. These can look similar to mastitis, however, the udder will not be hard or swollen.

L. pomona is particularly prevalent in pigs, and effluent from piggeries is of particular risk and should be avoided. It is this strain that also produces the other 'common' sign for *Leptospirosis* — redwater. 'Redwater' is red or brown urine and is more commonly associated with *L. Pomona* infection in calves, but can be seen in adult cattle as well.

Affected calves are usually anaemic, have a fever, can be jaundiced (yellow in the whites of the eyes) and may die if not treated. It can spread easily and quickly through a calf shed.

Clinical cases can be treated with specific antibiotics, and farmers should seek the advice of their veterinarian if they suspect *Leptospirosis* within their calves or herd.

Infected animals make antibodies better for *L. pomona* than for *L. hardjobovis*. Antibody levels are often used as part of diagnosis as the bacteria is difficult to grow in the laboratory. Diagnosis can also be made from the aborted tissues, and from all the farms clinical signs put together.

Many affected cattle show no clinical signs of disease and produce the bacteria in their urine without forming antibodies in their blood, so false negative tests can occur. This also means there could be cows urinating bacteria that appear perfectly healthy and they are a significant infection risk to other cattle and people.

There are many other possible causes for abortion including *Neospora*, Bovine Viral Diarrhoea (BVD), fungal toxins, heat stress, fever, *Listeria,* and Infectious Bovine Rhinotracheitis (IBR). Red urine can also be caused by phosphorus deficiency, kale or canola poisoning, *clostridial* bladder infection, tick fever (*Babesia)*, and copper poisoning. The milk changes can easily be mistaken for mastitis.

Prevention consists of avoiding effluent run off, hygiene (in the dairy shed, calf shed and feed storage areas), controlling rodents, and vaccination. The vaccination protocol for calves and adults was discussed last issue. Although usually given annually after two initial doses six weeks apart, it is sometimes used every six months in high-incidence areas. Calves may also receive an earlier vaccination at four weeks during outbreaks, followed by two injections six weeks apart between four and six months of age.

Veterinary involvement with a *Leptospirosis* prevention plan or if a *Leptospirosis* problem is suspected on the farm is highly recommended.

Until next time, happy 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 a herd's particular needs.

Health index ticks the boxes

Key points

- ✔ Genotyping heifers using tail hair samples
- ✔ Ranking heifers on Health Weighted Index
- ✔ Using sexed semen in top 50%

Rob Cooper is changing the way he breeds from his heifers as a result of having them genotyped.

HAVING all of his young stock genotyped has completely changed the way Rob Cooper manages the breeding program of his 1300+ split-calving Holstein herd.

Mr Cooper dairies in partnership with three investors at Manilla, north-west of Tamworth, NSW.

"We rear about 600 heifer calves a year and will soon reach our target herd size of 1600," he said. "We will soon have a significant number of surplus replacements."

Mr Cooper said the combination of surplus replacements, sexed semen and genotyping would allow him to place more selection pressure on the herd to increase its Health Weighted Index and to use better genetics over the top group of heifers.

Last year he sent his first batch of tail hair samples from heifer calves to be genotyped through the Clarifide service offered by Zoetis. "We've got the first set of results and I'm waiting on the results from another two batches sent off from more recent calvings," he said.

Mr Cooper said the results had opened up new management approaches that weren't previously possible.

"The top 50% of heifers will be synchronised and inseminated with sexed semen to maximise the number of heifer calves we get from our very best heifers.

"The next 25% of heifers will enter the dairy herd but each year will be joined to a beef bull and their progeny will be sold.

"This will allow us to maintain our herd size but we will only be breeding replacements from the top half of the herd."

The bottom 25% of heifers will be sold, possibly as young at four months of age.

Mr Cooper's breeding objective is to improve functional type (udders, capacity, rump and feet and legs), fertility, mastitis, protein and fat.

He uses the Balanced Performance Index (BPI) to select sires. However, when it comes to reviewing the heifers' genomic results, he said he was most interested in their Health Weighted Index (HWI) because it was a better reflection of their genetic potential for fertility and mastitis resistance.

He said the genomic results were summarised with a graph showing the whole herd with results for individual cows supplied in a sortable Excel spreadsheet.

"The graph was very useful; we could immediately see the distribution of the herd," he said. "The top and bottom 25% were very clear."

The Excel file ranked individual cows by each of the three new indices. Mr Cooper also re-sorted the list by fertility.

"I am keen to improve herd fertility so I was curious to see how they re-ranked on that," he said.

Having only seen one set of results so far, Mr Cooper said his system was still a work in progress. "We've not had this sort of information before so I am still discovering different ways to use it," he said.

Mr Cooper said he thought genomic results would be particularly useful to large herds.

"With 1300+ cows, the sheer volume of information means it's quite a complex process to make breeding decisions, especially for heifers," he said. "We have heaps of information about their mothers' performance from herd recording, health and other farm records. But it's not so easy to put that all together with a large herd.

"Geontyping gives us powerful information from a very young age."

Michelle Axford from ADHIS said that genomic breeding values for heifers were equivalent to those based on seven lactations of herd-recording data. "Obviously it is a lot more useful to have that information at an early age than waiting nine years," she said.

"In North America — where genotyping services have been available for longer than here — there's been a rapid increase in the number of females genotyped, especially young stock," she said.

Farmers have found a variety of ways to use the results to improve genetic gain in their herds.

"Some, like Rob are using genomic results to increase selection pressure on their herd," she said. "Others, especially breeders of elite genetics are using genomic results for embryo transfer; to identify elite heifers for flushing and inferior animals to use as recipients. It is becoming more common to have whole cohorts of heifers tested to inform mating and culling decisions."

Zoetis, Holstein Australia or Jersey Australia have more information about sending hair tail samples for genotyping. D

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

Dairy Australia
Your Levy at Work

DairyBase gets thumbs up from farmer

Key points

- ✔ Tool helps farmers analyse business performance
- ✔ Quick and easy to enter data
- ✔ Allows comparison with other farms

DAIRYBASE is a quick, easy and essential tool for farm businesses pushing for profit, according to northern New South Wales dairyfarmer David Binney.

Developed by Dairy Australia, DairyBase is a secure, web-based tool that enables dairyfarmers to measure and compare their farm business. Farmers can sign-up at website **<www.dairybase.com.au>.**

After entering their farm data, farmers can then create confidential and comprehensive farm reports to help them understand the overall financial and phsycial performance of their farm.

Mr Binney milks 350 cows on 100 hectares at Kyogle. He said DairyBase enabled farmers to quickly assess all the aspects of their businesses so they could start making decisions to help their bottom line.

"It took me 45 minutes to an hour to input all the information," he said. "All I needed was the yearly financials from the accountant and a 12-month summary from my processor and then you are provided instantly with the analysis on your farm.

David Binney says DairyBase calculates all the key performance indicators.

"I have done other financial analysis programs before but what I liked about DairyBase was how easy it was to input the data and then get the analysis."

Mr Binney said DairyBase calculated all the key performance indicators that were essential for decision making, such as those around feedbase, labour and the herd. "It very quickly captures that key information to give you areas that you need to focus on and you can then make changes if you wish to do so," he said.

Mr Binney said he had compared the results of his low-cost pasture based farm with others in his region through DairyBase and was happy with how he stacked up. "It shows we are heading in the right direction and that gives us confidence in our decision-making," he said.

What is DairyBase?

Released in May, DairyBase is of great benefit to dairyfarmers who want to understand how the physical and financial aspects of their business are related to improve business performance. All individual farm data remains confidential to the farm business owner.

After entering their farm data, farmers can then create confidential and comprehensive farm reports to help them understand the overall financial performance of their farm. DairyBase will be of great benefit to dairyfarmers who want to reduce on-farm costs, boost profitability and formulate annual business plans.

DairyBase helps farmers to:

- compare their own farm business over time;
- identify opportunities to drive profit and reduce risk;
- make more informed business decisions;
- generate comparisons according to

Information needed to create a DairyBase report

FILLING in a farm's DairyBase details can be done quickly and easily if the user has the right information. Here is what it is recommended farmers have to get their analysis completed:

Land: Farm map or other documents that provide details of land areas, including owned, leased, usable, unusable, milking, support, irrigated and dryland.

Livestock: Opening and closing livestock numbers for all age groups. Grazing records to calculate the time spent by each livestock class on the milking area, support area or agistment.

Milk Production: Milk production details for milk supplied to the factory for the financial year.

Feed: Opening and closing feed quantities for all feed types. Quantities of supplements made on the milking area and on the support area. Quantities of supplements bought off farm and their purchase price. Quantities of each feed fed on the milking area and quantity fed on the support area.

Fertiliser (this is optional in DairyBase): Quantities of fertiliser types used including a breakdown of the quantity applied to the milking area.

Rainfall and Irrigation: Annual average rainfall for the farm and the measured rainfall for the year. Megalitres of water applied for irrigated farms.

Labour: Number of paid part-time and full-time staff and the hours they worked. Number of unpaid staff (family) and the hours they worked.

Financial statements: including profit and loss (income and expenses), balance sheet (assets and liabilities) and livestock trading account (opening and closing livestock plus sales and purchases). The profit and loss (GST exclusive) from the farm's own accounting program may be required to provide further detail on the breakdown of income and expenses. The milk income statement from the milk processor is required to ensure all payments, including any step-ups that match the production for the financial year are included. An estimate of the market value of land, water, vehicles and plant and equipment assets is also needed.

I have done other financial analysis programs before but what I liked about DairyBase was how easy it was to input the data and then get the analysis.

farm size, region and production system; and

• create annual reports and forecasts.

Visit the website <dairybase.com.au> to register for DairyBase and to find supporting resources, case studies and news. D

For further support phone 1800 548 073 or email <dairybasesupport@dairyaustralia.com.au>. For information about farm business management and DairyBase activities and resources, contact the local Regional Development Program (contact details are listed on page 112).

Discussion groups get DairyBase funding

FARMER groups can now access DairyBase information and training via Dairy Australia funding support.

Through Dairy Australia's network of Regional Development Programs (RDPs) farmer groups can learn more about DairyBase and how it can be used to measure and analyse the performance of their farms.

The support builds on that provided by Dairy Australia to discussion groups, which are also eligible for DairyBase support.

Dairy Australia's farm business management program manager, Neil Lane, said DairyBase would be a great tool for groups to use to compare farm performance.

"I can see groups using it to share data about their farms, and compare performance within the group or against the high quality performance data in DairyBase" Mr Lane said.

"We see more and more groups seeing value in sharing farm data and, in most cases, that translating into the farmers within the group better understanding their business and being more confident in their decision making".

Initially there are two levels of opportunity for groups of farmers to be introduced to the use of DairyBase that will meet the needs of most groups.

Option 1 — Introduction to DairyBase,estimated to take 1-2 hours.

Option 2 — Introduction to Farm Performance Analysis, estimated to take 2-4 hours

Both options have the flexibility to be adapted to meet the requirements of groups. For Option 2 groups can elect to use generic farm data from DairyBase or real data from the group.

For further information about how a farmer or a group can access DairyBase support and resources contact the local Regional Development Program. Contact details can be found inside the back page of this edition of the *Australian Dairyfarmer*.

Dairy Australia
Your Levy at Work

Beasley path for increased fertility

Key points

- ✔ Tight calving pattern with high conception rates
- ✔ Late calving cows sold to other farms
- ✔ Plenty of replacements available

EXCELLENT nutrition combined with crossbreeding, aggressive non-cycling treatments and strict culling of later-calving cows has given Victorian dairyfarmers Trevor and Carolyn Beasley an inherently fertile herd.

The Beasleys run a 260-cow dairy farm near Port Fairy in Western Victoria on a milking area of 170 hectares.

The herd structure is predominantly Holstein, but with a small number of crossbreds and Jersey cows. Average annual production for the herd is typically about 530 kilograms milk solids per cow.

The seasonal calving herd has an artificial insemination (AI) joining period of about six weeks followed by a natural mating period using Jersey bulls for a further 12 weeks. They only calve for 12 weeks as the later-calving pregnant cows are sold. Most cows calve in the first six weeks.

The Beasleys have owned their farm for the past 12 years and have never undertaken early calving induction.

Although cows calve across 12 weeks, the six-week in-calf rate is high at 67% and is driven by the following factors:

- a good AI conception rate, which has been more than 50% for the past three years;
- a tight calving pattern for their heifers: 90% of the heifers calve by six weeks into the calving period; and
- high submission rates of more than 75% in the past three years. A young herd with good fertility allows for a culling policy that is driven by mastitis, cell count and pregnancy status. The Beasleys' herd has a bulk milk cell count consistently below 100,000.

Calving starts in April and 60% of their cows calve in the first three weeks. They sell late-calving cows (due to calve after June 30) as replacement cows for other herds with later calving patterns and this practice has provided a significant revenue stream.

By not inducing cows and by selling late calvers, they keep only replacements from cows with proven fertility.

Between 30 and 40 cows are sold as replacements each year, and another 20 to 30 cows sold as culls for infertility, mastitis or high cell count and occasionally temperament and lameness.

A feature of the herd is the high retention rate of young cattle, with two-year-old and three-year-old animals making up nearly 50% of herd numbers. In this herd two-to-five-year-old cows have exceptional reproductive performance, with six-week in-calf rates averaging above 75% in the past three years.

As well as being clinical when culling cows for fertility, the Beasleys keep only calves out of cows that calve during the AI period. Because the cows calve quickly, there are enough replacement heifers available so that calves from the first-calvers and calves from later-calving cows are not required as replacements.

The Beasleys have never deliberately selected for production but for medium-sized cows with good temperament. They have steered away from high-producing bulls and focused on calving ease and daughter fertility.

The Beasleys had a bad experience on a farm they previously managed where cows were bought without having good pregnancy testing records and the owners decided to induce them. When they bought their own farm, they decided that they would prefer to farm without inducing cows.

By not inducing cows and by selling late calvers, they keep only replacements from cows with proven fertility.

Getting cows back into calf quickly relies on having healthy cows that are well fed. Because they don't rely on staff to manage the herd, all the cows' histories are known to the Beasleys.

The Beasleys consider there are no disadvantages to operating a seasonal calving herd without calving inductions. The high fertility of their herd and the way breeding is managed results in enough replacements for the herd, as well as providing a handy income stream from cows that do not fit into the calving pattern of their herd.

The Beasleys are happy with the performance of their herd. Longer term they aim to pay off debt and extend the dairy to make life a little easier.

The ultimate aim is to milk fewer cows, but to have a better quality herd. The focus on fertility will have to be maintained as the Beasleys would eventually like to finish calving each year after 10 weeks. D

How do the Beasleys achieve good reproductive performance?

THE Beasleys believe that the secrets to their success include:

- keeping meticulous records;
- having knowledge of each cow's history (which they maintain is helped by having only the two of them involved in herd management);
- good heat detection efficiency;
- keeping the herd as well fed as possible at all stages of lactation. Dry cows are kept well fed by rotating them around the paddocks. Springers are selected 2-3 weeks before calving to be brought onto the transition diet of high quality export quality oaten hay and a small amount of grass. Once calved, cows go onto available grass, irrigation and 4-5 kilograms of grain.
- treating pre-joining cows with uterine infections with antibiotics;
- treating non-cycling cows. Any cows that haven't been observed cycling after three weeks of joining are treated with prostaglandin, and any cows that fail to respond to this treatment are examined by a vet, and then synchronised with a Controlled Internal Drug Release (CIDR) program.

Dairy Australia
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Fortified milk may boost heifers

Key points
- ✔ 213 calves in fortified milk trial
- ✔ Achieved higher growth rates
- ✔ Benefits outweight additional costs

A DAIRY Australia study has found that feeding fortified milk increases the pre-weaning growth rates of calves.

To better understand the benefits and risks of feeding fortified milk on health and growth of dairy heifers, Dairy Australia recently funded a study on four farms in western Victoria. A total of 213 group housed, dairy breed calves were randomly allocated into two diets:

1. Fortified milk diet (two litres of whole milk supplemented with 150 grams high quality 25/20 milk replacer fed twice daily); or
2. Control milk diet (two litres of whole milk fed twice daily).

Although there was significant variation between farms, calves on the fortified milk were almost five kilograms heavier and two centimetres taller by the end of the trial period.

Due to low incidence of calf disease observed in this trial, no significant differences in calf health were observed between the treatment groups. Another trial conducted in winter/spring calving herds may be required to show the full benefits of accelerated calf nutrition in these conditions.

The estimated average total cost, excluding the cost of waste milk, to rear a calf to eight weeks of age in the control group was $33.97 while the cost to rear a calf to eight weeks of age in the fortified group was $93.27.

Despite the increased cost of rearing calves on fortified milk, the potential benefits of this feeding system extend well beyond calfhood. Overseas research suggests that an increased growth rate from birth to 12 weeks has a positive impact on mammary gland development, which translates into increased milk production over the life of the cow.

Strategic use of enhanced calf feeding may also offer an opportunity to enhance the growth rates of later-born calves on seasonal calving farms. Calves born in the second half of the calving period may be able to achieve increased growth rates during the pre-weaning period and thus mature more quickly, and reach breeding age in line with earlier born calves.

Background

Animal scientists have known for some time that dairy heifers reared on conventional restricted milk feeding programs do not achieve their full genetic potential for growth. More recently, overseas studies have shown improvements in calf health, growth rates and feed conversion efficiency when calves are fed greater volumes of milk or milk replacer during the pre-weaning period.

'Calves on the fortified milk were almost five kilograms heavier...

Enhanced early nutrition increases pre-weaning average daily gain (ADG), and may confer several production benefits on heifers including increased weaning and first calving weights, earlier onset of puberty and first calving and increased first lactation milk production.

The conventional systems for rearing dairy calves in Australia are based on feeding about 8-10% of bodyweight as milk or milk replacer, fed over one or two feeds, with ad libitum calf starter from the first week of life. This restricted milk feeding only allows for the calf's maintenance requirements plus around 0.25kg/day average growth, provided the ambient temperature is suitable for the calf (not too hot or too cold). The box story illustrates the many differences between this calf-rearing system and that of calves feeding naturally from their dams.

The restricted liquid feeding system has definite economic advantages as the solid feed is far cheaper on an energy and protein basis of solid than whole milk or milk replacer. Secondly, there is considerable labour required to feed liquid milk/milk replacer as well as significant amount of time required to clean utensils post milk feeding. As a result the majority of dairyfarmers have traditionally fed their calves once or twice daily in non-automated systems.

There is now growing interest in accelerated calf growth systems. The underlying concept of an accelerated or enhanced nutrition program is to allow calves to develop according to their genetic potential. This means feeding about 7-8 litres per day of milk, compared with 3-4 litres per day in the conventional systems. The volumes of milk or milk replacer fed in these enhanced nutrition systems are more aligned with the natural feeding that would occur if the calf were to suckle their dam over a 24-hour period.

However, there has been reluctance to feed high volumes of milk to young calves, due to farmer concerns about increasing the incidence of diarrhoea in calves. An alternative to feeding large volumes of whole milk to young calves is to fortify the whole milk with a high quality milk replacer powder to increase the overall nutrient value of their liquid diet without increasing the volume of liquid feed. D

For further information about this feeding trial or general advice on calf nutrition and health contact Dairy Australia program manager, animal health and fertility Kathryn Davis, email <kdavis@dairyaustralia.com.au>.

Feeding behaviour of dairy calves suckling dams

- Calf nurses 6-8 times daily for 5-10 minutes at a time
- Consumes 16-24% body weight of milk
- Enough energy is supplied to grow at 0.7kg to more than 1.4kg per day
- Dam's milk is 25-26% protein and 30% fat on a dry solids basis
- Feeding method: Teat
- First solid feeds: Lush fresh grass (sugars, fructans, non-lignified cell walls — lead to high butyrate fermentation)
- Weaning gradually occurs at 3-9 months

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Spring silage: quantity or quality?

Key points

- ✔ High quality silage produces more milk
- ✔ Cutting earlier allows pastures to regrow better
- ✔ Attention to detail can produce big returns

By **Frank Mickan**
Pasture and fodder conservation specialist
Department of Economic Development, Jobs, Transport and Resources
Ellinbank Centre

FARMERS in most dairying areas will be needing to restock their silage storages and hay sheds this year after a dry autumn in some areas. Indications are that another El Niño will develop in late spring so this means farmer need to make the most of any good spring growth this year.

However, farmers will now be faced with another quandary. Do they make a bulk amount of silage of poorer quality or less silage of higher quality and/or do they buy in hay? There are no right/wrong answers to these questions but think about some of these considerations.

Many farmers will chase high-yielding crops to rebuild silage storages, as has always been the case following a long dry period or drought. This is fine if looking to stick away silage of medium to low nutritive value.

Medium to low quality silage will test under 10 megajoules of metabolisable energy per kilogram dry matter (MJ ME/kg DM or ME), under 10-12% crude protein (% CP) and above about 55% neutral detergent fibre (% NDF). This silage has a limited role due to its lower feed value. It can only be fed in relatively small amounts without affecting milk production, so other higher quality feeds need to make up the bulk of the diet if milk production and cow condition are to be looked after. It is suitable for late lactation, low-producing cows and dries.

Some farmers, having made lower yielding, high quality silage, have been surprised at how well the cows have milked and will lift production if fed enough of this type of silage. This is not surprising because this silage is at or near grazing height pasture and can test more than 11 ME, more than 16% CP, and below 55% NDF. The earlier the pasture is cut, the more leaf and less reproductive tillers it will have compared with heavier cuts usually shut up for much longer or pushed too far with nitrogen.

Figure 1. High quality pasture for silage.

Figure 2. Pastures past canopy closure.

Feedtest has analysed silages in recent years that have been as low as 7 ME, 4.5% CP and as high as 77% NDF — not good enough for even dry cows without a supplement to lift its quality. On the other extreme, in good silage-making conditions, pasture silages can be attained with more than 12 ME, more than 25% CP and about 35% NDF.

There are some other important factors when deciding to go bulk or quality. Look at the paddocks after the heavy crops come off. They will be yellow, have a lot of bare ground between plants and take a long time to regrow.

This is because a major guideline for maintaining a dense high quality pasture has been broken. The pasture has grown well past three green living leaves and sunlight has not reached the base of the sward. The result is new leaves cannot reach sunlight, no new tillers are generated, existing daughter tillers are weakened or died off, aerial tillering meaning tillers are hung out to dry — all leading to the yellow pasture picture described above that will take several rotations to thicken up again.

Pasture harvested at or just before canopy closure will be about half the yield of traditionally harvested silage. This silage will be as high a quality as possible from ryegrass and may have just over two or just under three green leaves, depending on cultivar, nitrogen use and moisture. Contractors hate harvesting these lower yields for obvious reasons but the farmer is paying the money for a high quality product. However, to be fair, contractors are equally entitled to charge slightly more due to the costs involved to cover the ground with mowers, tedders, rakes, and farmers should still be ahead cost-wise given the potential income from this silage.

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It is still possible to put away the same total tonnes of silage from high quality forages as achieved by heavy yielding paddocks. This is done by harvesting a larger area at four weeks compared with half the area at eight weeks.

This maintains grazing pressure, which maintains pasture quality, results in higher quality silage and usually results in more total spring growth. A win:win situation.

Look at short lockup paddocks once silage is removed. They should look a similar colour, or only slightly a lighter green colour, compared with a timely and well grazed paddock. Regrowth will be dense, quick and more area available since most clumps will come back as high quality and most will be grazed next rotation.

It is still possible to put away the same total tonnes of silage from high quality forages as achieved by heavy yielding paddocks.

Need more encouragement to go for quality ahead of quantity? Table 1 shows the impact of quality and losses (fermentation, storage and feeding out) on silage for milk production.

Table 1: Impact of improvements in silage quality and reduced losses on additional value of milk produced from 350 tonnes DM of silage.

Losses (%)	Silage Quality (ME/kg DM)			
	9.5	10	10.5	11
25	0	$6560	$13,125	$19,690
10	$24,940	$32,800	$40,680	$48,560

Let's say the farm normally chases heavy cuts of silage (350 tonnes dry matter) and now tries for lighter yields but a similar total amount of silage made this year. Let's work on 8 ME to produce one litre of milk (ME/litre) and milk price is $0.40/litre. The 8 ME is well above 5.5 ME/L often used but this allows for some cow condition gain, walking, substitution, so is a conservative value.

Based on the figures provided, if a target quality of 11 MJ/kg DM and losses of 10% are achieved there is an increase in milk income of $48,560 compared with producing forage of 9.5 ME/kg DM with 25% losses.

Think about the figures in the table. How much extra effort is required to improve quality? Earlier cutting, fast wilt and harvesting albeit lower yielding will pay dividends in milk yield. Much of the losses can be saved purely by sealing the stack airtight, not just covering it, as mostly happens, and sealing holes when first noticed in bales and stacks. D

For more information and factsheets about silage and hay visit the Dairy Australia website: <http://www.dairyaustralia.com.au/Pastures-and-Feeding/Pastures-forages-and-crops/Silage-and-hay.aspx>.

Murray Dairy welcomes new extension co-ordinator

MURRAY Dairy has appointed Ross Read from Toolamba West as an extension co-ordinator within the organisation.

Murray Dairy chairman Malcolm Holm said Mr Read was a welcome addition to the organisation.

"Ross has previously served as a committee member on the Central Goulburn Water Services and held the deputy chair position of that committee in 2013 along with being one of Murray Dairy's first Focus Farms," Mr Holm said.

Mr Read said he was pleased to join the Murray Dairy team and he was looking forward to taking on this extension role, which enabled him to facilitate growth within the dairy industry from grassroots family farms right through to large corporate dairy businesses.

"I would like to see others within the industry succeed and take advantage of the development opportunities available through Dairy Australia, Murray Dairy and other institutions within the industry, as I have," Mr Read said.

Ross Read is the new extension co-ordinator for Murray Dairy.

The extension co-ordinator role facilitates the development and co-ordination of extension activities that meet the priority needs of dairyfarmers within the region.

The role enables clear communication flow between farmers and key dairy service providers ensuring regional dairy extension services are functioning at an optimal level.

Mr Read brings a wealth of knowledge and experience to the role after operating his own dairy business for 25 years as well as most recently working for hay and grain company, Feed Central Pty Ltd, as a supply manager.

Mr Holm said: "Ross's understanding of farmer needs will ensure he can successfully co-ordinate extension activities in the region and make it easier for farmers to access the services available to them that will help drive farm profitability."

Contact: Ross Read, mobile 0438 906 613 or email <RRead@murray dairy.com.au>. Contacts for all Regional Development Programs and extension co-ordinators can be found on the inside back page of this edition of the *Australian Dairyfarmer.*

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