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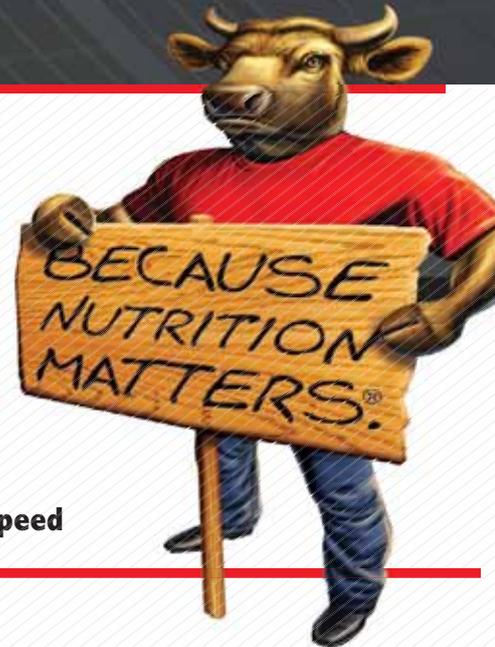


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**OUR COVER**

MOST dairy cows can be milked by robots. But a few refinements to the routine practices for raising replacements can better prepare cows for robotic milking. Read our story, starts page 89.



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# Measure it, manage it

**M**ANAGING a dairy farm is a constant juggling act. Managing feed, growing pasture, managing cows and herd health, breeding animals, looking after calves, ensuring milk is collected to meet stringent processor requirements are just some of the tasks farmers juggle.

And unlike many other forms of broadacre agricultural production, these need to be done daily on a dairy farm, so farmers face competing demands for their time and energy.

Sometimes it's difficult to find the time to think about the systems that are in place and whether they are delivering the best results for the farm operation.

One of the ways in which things can be improved is by measurement.

It's a theme that runs through several stories in this edition.

Our new contributing vet, Sherri Jaques, outlines a great system she uses to measure calf respiratory disease (see page 104). The system is based around a scoresheet, in which calves are given scores for a variety of indicators of disease, such as cough, temperature and eye discharge. The score the calf receives then dictates the action required: keep a watch or call the vet.

The other value of the scoresheets is that they can provide data across time to isolate if there is a problem with a particular calf shed or calf rearer and provide the basis for the farmers to improve their calf-rearing operation.

Acclaimed heifer rearing expert Jeanette Fisher picks up on this theme in her article about improving calf-rearing practices (see page 96). She says it's essential farmers collect and analyse data such as calf mortality and morbidity figures so they have the information to make objective decisions about changes.

Carol Millar, from the National Herd Improvement Association, says it's the same for breeding programs (see page 18).

She acknowledges the challenges of keeping data in the daily rush to complete all the jobs that need to be done on the farm. But she says it is so important that farmers do manage and calculate exactly how their program ended up because "you can't manage what you don't measure".

Like calf respiratory disease score sheet, there are tools available to help farmers measure and assess their per-

formance in this area. Dairy Australia's InCalf program has developed a Fertility Focus report that benchmarks the farm's reproductive performance against the top 20% of herds.

The measurement theme continues in my story about Tasmanian farmers Jill and Ken Lawrence (see page 38). Like many in Tasmania, the Lawrences take part in the Tasmanian Dairy Business of the Year, for which a range of business performance measures are collected and collated into a report that allows farmers to compare their performance with others. For Ken Lawrence the aim is to be in the top 10%.

Our story about the new Dairy Australia DairyBase program continues the theme (see story page 112). The program was given a test drive at the Australian Dairy Conference in February and will be launched this month. It is a web-based business management program.

It was given a big tick by those farmers who used it. One said its greatest value would be in allowing farmers to compare their performance from one year to the next, as well as comparing their performance against others.

The message is clear: the first step in improving performance is measuring it. The challenge is to work out what you want to measure and how you are going to do it and then getting on with it. Hopefully the stories in this edition provide some inspiration.



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## Opportunities, challenges for gen dairy

Key points

- ✓ Multiple pathways for young people in dairy beyond farmgate
- ✓ Mentors help involve next generation on and off farm
- ✓ Need to foster talent and skill for industry growth

THE future of dairy and the need for leadership beyond representative bodies was top of mind on Wednesday, April 22, for the Australian Dairy Industry Council's (ADIC) fourth annual Business Breakfast, themed 'Our industry, Our future: Generation Dairy'.

Hosted for the first time in partnership with leading industry superfund, Prime Super, the breakfast explored the positive and innovative contribution young people are making to the industry.

The occasion provided more than 100 young farmers, processors and dairy service representatives in attendance the opportunity to explore their perspectives about what is working well to support young people's development and growth in dairy, as well as what else needs to be done.

Queensland dairyfarmer and former chair of the Australian Dairy Conference Paul Roderick was the keynote speaker for the breakfast.

A fifth-generation dairyfarmer, Mr Roderick has been actively involved with a number of industry programs including the Young Dairy Network of Australia and firmly believes in their worth.

Mr Roderick said that people in dairy needed to focus more on ensuring the next generation had the confidence to lead their farm businesses and the processing sector forward.

"We need to make it easy for young people to survive and thrive in dairy," Mr Roderick said.

"I was lucky that I had good mentors on my side to encourage and guide me through. We need to ensure the next generation can find those mentors in us.

"Leadership comes in many forms.



More than 100 young farmers, processors and dairy service representatives attended the dairy industry breakfast.

We don't need hundreds of presidents or CEOs, rather we need young people with the belief in themselves and the industry to succeed, to grow our industry into the future.

"To be a self-confessed 'leader' in dairy or any agricultural industry runs the risk of being cut down as a tall poppy.

---

***'We need young people with the belief in themselves and the industry to succeed, to grow our industry.'***

---

"As naturally quite humble people, dairyfarmers can be harsh on people who do speak out.

"This in turn puts some people off moving into industry roles. But sometimes the right thing to say or do may not make you popular."

A panel of young dairy talent fol-

lowed Mr Roderick's presentation, shedding light on the multiple pathways into dairy and their ability to contribute to the Australian Dairy Industry's Vision of becoming more prosperous, trusted and world renowned for nutrition than ever before.

The panel comprised of Tasmanian robotic dairyfarmer Nick Dornauf; Victorian farmer and veterinarian Stuart Griffin; and Australian Dairy Herd Improvement Scheme extension officer Sarah Saxton, who discussed their varied contributions to the industry's dairy vision.

How the current generation can get the next generation involved in important representative and service groups was a hot topic of discussion. Stuart Griffin, whose father Chris is Australian Dairy Farmers' immediate past president, said it all came down to timing.

"As farmers we never want to do anything to the detriment of the farm, and when you consider how much time these roles can occupy,



Young dairy people who spoke at the ADIC Business Breakfast: Paul Roderick, Sarah Saxton, Stuart Griffin and Nick Dornauf.

it can make you second guess it," he said.

"In truth though, there's never a wrong time to get involved — it's just about knowing you're supported and will have guidance along the way."

ADIC chair Noel Campbell said the experiences of the panellists were a clear indication of the enthusiastic, innovative contributions young people were making to dairy.

"Now more than ever the young people in our industry are driving innovation," Mr Campbell said.

"It is important to recognise as well as foster that talent and skill for the future growth and success of our industry.

"There are big opportunities and challenges ahead for dairy, from more open access to key export markets and the growing globalisation of agriculture, to skilled labour shortages and environmental issues. We need to ensure that our next gen-

eration have the tools they need to succeed."

The ADIC supports the continued development and prosperity of young people in dairy by addressing shortfalls in critical resourcing and funding for services to improve education, safety and wellbeing in the dairying community.

---

***Now more than ever  
the young people in  
our industry are driving  
innovation.***

---

The whole-of-industry body is a strong advocate for continued government support for research, development and extension activities.

With the support of industry partners, especially Dairy Australia, the ADIC connects with and supports young people looking to pursue a ca-

reer in dairy through many initiatives in schools, universities and local communities.

These programs not only serve an industry need, they also challenge and develop young people, building their self-confidence, skills and social networks, and developing leadership skills through programs such as the Developing Dairy Leaders Program, which the ADIC was instrumental in developing.

As part of continued support for the development and profitability of young people, the ADIC has lobbied strongly for agriculture and related courses to be classified under the National Priority Band for compulsory HECS-HELP repayments to reduce the cost of full-time study for agriculture students. 

**For more information on the ADIC's policy and advocacy dedicated to helping young people in dairy thrive visit <[www.australiandairyfarmers.com.au](http://www.australiandairyfarmers.com.au)>.**

# Competition policy at a crossroads

## Key points

- ✓ Competition policy overhaul by government
- ✓ Prescribed Code of Conduct released
- ✓ ADF continues to advocate for a Mandatory Code of Conduct

**D**URING the past four years, competition policy has been the focus of a government overhaul, with the intention of preventing situations such as the \$1 per litre milk campaign — a damaging state of affairs for dairyfarmers that highlighted the significant imbalance of market power between retailers and suppliers in the grocery supply chain.

This year, there have been significant developments with Australian Dairy Farmers (ADF) welcoming the announcement of the Competition and Consumer (Industry Codes — Food and Grocery) Regulation 2015 on March 2 as a constructive first step toward addressing the imbalance of market power between retailers and suppliers.

Further to this, the Australian Government has sought to overhaul competition law and policy in Australia with the introduction of the independent Harper Review of Competition Policy, and a wide-scale look at the state of the agriculture industry with the Agricultural Competitiveness White Paper due out later this year.

But behind the political speak, what does it all mean?

The Prescribed Code of Conduct, announced by Small Business Minister, Bruce Billson, aims to build and sustain trust and co-operation throughout the grocery supply chain, ensure transparency in commercial transactions, and promote and support good faith in commercial dealings between retailers, wholesalers and suppliers.

The Prescribed Code aims to provide dairyfarmers with confidence in their contractual arrangements, and if fully committed to, has the potential to benefit suppliers and retailers. It has been developed by the major supermarket retailers, Coles and Woolworths, in conjunction with the Australian Food and Grocery Council.

ADF president Noel Campbell was pleased to note that many aspects of the draft Mandatory Code of Conduct, which ADF in collaboration

***The review's recommendation to re-introduce an Effects Test to measure the 'purpose, effect or likely effect' of retailer actions on suppliers was particularly positive.***

with the Queensland Dairyfarmers' Organisation began developing in 2011, had been adopted in the Prescribed Code.

"The Prescribed Code of Conduct is not perfect, but it does address several key imbalances with regard to retailers' power over suppliers," Mr Campbell said.

"By setting out minimum standards of behaviour between retailers and suppliers, the Prescribed Code will provide further clarity for businesses and improve the standards of conduct in the grocery sector."

## Minimum requirements

The standards set out by the Prescribed Code address a number of key issues preventing dairyfarmers from operating on a level playing field with retailers. The Prescribed Code also recognises suppliers' need for certainty to plan appropriately for their business and invest, innovate and expand capacity or develop new product lines.

To create a more transparent, equitable operating environment, the Prescribed Code requires retailers to pay suppliers for the products they deliver within the timeframe set by a grocery supply agreement, and in any event, within a reasonable timeframe after receiving an invoice.

Additionally, retailers are generally prohibited from offsetting any amount against a supplier's invoice (through demanding payment for wastage or positioning costs) unless the supplier has written consent.

The most important obligation of the code is the overarching duty to act lawfully and in good faith at all times in dealing with suppliers. This clause is designed to ensure that retailers conduct trading relationships

without putting suppliers under duress and ensuring that they have recognised all parties' needs for certainty of the risks and costs of trading, with particular reference to production, delivery and payment.

The Prescribed Code is voluntary in the first instance, whereby retailers and wholesalers must state in writing to the Australian Competition and Consumer Commission (ACCC) that they wish to be involved. However, once agreed, retailers will be bound by the Prescribed Code to ensure that they are conducting mutually respectful trading relationships with suppliers.

Aldi and Metcash have already put forward their intention to sign on to the Prescribed Code once it comes into force. Mr Campbell said ADF expected that Coles and Woolworths would also commit to the Prescribed Code in the coming months.

"To be effective, we will need all the major Australian retailers to get on board, and commitment to creating a more level playing field between suppliers and retailers," Mr Campbell said.

## Opportunities to improve

There is always room to improve when it comes to creating a more competitive, profitable environment for our farmers.

ADF is concerned that the Small Business Ombudsman, who will be tasked with enforcing the Prescribed Code, will not have sufficient power to administer penalties to those who fail to adhere to its requirements. It is also worth noting that there are no suggested penalties for the Prescribed Code if retailers or wholesalers fail to comply.

The effectiveness of the Prescribed Code and its implementation will be closely monitored by ADF during the next three years. Mr Campbell said if it proved unsuccessful in this time, ADF would lobby for a stronger Mandatory Code of Conduct and a supermarket Ombudsman with 'teeth', which it had made repeated calls to introduce in the past.

## Next moves for ADF

ADF is continuing to advocate for a Mandatory Code of Conduct and working with the government to strengthen competition policy, through submis-



Constructive steps taken, but more needed to level the playing field.

sions to the Agricultural Competitiveness White Paper and the Harper Review of Competition Law and Policy, the final report of which was released on March 31.

ADF welcomed the review's stronger focus on balancing market power between supplier and retailers as acknowledgement of the significant input and recommendations ADF made on competition law and policy.

The first evaluation of Australia's competition policy in 22 years, the review has recommended strengthening of the abuse of market power provisions as well as proposing changes to collective bargaining that

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***The most important obligation of the code is the overarching duty to act lawfully and in good faith at all times in dealing with suppliers.***

---

will strengthen farmers' negotiating power.

The review's recommendation to reintroduce an Effects Test to measure the 'purpose, effect or likely effect' of

retailer actions on suppliers was particularly positive, Mr Campbell said.

"We look forward to opportunity to respond to the review's recommendations to ensure that our nation's competition legislation is robust and able to protect our dairyfarmers going forward," he said.

"ADF will also continue to advocate as legislative amendments are developed to prevent potentially damaging situations, such as retailer predatory pricing in future." 

**For more information on ADF's role in reviewing Australia's Competition Policy visit <[www.australiandairyfarmers.com.au](http://www.australiandairyfarmers.com.au)>.**

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## Technology focus for Dairy Australia

### New precision dairy technology tools to improve profitability

DAIRY Australia is providing new detailed information on its website about precision-management technologies to help farmers understand how using these tools can improve their business and make it more profitable.

Some of the technologies presented include pasture mass measurement, heat-detection activity meters, daily body-weight measurements and robotic milking systems. For each technology, fact sheets, case studies and short videos provide a comprehensive snapshot, including the main suppliers and links to further resources.

“There are many new and emerging technologies used to improve measurement, monitoring, labour efficiency and/or management functions on a dairy farm and the new fact sheets explain how the technology works, the data it provides, and how farmers can use the information in decision making,” Dairy Australia’s group manager, farm profit and innovation, Chris Murphy, said.

Farmer experience, depending upon the technology and individual circumstances, will vary but time or significant costs may be saved.

### *The value of recording these sessions is illustrated by the high number of views of the YouTube videos on Dairy Australia’s website.*

Mr Murphy said the website case studies proved this point. For example, Colac, Vic, farmer Mark Billing estimates that using activity meters, as a back-up to visual heat detection, had saved at least \$7000 per year on his 450-cow herd.

“Yolla, Tas, farmer Duncan MacDonald takes about 1.5 hours to measure

the pasture mass of each paddock with a C-DAX pasture meter on his 180-hectare farm, and when he used the manual rising plate meter it took him a full day,” Mr Murphy said.

Additional technologies will be added to the website in the next few months.

Go to <http://www.dairyaustralia.com.au/Animal-management/Technologies.aspx> to access this information.

### Klim talks success with farmers

Legendaury Ambassador Michael Klim shared the story of how he built a successful swimming and business career with hundreds of farmers and school children at recent events in South Australia and Tasmania.

In March, the three-time Olympian and Australian swimming legend was the keynote speaker at the DairySA Conference White Gold dinner and the Tasmanian Dairy Conference.

“We’re always innovating when it comes to processes, procedures and products,” he said. “It’s something farmers know how to do well, too.

“Gaining knowledge is key. Try to access all the knowledge and resources available.”

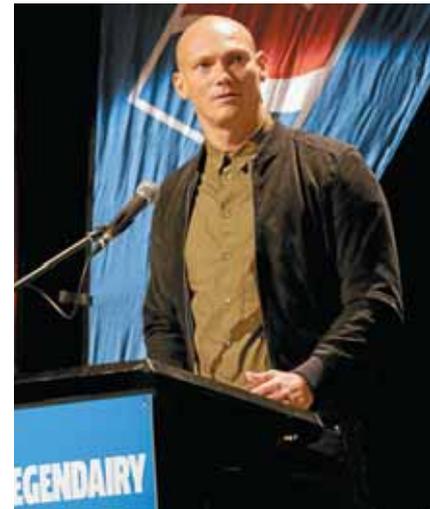
During his swimming career Mr Klim said he surrounded himself with a team of experts from the Australian Institute of Sport to best understand his fitness, health and nutritional goals and perform at his best. He takes the same approach to business.

“It’s important to set goals every step of the way...plan ahead but live in the moment,” he said.

DairyTas executive officer Mark Smith said: “We wanted a speaker who could give perspective from outside of the dairy industry on setting goals and achieving business success.

“Michael talked about success in sports and business in a way people could relate to. The feedback we got was that his presentation rated really well and he hit the mark.”

The Burnie event also featured an update on Legendaury activities and what farmers can expect to see in



Legendaury Ambassador Michael Klim addresses the Tasmanian Dairy Conference.

the consumer focus of the program, which targets mothers with primary school-aged children.

Mr Klim also spoke with students at Burnie and Parklands High Schools in Tasmania about the important role nutrition plays in sports.

### 2015 Dairy Science and Innovation Award: Dung good

Dr Jean Drayton, from the University of New England in New South Wales, is the recipient of the Dairy Australia Award announced at the 2015 Science and Innovation Awards for Young People in Agriculture, Fisheries and Forestry in Canberra in March.

Dr Drayton, who holds a PhD in insect behavioural ecology from the Australian National University, will use the \$22,000 award to research the impact of climate change on dung burial by dung beetles.

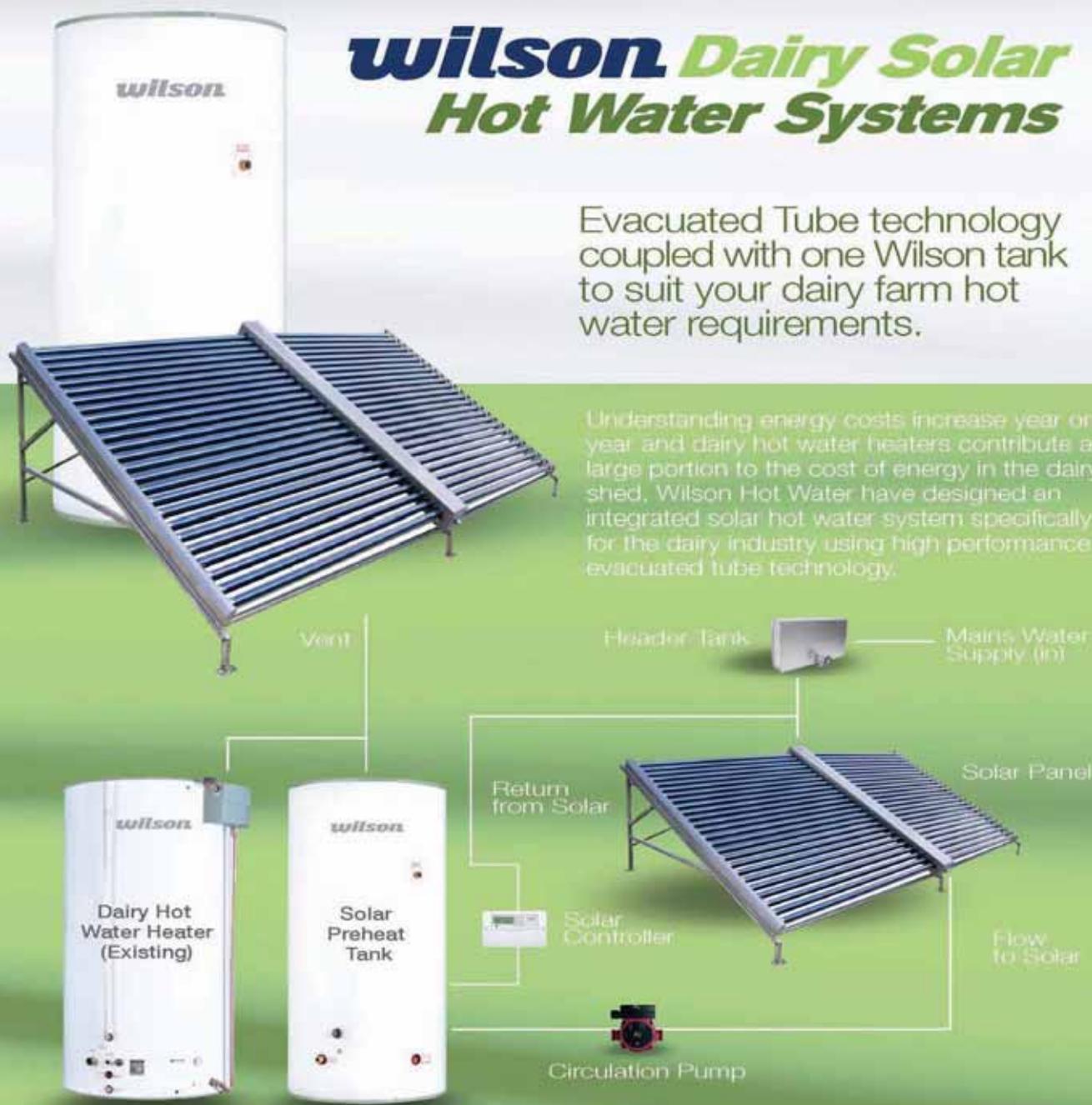
Dr Drayton said that while the benefits of dung burial by dung beetles to the Australian dairy industry were well known, there was little information about the impact that climate change might have on this important ecosystem service. The grant would help quantify the impact of a warming ►

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◀ climate on the dung burial service that dung beetles provide. It would also offer practical management solutions to address any reductions in dung burial that might arise with climate change.

“I would like to work closely with the dairy industry to make the project relevant to Australian dairyfarmers, communicate the results to farmers and help implement the findings to improve farm ecology in the future,” Dr Drayton said.

## Investigating drones as pasture-growth monitors

Western Dairy has awarded a grant to University of Western Australia student Matthew Rowbottom for his research proposal investigating the effectiveness of unmanned aerial vehicles (UAVs), or drones, in monitoring the growth of pasture biomass on dairy farms.

“Different ways of assessing pasture growth in the field already exist, and the most common is visual judgement based on experience,” Mr Rowbottom said.

“The aim of my project is to develop a quick method of assessing pasture biomass and help improve the efficiency of grazing management, and drones offer the potential of creating a predictive visual precision tool that will inform farmers how much feed is on offer.”

Mr Rowbottom’s project will be located at Rodwell farms, a dairy property near Boyanup, WA, and the research will take place in the next three months, finishing in July.

Mr Rowbottom, who intends to make a career in dairy extension after university, demonstrated the use of drone technology at the Dairy Innovation Day hosted by Rob Hortin, of Kronkup dairy (between Albany and Denmark) in April.

For more information on this or other

local levy investments visit website <westerndairy.com.au>.

## Dairy diary: Sexed semen webinar on May 27

Since their introduction last year Dairy Australia’s on-farm webinar series has focused on issues such as biosecurity, automated heat detection technologies, pre-milking teat disinfection, oestrus synchrony programs, artificial insemination and managing bulk milk cell count (BMCC) levels.

Webinars from Dairy Australia’s In-Calf program attracted more than 250 webinar participants and more than 500 views of the recorded webinar content.

Dairy Australia’s animal health and fertility program manager Kathryn Davis said she was pleased with the level of interest in the online presentations among both advisers and farmers.

“The value of recording these sessions is illustrated by the high number of views of the YouTube videos on Dairy Australia’s website,” she said.

***‘It’s important to set goals every step of the way... plan ahead but live in the moment.’***

NSW dairyfarmer Sam Tonge said webinars he had participated in, including a lunchtime session from the Countdown 2020 program, were useful and practical as he and his staff couldn’t always leave the farm for meetings.

“When you are busy you think I just can’t get in the car and go to that meeting today but if you know it’s just one hour of your time you can come inside watch and participate and be on your way,” he said.

The next Dairy Australia webinar



**WA student Matthew Rowbottom is investigating drones as a pasture-monitoring tool.**

is at 12:30pm on May 27 and focuses on how to use sexed semen. To view Dairy Australia webinars or to sign-up to participate visit <www.dairyaustralia.com.au/webinars>.

## Australia’s Legendairy Capital

A new Dairy Australia program, the Legendairy Capital initiative, will bring stories of vibrant dairy communities to a wider audience and showcase the importance of the dairy sector and communities that support it.

“There are plenty of proud, innovative dairy communities where dairyfarmers work with their neighbours to help towns thrive and prosper economically and socially,” Dairy Australia’s communications and engagement manager for farm communities, Suzi O’Dell, said.

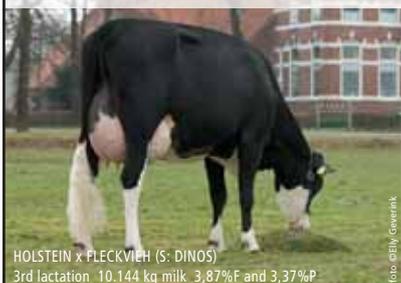
“People just don’t hear enough about the community spirit that is an integral part of Australia’s dairy sector. That’s why we want to celebrate some of the communities that have endured and thrived throughout the years.”

In May, people will be able to nominate their community for the title and possible community grants. For more information visit <www.legendairy.com.au>.



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# 'Golden triangle' key to growing ag

## Key points

- ✓ Govt, industry and researchers need to work together
- ✓ Australia needs to exploits advantages
- ✓ Ensure production chains consumer driven

By Carlene Dowie

GOVERNMENTS, private industry and universities and research institutes needed to work closely together to drive Australian agricultural and horticultural industries. That was the big message from visiting Dutch agricultural thinker and leader Dr Aalt Dijkhuizen to the Gardiner Foundation's Australian Dairy Leaders Luncheon in Melbourne earlier this year.

Dr Dijkhuizen, who was president and chairman of the Wageningen University and Research Centre in the Netherlands, said the 'golden triangle' of government, industry and education had been the key to Dutch agriculture and horticulture's success.

The country, with a land mass of just 42,000 square kilometres and 17 million people, is the world's second-largest exporter of food. Its exports are worth \$77 billion and growing.

Dr Dijkhuizen said feeding the world — both the quality of food and the quantity of food — would be a major challenge in coming decades.

Australia was in a strong position with Asia, he said — not because of its geographic proximity but because of its long-term experience with Asian people, particularly Asian students who had been attending Australian universities for decades.

Australia's food safety was also a benefit as this was increasingly important in China and Asia.

"I see a fantastic future for food and agriculture — and dairy in particular," he said. "The underlying trend is very, very good."

But the Australian dairy industry should not forget its domestic market because that was the first market it served, he said.

Dairy should also look to nutrition and health as opportunities.

Dr Dijkhuizen identified Australia's other key opportunities as space, its clean green image, its level of organisation, its entrepreneurial approach and its diversity of climate, soil and product.

"We (the Netherlands) have only one climate: wet," he said.

## ***'Your salary is being paid by them (consumers).'***

There were four ways in which Australia could do better.

Firstly, it was important to clearly define the ambition for the next 10-15 years and to ensure the commitment of all the major stakeholders to those goals. "Set targets and keep them alive," Dr Dijkhuizen said.

The Netherlands had a "top sector" policy that identified the most important sectors and gave them more attention, accelerating their growth.

The second way to improve was the 'golden triangle' of government, industry and research.

"It sounds simple to work together but everyone needs to be willing to talk and discuss," he said. "It needs leadership to build it."

Dr Dijkhuizen gave as an example of the 'golden triangle' approach that the



**Dr Aalt Dijkhuizen: Australia has opportunities in its ties to Asia, its clean, green image and its diversity of climate.**

food production department at the Wageningen University was administered as part of the government's agricultural ministry, not the education ministry.

The 'golden triangle' approach also meant the university had more research funding and published more scientific publications.

The third area to improve was to ensure Australia had strong production chains that were consumer-driven.

"Your salary is being paid by them (consumers)," he said. "Although it may be difficult, it is better to join with retail than not."

He said it was vital for leading companies and industry leaders to work together to define the future goals but it was also important to align smaller producers and farmers with those.

Finally, it was vital to have finance and investment that understood the dynamics of the business and was committed to the long term. "We were fortunate to have Rabobank," Dr Dijkhuizen said.

Opportunities for Australia would also come from selling knowledge and technology, not just product. 

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# NZ visa path may close

## Key points

- ✓ Government reviewing available visas
- ✓ May change visa that NZ farmers can use to gain residency
- ✓ Residency provides additional benefits

THE United Dairyfarmers of Victoria is urging all New Zealanders who want to apply for permanent residency to get their applications in now, as a government review may change available visas. An inquiry into one of the paths available to New Zealanders to access residency — the Business Innovation and Investment Programme — has found that the program needs a “comprehensive examination”.

The UDV is concerned that the examination may eventually lead to the visa process being changed. Anyone who is intending on applying for the Business Innovation and Investment (Permanent) (subclass 888) visa is urged to do so now.

The UDV has formed a partnership with True Blue Migration, which offers UDV members a discount off the visa management fee. It also operates on a ‘no visa, no fee’ arrangement.

The UDV worked with the Department of Immigration and Border Protection (DIBP) for two years to clarify how dairyfarmers could qualify for a Business Innovation and Investment (Permanent) 888 Visa.

UDV manager Vin Delahunty told a seminar for NZ farmers last year the

UDV was confident the process would work and that it had put together enough information to help farmers applying for the process to clear any roadblocks or hurdles they hit in the process.

The difficulty former New Zealanders face in gaining Australian permanent residency and then citizenship has been an issue in the dairy industry for about 10 years. The UDV estimates 200-300 dairy farm owners in Victoria are former New Zealanders.

The farmers have been affected by changes made to immigration laws in 2001 to prevent people using New Zealand as a back door to enter Australia.

New Zealanders who arrive in Australia without a visa are granted a 444 Special Category Visa upon meeting basic requirements. This temporary visa allows them to stay and work in Australia as long as they remain a New Zealand citizen.

But it does not give them the same rights as a permanent resident, including being able to:

- vote in Australian elections;
- access some special circumstances assistance (such as some drought relief payments);
- access student loans;
- join the Australian defence forces; or
- obtain ongoing work for the Australian Government.

The 888 visa, created in 2012, allows 444 visa holders to apply directly with fewer requirements.



**Adele Beasley: there are few other options available to New Zealand dairyfarmers to become permanent residents in Australia.**

UDV policy officer Adele Beasley, who has been working on the issue, said there were few other options available to New Zealand dairyfarmers to become permanent residents in Australia.

The 888 visa “targets migrants that have a demonstrated history of success in innovation and business and are able to make a significant contribution to the national innovation system and to the Australian economy”.

Ms Beasley said the UDV believed this was an appropriate path for New Zealanders who had bought dairy farms here.

Ms Beasley said it was vital to recognise that this visa granted the applicant permanent residency and not citizenship. But any New Zealander who has arrived in Australia on or after February 27, 2001, could only apply for citizenship after they have been granted a permanent visa. **D**

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## Having a poor joining result?

By Carol Millar

**W**HAT was the farm's six-week in-calf rate last year? Or conception rate? How did the synchronisation program pan out? How many calves are expected this autumn?

In the daily rush to complete all the jobs that need to be done on the farm, sometimes it is difficult to get the time and space to sit down and calculate the measures of success (or otherwise) for the breeding program.

But it is so important that farmers do manage and calculate exactly how their program ended up because, as they say, "you can't manage what you don't measure".

### Pregnancy testing the first step

The earlier that pregnancy testing is done after the joining program, then the earlier the conception rate and six-week in-calf rate can be calculated. At this point, if the pregnancy test results are recorded on the computer and the farm is herd testing, then the local service provider will be able to produce a Fertility Focus Report.

A Fertility Focus report has been developed through Dairy Australia's InCalf program, specifically designed for Australian conditions. This report will benchmark your farm's reproductive performance against what the top 20% of herds achieve and give a really good idea of where performance could potentially be improved. Sometimes it is surprising that just a few tweaks in management of the joining program can yield a big difference in results.

Knowing which cows are pregnant will enable the development of better dry off and calf-rearing strategies —

both of which contribute significantly to farm productivity.

### Small changes yield big results

Semen handling is one area where do-it-yourself (DIY) inseminators can easily go wrong. Frozen semen is an extremely sensitive product and any mishandling during storage, thawing or gun loading can have a surprisingly big impact on pregnancy rates.

Semen tanks should be topped up with liquid nitrogen regularly and the levels checked and recorded with a measuring stick. The level of liquid nitrogen should never be less than 12 centimetres from the bottom of the tank otherwise semen quality may become compromised.

Never lift the canisters above the frost line in the neck of the tank — which means forceps or tweezers should be used to retrieve the straws from the goblets. This is probably the biggest mistake that DIY inseminators make i.e. lifting the canisters too high and exposing the frozen semen to air, which means that the straws are repeatedly semi-thawed and re-frozen.

When thawing semen, the water temperature should be 32-38°Celsius. Use a thermometer. Even the auto-thawing flasks should be checked against a thermometer periodically, because the thermostats can be off-kilter.

Thawing in cold water or even 'in the pocket' is seriously old-school. If the water temperature is above 40°C, large numbers of sperm will get too hot and die. Thawing semen requires accuracy and precision. Being slapdash here may cost a lot of money in lost conceptions.

Keep loaded guns clean and warm. This is just logical. An AI gun travels

through the cervix into the body of the uterus — which should be a pristine environment inside the cow. Getting the gun tip contaminated by dirt or bacteria before insemination can potentially lead to an infection.

Ensure strict hygiene around loaded guns. Again, leaving loaded guns sitting on a feed bunk or laying around on a dirty bench is just careless.

On cold days, loaded guns need to be kept warm. Most professional inseminators these days carry proper gun warmers and everyone should consider investing in these. It takes just 30 seconds for the temperature of the semen in the loaded gun to drop from the thaw water temperature (say 35°C) down to the ambient temperature in the air, which on a winter's morning can be as low as 0-5 degrees.

When semen straws suffer such a drop in ambient temperature, sperm begin to die, and the longer loaded guns are exposed to cold air, the more sperm will die. Each dead sperm is one less chance to fertilise the egg.

Only load as many guns as can be used in the next 10 minutes. If semen sits inside a loaded gun for an extended period, the quality will be compromised. Time the actions — it should take no more than 15 minutes to take semen from the tank, thaw, load the gun and AI the cow correctly.

Finally, where was the semen placed inside the cow? The target for AI is to get just 1cm through the cervix into the body of the uterus and deposit all of the semen there.

Anyone who wants to refresh their AI technique should contact their local service provider and see if one of their professional technicians can give an on-farm refresher session. **D**

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# Making share-farming agreements work

- Key points**
- ✓ Share-farming can allow stepping up or stepping back
  - ✓ Free tools available to help with agreements
  - ✓ Great value in having adviser involved

**S**HARE-FARMING is a key part of the dairy industry, with 17% of Australia's 6400 dairy farm businesses operating under share-farming arrangements.

Farm owners may consider taking on a share-farmer as a first step towards farm succession or to reduce their involvement in the day-to-day operations of the farm. Farm managers may see share-farming as the next step in their career. These arrangements can work out well for both the dairy owner and the share-farmer but there is also some risk for both parties.

Field officer at Fonterra Robyn Mitchard has been involved with several share-farming agreements. She said an effective agreement should be affordable, fair and able to pass legal scrutiny. Importantly, an agreement should outline clear responsibilities.

"A successful agreement means that both parties benefit," Ms Mitchard said. "There are many very successful, long-term share-farming arrangements which suit both parties and

value-add to each party's skills and resources.

"It is also important for each party to be clear on what they are bringing to the agreement, be it machinery or cows. Outlining and understanding each other's responsibilities is essential. If something goes wrong on the farm — say, a piece of machinery breaks — it is important to be clear about how it will be fixed. For example, can the share-farmer make the call or does the problem need to be mentioned to the owner?"

"Sitting down with a facilitator and working out the terms and responsibilities may take a little longer but a short-term investment in time will definitely result in a long term gain."

Field officer at Murray Goulburn Murray Wisewould said it was essential to have a third party involved when creating or reviewing a share dairyfarming agreement.

"An adviser will act as a facilitator and mediator to make sure the agreement is balanced and that both parties benefit," Mr Wisewould said. "An adviser can also provide other ideas and options to consider and most importantly make the process easier."

The dairy industry's new Share Dairy Farming Model Code of Practice can be used during these conversations as it includes tools to help guide dairyfarm-



**Fair share-farming agreements can provide great opportunities for those stepping up or stepping back in dairying.**

ers through the assessment and establishment of share-farming agreements.

To help support the industry to use the new code, more than 90 advisers have been trained by Dairy Australia to help facilitate share-farming agreement conversations. Training has been provided to field officers, farm consultants, accountants and solicitors since the beginning of 2015.

Service providers or farmers who would like to attend a workshop to find out more about the Share Dairy Farming Model Code of Practice should contact their local regional development program (see contact details on page 114).

**For more information and to download a copy of the code visit <[www.thepeopleindairy.org.au/engagement-reward/share-farming.htm](http://www.thepeopleindairy.org.au/engagement-reward/share-farming.htm)>.**

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# Attracting talented graduates to dairy

- Key points**
- ✓ Four talented graduates learn from experts
  - ✓ Promotes career opportunities in dairy
  - ✓ Attracts new talent to industry

**F**OR 10 weeks in late summer-early autumn, Claire Walpole, Ailsa Rajasingham, Alex Kury and Kate McMaster — the worthy recipients of Dairy Australia’s 2015 Dairy Manufacturing Scholarship — worked with industry experts to learn all about dairy manufacturing.

The aim of the program is to attract passionate and promising new graduates and train them so they can build long-term careers in the manufacturing sector of the dairy industry.

This year the participants spent time at the factories of Warrnambool Cheese & Butter, Murray Goulburn, Bega Cheese, Barossa Valley Cheese, Fonterra, Burra Foods, Parmalat, Yarra Valley Dairy, Lion and Coles. The graduates also attended training through the National Centre for Dairy Education, where they learnt the theory and practical aspects of manufacturing dairy products such as cheese, butter and milk powder

## Dairy Manufacturing Scholarship quick facts

- Started in 2006.
- Total number of graduates trained so far: 30.
- All participants of the 2014 program gained employment in the dairy food industry within six weeks of completing the program.
- Percentage of graduates working in the industry: 80%.
- Participants from previous years are now working at major companies such as Bega, Murray Goulburn, Mondelez, Five am Yoghurt, Harry and Larry’s Ice Cream and Coles.
- This initiative is part of Dairy Australia’s strategy to attract and retain people to the dairy industry.



Kate McMaster, Alex Kury, Ailsa Rajasingham and Claire Walpole were able to experience time on farm as part of their scholarship.

To help the graduates understand the whole supply chain, they also visited farms and experienced firsthand the day-to-day aspects of farm life.

Ms Walpole, who recently completed a Bachelor of Food and Nutrition majoring in food science, said she enjoyed learning about the specific science and practical processes behind dairy products.

“The program is a great stepping stone from university into the industry as I have been able to see how the dairy industry and related companies operate,” she said.

Having recently completed a Graduate Diploma in Food Science, Ms Rajasingham also enjoyed seeing firsthand how a food-processing plant operated.

“Visiting the different factories and farms has helped increase my awareness of the many exciting roles in the industry, many of which I hadn’t even considered,” Ms Rajasingham said.

Ms Kury, who recently completed a Master of Nutrition and Dietetics, enjoyed meeting and learning from industry experts.

“I didn’t know how varied the career opportunities are in the dairy industry,” she said.

“The program has made me even more excited to start my career as I am looking forward to using all I have learnt through this program and my university studies to promote the Aus-

tralian dairy industry and the health benefits of dairy to both domestic and international markets.”

Ms McMaster, who holds a Bachelor of Food Science and Human Nutrition, appreciated the opportunity to meet manufacturing experts and farmers who have shared their knowledge and experience.

“The factory and farm visits made me aware of the varying roles in dairy manufacturing and were valuable to me in gaining an understanding of the many career opportunities that exist,” she said.

Dairy Australia manufacturing capability and innovation program manager Dr Mani Iyer said the 2015 program received a large number of applications and the judging panel had a challenging task in choosing the winners based on academic excellence, work experience and passion for the dairy industry.

“While there is no guarantee of a job at the end of the scholarship, all graduates who took part in the 2014 program gained employment in the dairy food industry within six weeks of completing the program, which is fantastic,” Dr Iyer said.

The program is funded and managed by Dairy Australia and is strongly supported by the manufacturing industry. It is grateful to all the sponsors who enable these new graduates to learn from the best experts available. **D**

# DairySage inspires study commitment

- Key points**
- ✓ Mentoring program funded by Young Dairy Network Australia
  - ✓ Six months duration
  - ✓ Helps develop industry's future leaders

**A**NDREW Smith has always had a strong passion for agriculture. Having grown up on a family mixed beef and dairy farm at Bulahdelah in the Great Lakes of the Mid North Coast of New South Wales, Mr Smith said his two interests at school were agriculture and sport.

"I knew that if I didn't make it in football or whatever sport I was playing at the time I would end up working in agriculture," he said. "Once I finished school I was lucky enough to get into veterinary science and things took a bit of a turn that way."

Three years into his veterinary science degree at Charles Sturt University at Wagga Wagga, NSW, Mr Smith started to get a bit restless with his studies. He would travel home during the holidays, and the more time he spent on the family dairy, the harder he found it was to go back to study.

"My dad was at a field day when Sheena Carter (the DairyNSW Hunter region extension co-ordinator) suggested I apply for the DairySage mentoring program," he said. "I looked into the program that night and I spoke

with Jess Jennings (DairyNSW Young Dairy Network co-ordinator) about it.

"I filled in the application form as I was at a stage where I wanted to grow my involvement in the dairy industry and really get a feel of how it functioned. I wanted to see if there was a way I could still be involved while I was studying."

DairySage is a six-month mentoring program funded by Dairy Australia's Young Dairy Network Australia program. It starts with a two-day workshop at which mentees take part in formal learning sessions hosted by facilitators. These sessions are focused on mentoring, communications, planning and goal-setting.

"It starts with a speed-dating session of three minutes with each mentor to ask them questions and identify common ground," Mr Smith said.

He was matched with DairyNSW South Coast region extension co-ordinator Greg Duncan, who said the key to a successful mentoring relationship was for both parties to take ownership.

"The mentor needs to show leadership, particularly in the early days, but they need to be prepared to hand over the reins," Mr Duncan said. "Initially it is about identifying common ground."

"One of the things we both like

to do is run. As we live 10-12 hours apart it was difficult for us to be running partners but we improvised and with the help of technology we were able to do so using the Nike+ running app. This allowed us to set challenges and compare our progress. It also definitely helped build our relationship."

Mr Duncan saw DairySage as a great opportunity to pass on some insight to future leaders of the dairy industry.

"I come from a family with a background in farming but I had no experience with dairy until I started uni — I studied a Bachelor of Applied Science in Agriculture at Charles Sturt University at Wagga Wagga, NSW — and that interest grew when I took on casual relief milking work on the university's dairy farm," he said.

"The job was a means to an end to earn more money as a broke uni student but surprisingly I really enjoyed the work."

Mr Duncan's role in the DairySage program was to make sure Mr Smith kept on task. "I definitely put a lot of effort in making sure we got a lot of face-to-face time," Mr Duncan said.

"A mentoring relationship should not be another thing on your to-do list. I made sure Andrew knew that the only way he would get something out of the program was to set clear

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objectives and make sure we worked towards achieving them.”

He said he remembered starting out in the industry and the many challenges he faced. His aim was to help Mr Smith push through these barriers as many of them still existed, especially in the NSW dairy region, which is quite spread out, leading to a degree of isolation.

“Andrew identified that he wanted to become more familiar with the dairy industry in NSW and more broadly across Australia,” Mr Duncan said.

“I suggested we could use my networks and contacts to build those connections and at industry events I would introduce Andrew to people I knew. This opened opportunities for Andrew, and the scholarship that he is now on, I think, stemmed from these relationships.”

Mr Smith successfully applied for the 2015 Dairy Australia Farm Business Management Scholarship, which supported him to spend one year at Massey University in New Zealand to complete a Postgraduate Diploma in



**Participants in the DairySage mentoring program in NSW have gained a great deal from it.**

Agricommerce and defer his studies in vet science for a year.

“DairySage has helped me gain more direction and clarity as to where I’d like to be,” Mr Smith said. “I know I’d like to finish my degree and one day return to the family farm with some or all of my siblings. Rather than just going with the flow and letting things happen, I am in a position where I can dictate terms as I know what I want. I

don’t have to wait for opportunities to present themselves.

“Greg was a sounding-board for ideas and gave his perspective when I needed it. When I needed his advice on something, he was very good at pointing me in the right direction. Greg was a very good listener. Rather than tell me what to do, Greg would sit back, take it all in and then provide suggestions or ask if I had considered different opportunities or scenarios.

“My communication skills and my ability to convey ideas to people in a professional manner have also definitely improved.”

Mr Duncan said the biggest change he had witnessed was the growth in Mr Smith’s confidence.

“Andrew has a real desire to achieve so in many cases it was just facilitating the process,” he said.

In the next year Young Dairy Network Australia will roll out more leadership programs across the regions. **D**

**Contact: Young Dairy Network Australia program co-ordinator Di Gresham, mobile 0428 086 769 for more information.**

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Rethinking the Everyday

# Grand-scale dairy for China

**Key points**

- ✓ Five large dairy hubs underway
- ✓ Plan to house 60,000 cows
- ✓ Aim to produce 2000t of fresh milk a day

By Matt Cawood

**I**N CHINA, everything is on a heroic scale — population, enterprise, the Great Wall, 16,000 kilometres of high-speed rail and its recent foray into dairy.

AustAsia Modern Dairy Farm Company, led by Australian ex-pat Edgar Collins, has since 2008 built five dairies in Shandong Province, south-east of Beijing, that collectively house about 53,000 cows from Australia or New Zealand.

Eventually the five-farm hub will have about 60,000 cows on rotation. Meanwhile, another AustAsia dairy hub of a similar scale is being built north-east of China's capital.

***'If you want to ship fresh milk from Australia or New Zealand, it's basically not economic.'***

Each farm produces more than 200 tonnes of fresh milk a day, sold as a premium product into the Chinese market for a price that Mr Collins estimates as being 50-70% more than farmgate prices in Australia.

When both five-farm hubs are in



One of AustAsia's huge freestall dairy barns.

full production in the next few years — two dairies of the second hub are already under construction — AustAsia will be supplying China with more than 2000 tonnes of fresh milk a day.

That gives the company a commanding presence in the Chinese premium raw milk market that Australia or New Zealand, no matter how good their systems, can't contest.

"If you want to ship fresh milk from Australia or New Zealand, it's basically not economic," Mr Collins told the *Australian Dairyfarmer*.

"Some have been doing it in bits and pieces, but what they would send to China in one year is what one of our farms does in one day. If you want to build a business of scale, there's sig-

nificant advantage in producing the product where the market is."

In Mr Collins's view the Australian dairy market is fatally compromised by the supermarket duopoly.

"I think it's a relatively expensive place to produce milk, and by the time you go to the trouble of producing it and sell it in a supermarket it's cheaper than water," he said. "To me there's something wrong with that."

"Farmers are really just price-takers in a market that is oversupplied."

Mr Collins's dairy experience extends back to his youth at Malanda, in north Queensland, where his father ran a dairy after selling business ventures in New Guinea.

In 1992, Mr Collins entered into a joint venture with Japfa, the Singa-▶

## Investment in China opens doors

**A**USTRALIAN agribusiness has a tendency to regard China only as an export destination, but the AustAsia Modern Dairy experience suggests that having an investment footprint within the People's Republic offers some considerable advantages.

"The big companies in China are very keen to move out of China and invest in the upstream part of their business, but you don't see the Australians going to China," AustAsia's Edgar Collins said.

"I don't see beef companies investing up there. They are sitting in Australia, saying we'll send you the product, it's good product, and you guys need to be happy with that."

"But I don't think that's enough if you

want to do business with China in the long-term.

"If you're a company that just sends boxed product to China, that's quite different to being able to say, we're in China, 20% of our business is here, we're making an effort to develop the domestic industry."

For a nation where business culture was built around the primacy of relationships, making a statement about being in-country was more important than many would realise, Mr Collins said.

New Zealand dairy giant Fonterra has made the effort to invest in China. It had made some big mistakes, in Mr Collins's estimation, but it had built valuable political capital.

China is not a familiar or easy environment for those used to Australian business, but the AustAsia experience shows that the rewards of engaging with it can be immense.

"To build the business we've built in China — for us to go through the bureaucracy in Australia — I think it would have taken us 10 years, and we've done it in China in three to four years," Mr Collins said.

"You just have to invest smartly, but there are ways and means of doing that. There are a lot of companies that have invested in China and done extremely well."

"Not a lot of Australians, but other big companies."



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## Expertise drawn from across the world

**T**O BUILD its large-scale dairy enterprise in China, AustAsia has drawn on the products and expertise of dairy industries across three countries.

Holstein heifers to start AustAsia's milking herd were shipped live from Australia and New Zealand (plus a handful from Uruguay), but the subsequent breeding program — exclusively AI — is using semen from the United States.

Edgar Collins said that's partly to "clean up" the genetics, on the expectation that AustAsia initially bought everyone's second-best heifers, but also because the US dairy model, with its emphasis on milk yield as the primary metric, was a good fit for AustAsia's Chinese dairies.

Mr Collins said AustAsia's best Chinese farm was producing 39 litres per cow per day and the others were catching up fast.

Cows are managed on the "free stall" model that has them permanently housed under open cover. Each farm milks about 5500 cows a day, on a three-shift daily rotation that leaves four hours out of 24 for cleaning.

From a Western perspective, staffing numbers are equally as boggling. There are about 205 staff on each farm, which



There are about 205 staff on each farm, which means that automation can be kept to a practical minimum.

means that automation can be kept to a practical minimum.

"Everything in our designs is built around keeping cows happy," Mr Collins said.

"All our milking parlours are over-specified, and that allows easy movement of cattle. We've put extra money into those things rather than overcomplicating elsewhere. If you get a few things wrong, it can become very expensive."

Much discussion around China emphasises scarcity, but Mr Collins said in forage supplies, at least, supply to the mega-dairies was easily sourced from surrounding farms.

Other feedstuffs like corn, dry distillers grain and oilseed meal were bought on the Chinese market, but high-quality lucerne was shipped in from the US.

Overall, about a third of AustAsia's feedstuffs were imported.

◀ core-based pan-Asian agribusiness company, to build a beef production enterprise in Indonesia.

By 1997, that project had spun out a small dairy, initially of about 150 cows, in East Java. The dairy venture developed into the Greenfields consumer brand, launched in 2000.

Under Greenfields, the company sells premium fresh milk and other dairy products throughout Indonesia, and exports about 40% of its output to other markets in South-East Asia.

With an unbeatable knowledge of large-scale dairying in Asia, it was a logical step for Mr Collins to lead Japfa's push into China.

That began in 2004 with a 10,000-head dairy at Hohhot, in Inner Mongolia about 400 kilometres west of Beijing. It was China's first large-scale dairy.

Four years later, Japfa sold its share of the Hohhot venture to another partner and reinvested the cash and accumulated knowledge into AustAsia Modern Dairy Co.

Events determined AustAsia's approach to the project. In September 2008, news exploded across China that baby formula had been tainted with the chemical melamine to boost apparent protein content.

Six babies died of kidney failure,▶

**water dynamics**

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◀ 300,000 were ill, and two people were eventually executed for their role in the scandal.

“We initially thought we’d build things out organically in China, but the melamine crisis really caused a shortage of milk supply in the market, and we foresaw that would be the case for at least another three to five years,” Mr Collins said.

“It was there for at least five years in the end.

“That’s when we decided to build five large-scale farms, which we completed late last year.”

In a country running scared of its own food — a second melamine-in-milk scandal erupted in 2010 — process integrity has been paramount to the AustAsia venture.

***We test everything that goes in, everything that goes out.***

“We test everything that goes in, everything that goes out,” Mr Collins said. “Integrity is the basis of the whole business.”

Incoming feed is tested for chemical residue, strict quarantine and biosecurity protocols are maintained around the cattle, and milk output is monitored by the dairies and again by cautious customers.

Those protocols are central to AustAsia’s professional public relations program. When this reporter accompanied a group of 28 University of New England students on a visit to AustAsia’s Bianyuan Town dairy in late 2014, the students were hosted in a well-crafted interpretative centre, complete with a scale model of the facility, that overlooked the dairy parlours.

Testing protocols and milk integrity featured heavily in the introduction to the dairy, in a way they would not in Oceania.

It’s this understanding of the nuances of how to do business in Asia that was AustAsia’s real intellectual property, Mr Collins said.

“You can go to the US or Australia and talk to farmers and get all the knowledge you need, but I think being able to implement that in Asia and make it work is a completely different skill set,” he said

“Across 15-18 years, our business has built that capability.” **D**

*Matthew Cawood visited AustAsia’s Bianyuan Town dairy as a guest of the University of New England’s 2014 Business School China tour for students.*



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## TESTIMONIAL

### WELL FUNCTIONING IMMUNE SYSTEM HELPS SUPPORT DAIRY HERD HEALTH

**“There has been a definite improvement in the health of our cows feeding OmniGen-AF” - Daryl Smethurst, Athlone.**

It is the job of nutritionists, veterinarians and dairy producers to keep dairy herds healthy, productive and profitable.

It is far more important and cost effective to promote health, by maintaining a healthy immune system, than it is to treat disease. Maintaining a healthy immune system is one of the dairy producer's most economically rewarding management tools.

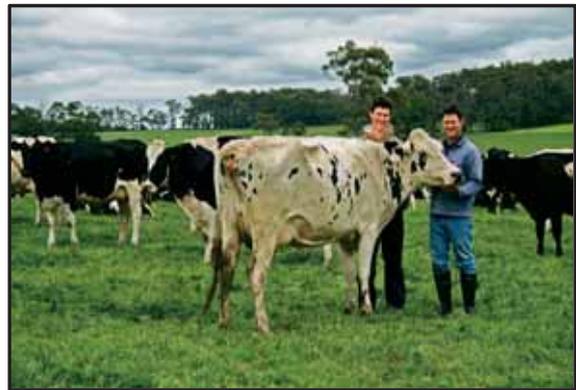
The benefits of maintaining a healthy immune system are many, and include;

- ✓ Reduced cases of mastitis
- ✓ Fewer retained foetal membranes (RFM's)
- ✓ Reduced cases of metritis
- ✓ Lower somatic cell count (SCC)
- ✓ Fewer cows in the hospital pen
- ✓ Increased milk production
- ✓ Better reproductive efficiency

A healthy immune system is paramount in protecting dairy cows against bacterial and viral pathogens while reducing a wide range of diseases associated with these organisms.

Proper management and good nutrition can help reduce the occurrence of disease in dairy cattle, which can result in lower treatment costs and more days spent in profitable milk production, which equates to increased total dairy income.

It is well recognised that transition cows are more susceptible to disease and reduced productivity, related to the unavoidable stressors of calving and lactation.



Daryl Smethurst (right) with son Troy with their herd at Athlone.

Daryl and Jenny Smethurst milk 270 cows with their son Troy at Athlone, Victoria. Troy also runs “Smethurst Park” stud including an embryo transfer program with elite genetics. OmniGen-AF was added to the lead feed of their 270 cow herd in July 2014 and continued into the milker feed on the recommendation of local Phibro Sales Manager, Chris Lawton, hoping to improve the overall health of the herd.

“We normally have a dozen to 15 RFM's each year. This year we had two. One of those was an induced cow, and the other was a late calver that missed getting OmniGen-AF in her lead feed” Daryl said.

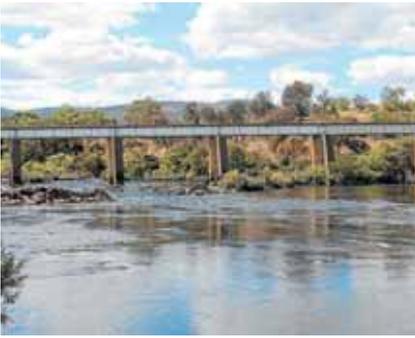
Also, this year we have not been worried about our SCC going over 250,000. There has been quite an improvement in that too” Daryl went on to say.

There has been quite an improvement in the health of our cows feeding OmniGen-AF this year. We have seen the benefits of healthier cows and will definitely continue to feed our cows OmniGen-AF” Daryl said.

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The Derwent River, at Prospect, Tasmania: the dairy industry is working to keep Tassie rivers clean.



Nikki Atkins and Michele Lawrence were part of a panel discussion at the Tasmanian dairy conference about keeping Tasmanian waterways clean.



Cows fenced off from a waterway and riparian barrier.

## Tas plans to keep rivers clean

- Key points**
- ✓ Focus on keeping waterways cleaning
  - ✓ Effluent management critical
  - ✓ Nutrient budgeting vital

By Andrew Miller

**P**LANS are well advanced to ensure the dairy industry has as little impact on Tasmania's major waterways and smaller creeks. Work is underway from the south of the state, around the Derwent, to the 10,000 square kilometre Esk and Tamar estuaries in the north.

Grants have been provided to fence off waterways and improve drainage and effluent management.

Reducing the impact of cattle on the state's rivers and creeks was one of the main topics discussed at this year's Tasmanian dairy conference, held at Burnie, in March.

Brian and Michele Lawrence, former winners of the Dairy Business of the Year, run 900 cows on a 250-hectare milking platform, at Meander, Tas. But it is their environmental record, in supporting plans to help keep the Meander River clean that attracted the attention of conference participants.

For Michele Lawrence, it was important on several levels.

"I guess we live along it, we drink it, we use it around our house to bathe in, to wash in, we swim in the river, we kayak in the river, we use it for recreation purposes as well," Mrs Lawrence said.

"We want the water to be clean to enjoy, we also want that water to be healthy for our business to prosper and for the future of our children, if they chose to farm.

"We need that water healthy, so our businesses can continue to prosper.

"If those water systems degrade, not only will environment suffer, not only will our recreational enjoyment of the river suffer, our business prosperity will suffer."

The family wanted to be proud of how it farmed and for the wider population to be proud of what they produced.

Their dairy property was an old sheep farm, "covered in king rushes and old bathtubs" before the Lawrences converted it.

Mr Lawrence said 400ha of pasture had been developed, since they took over the property. "We cleared 500 tonnes of rocks, in the process, before building a 50-unit dairy, with associated infrastructure," he said.

The Lawrences also built five kilometres of laneways, two dams, seven bores and four centre pivots.

The farm has one of the best effluent systems in Tasmania.

The dairy waste drains into a 2000-litre sump, with the liquid being pumped into two 20,000 floodwash tanks on either side. It then drains through a 50-metre long by 4m wide by 2m deep trench to a pond. The pond is connected to three of the centre pivot irrigators on the property.

During summer the pond is used as an irrigation pond, as it is linked to a bore.

The trench is cleaned out twice a season, by excavator, and the solids are spread onto the paddocks.

"Everything has been able to be used in one way or another — there is not a lot of cost in the system — the sump is just one big pipeline," Mr Lawrence said.

The system cost about \$40,000 to set up and about \$10,000 a year to run, which was more than covered by the nutrients put back on the land. "There is at least a two-for-one payback," Mr Lawrence said. Troughs were available in all paddocks.

Nikki and Mark Atkins told the conference a property management plan, involving soil testing, was essential to ensuring pollution was kept out of waterways.

"We never did a soil test, unless it was free, we never went down along the lines of farm management zones, as we are now," Mrs Atkins said.

"We never took the time to understand the benefits of soil testing on the farm."

Mrs Atkins said after a letter from the Tasmanian Institute of Agriculture (TIA) and Natural Resource Management North (NRM North) three years ago, they devised the farm management zones — splitting the property into seven areas.

"We found the benefits of effluent testing far outweighed the costs, by doing that we reduced the amount of fertiliser onto the irrigated paddocks," she said. "Effluent is one of the most valuable nutrient resources on our farm."

Mr Atkins said farmers needed to prove they could reduce high levels of fertiliser use.

"If we don't do it now, in 10 years time we will probably be forced to do it and it won't be on our terms.

"There will be a lot more compliance factors and there is no point putting fertiliser on and having it washed down the drain — from a profitability and environmental outlook."



# The value of breeding for efficient feeding

**Key points**

- ✓ Gardiner funds ground-breaking research
- ✓ Use of genomic technology
- ✓ Link between efficiency and fertility

By Alexandra de Blas

**T**HE Gardiner Dairy Foundation is thrilled to see the launch of the new Australian Breeding Value (ABV), called Feed Saved, that will help farmers produce cows that convert feed into milk more efficiently. It is a technology expected to benefit dairy producers to the value of \$35 million across 25 years.

If the development of the Feed Saved ABV is traced — from research to the farmer’s dairy — it shows a classic example of the type of investment the Gardiner Dairy Foundation likes to support.

Gardiner invested \$2.3 million in three projects across five years. From 2008 it funded the research by the Dairy Futures Cooperative Research Centre and the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) that unlocked the genomics that made the new ABV possible.

The project involved a large team



Every cell in a cow's body contains a full copy of its genome made up of 3 billion paired strands of DNA, like this, and 22,000 genes.

***‘There are bulls that can pull off the magic trick of being able to achieve better efficiency ... and are actually more fertile as well’.***

led by Dr Ben Hayes from DEDJTR and much of the research for the new breeding value was undertaken by senior scientist Dr Jennie Pryce, also based at the DEDJTR.

“For the Gardiner Foundation to come to the party back in 2008 was really tremendous and a bold move in terms of the technology,” Dr Pryce said.

“Back in 2001 a couple of my colleagues Ben Hayes and Michael Goddard, in collaboration with a colleague from overseas, developed genomic selection as a way to calculate breeding values using just a sample of DNA. By 2008 several countries were starting to implement genomic breeding values using this technology for traits that we already had breeding values for, such as milk production and fertility.

“However, we recognised that one of the real strengths of genomic selection was to take a trait that could only be measured on a small scale, on research farms, to a breeding value that all farmers could use.”

Which is why Dr Pryce and her colleagues began a feed efficiency experiment with the view to bring together the genomic selection technology with data collected from individual cows in research stations.

Chief executive of the Gardiner Foundation Mary Harney said: “Gardiner has a strategic focus and is committed to invest in projects that foster innovation and improve the long-term future of the Victorian dairy industry. It is rewarding to see a project where strategic investment in research has led to such a tangible outcome — with direct benefits to the dairy industry and improved profitability for farmers over time.”

## **Back to basics**

It is useful to take a step back for a mo-



**Dr Jennie Pryce: For the Gardiner Foundation to come to the party back in 2008 was really tremendous and a bold move in terms of the technology.**

ment and do a refresh about how it all works.

DNA or deoxyribonucleic acid is the chemical compound that contains the instructions needed to develop and direct the activities of nearly all living things. DNA molecules are made of two twisting, paired strands, referred to as a double helix.

A cow’s complete set of DNA is called its genome. Virtually every single cell in a cow’s body contains a full copy of the genome, which is made up of three billion paired strands of DNA and 22,000 genes.

## **The research**

The Feed Saved ABV is based on research that investigates the efficiency with which a cow converts feed into milk. While selective breeding and improved nutrition has resulted in higher milk outputs in the past 50 years, information about feed efficiency has been limited. For example, two cows could weigh the same and produce the same amount of milk, but one may eat 10% less dry matter to achieve that result.

The researchers recorded the individual feed intake of about 1000 growing heifers and more than 350



Everything research animals ate was carefully measured using feedbins and electronic identification technology.

lactating cows from Australia and a further 1000 from the United Kingdom and the Netherlands and determined which animals were most feed efficient.

This information was then linked with genetic marker information, allowing the research team to discover



The new ABV was developed by studying a small group of animals.

reliable genetic markers that predict feed efficiency.

**Use on farm**

Producers can now use that relayed information in the form of the Feed Saved ABV, which is also incorporated into three new selection indexes from the Australian Dairy Herd Improvement Scheme (ADHIS) to help dairy-farmers enhance profitability across a range of factors (see page 68).

“Selecting for higher production we know leads to a decline in fertility, and that’s been well-documented all around the world; there’s a similar relationship but to a weaker extent between feed saved and fertility, so the best way to select for improvements in feed saved is to do so as part of a selection index,” Dr Pryce said.

Bulls that rate highly on the new ADHIS Balanced Performance Index (BPI), which replaces the Australian Profit Ranking, will have daughters that require 1% less feed on average, which leads to lower inputs and less land used for feed crops.

“By using that BPI you can actually see bulls that do a really good job in many different traits simultaneously,” Dr Pryce said. “There are bulls that can pull off the magic trick of being able to achieve better efficiency — that is, their daughters are more ef-

ficient, and are actually more fertile as well. So those bulls do exist and they’re in the population, and farmers can easily recognise them when they look at the listings and delve into the breeding values.”

Further research undertaken by the Dairy Futures CRC has helped to determine what makes some cows more efficient than others and provides more detailed information across a wider range of genomics. Research with the University of Melbourne suggests that less efficient cows lose more energy as heat and respond less well to stress challenges, but further work is needed to clarify the differences.

Ms Harney said: “The Gardiner Foundation invests strategically in projects which leave a legacy for the Victorian dairy industry. So it is important to validate research once it has been commercialised or transferred to farmers.

“Later this year we will invest in a project which will examine the on-farm outcomes of herd improvement practice change and the links to profitability, which includes the new research based breeding values.”

**For an in depth explanation of the Feed Saved ABV, see page 68.**

**Contact: website <[www.gardinerfoundation.com.au](http://www.gardinerfoundation.com.au)> phone (03) 8621 2900.**

# A truly Legendairy game

Key points

- ✓ Footy match raises dairy profile
- ✓ Links to sports recovery message
- ✓ Opportunity for farmers to be involved

**A**S Legendairy farmers formed the guard of honour for Collingwood players, it was hard to tell who was paying tribute to whom. The April 11 Legendairy Farmer Round game at Melbourne's Etihad Stadium was a chance for dairyfarming families to share a moment in the spotlight with players from Australia's most famous sporting club.

There were smiles all round as dairyfarmers from as far away as Western Australia stood on the Etihad Stadium turf in front of thousands of fanatical Collingwood and Adelaide Crows fans.

Pies captain and star player Scott Pendlebury is a strong supporter of the partnership between the Magpies and Dairy Australia, saying his upbringing in the heart of Gippsland's dairy country has given him an insight into the importance of the industry to the economy and people's health.

"My grandfather is a dairyfarmer near Sale in regional Victoria, and I have spent a lot of time helping him on the farm," he said. "I grew up in a family where you could always find milk, cheese and yogurt in the fridge. I'm a big fan."

"Dairy products continue to play an important role in



Dairy Australia chairman Geoff Akers (at left) and South Australian dairyfarmer Barry Clarke (at right) are interviewed on the turf before the match.

our dietary program at Collingwood with the three Rs — as it repairs our muscles after training and games as well helping to rehydrate and refuel the players."

Dairy Australia chairman Geoff Akers, who runs a dairy farm at Tallygaroopna in Victoria's Goulburn Valley, was selected to toss the coin before the start of the match.

While disappointed with the subsequent Collingwood loss to the Crows, the avid Magpies supporter is delighted

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**'Football can help build strong, positive associations with the dairy industry...'**

with the growing partnership between football and the dairy industry.

"It's about raising the profile of dairy and reminding people that dairy is out there and is an important part of society," he said.

"Dairyfarming does a lot in communities and Collingwood has a reputation for doing things out in the community as well. They are a big drawcard, so we were very keen to be involved with them."

Luke Stock, who came to the match with his family from south-east Queensland's Lockyer Valley, said promotions such as the Legendairy Farmer Round were a great chance to spread the good word about dairy.

"It's such a fantastic industry to be part of and the Legendairy campaign is a great opportunity for farmers to be involved in promoting their industry," he said. "We can get that message out there to consumers about just how good our industry is."

For Stuart Crosthwaite, a rare day at the footy with his son and daughter was an opportunity not to be missed.

The Kiewa Valley farmer from Victoria's north-east believes dairy promotions to the wider public can have a significant impact on the industry. "We have to bring the community along for the ride, we need the community to appreciate dairy and realise what it provides for the local economies," he said.

Dairy Australia's group manager for industry promotion and product innovation, Isabel MacNeill, explained the motivation behind partnering with Collingwood in the Legendairy Farmer Round.

"Collingwood's strong philanthropic efforts in the community align perfectly with the values of the dairy industry and the amazing work our dairyfarmers do in their own regional communities," she said.

"So many farmers coach or play footy themselves and their kids play footy.

"Football can help build strong, positive associations with the dairy industry, the products it produces and their nutritional contribution. It supports our industry values of being healthy and active and takes those messages to a wide group of people." **D**



The Magpies stood side by side with the dairy industry at the match.

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innovators in agriculture

# Legendairy: engaging consumers

## Key points

- ✓ Legendairy takes multi-platform approach
- ✓ Targets specific consumer groups
- ✓ Long-term campaign to change behaviour

**L**EGENDAIRY has upped the ante this year with a loud message for consumers to: ‘Start and End Your Day With Dairy’.

The new call to action has been plastered across outdoor billboards in high-traffic city locations, flashed all over Facebook, advertised extensively across digital websites and blogs, taken up by Anytime Fitness gyms nationally, and aired on television in major centres, punctuating high-rating programs such as *The Block* and *My Kitchen Rules*. And that’s just for starters.

The strategy targeted specific consumer groups where there was the most potential to change behaviour and up dairy consumption, Dairy Australia’s group manager responsible for marketing, Isabel MacNeill, said.

“Specifically; families with primary school children who respond well to the nurture and grow qualities of dairy; young active adults who are attracted by milk’s muscle-recovery properties; and, the huge 50+ age group, who are enjoying more free time as well as focusing on their personal health as they enter, and move through, retirement,” she said.

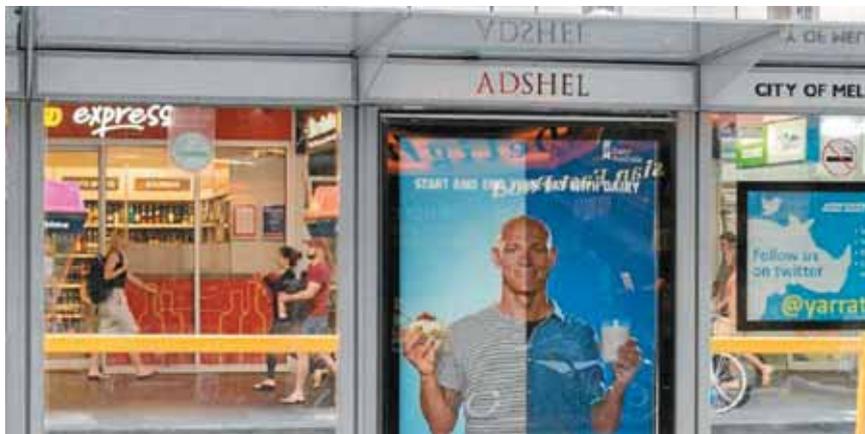
For each target audience, communications outlets that influence that demographic have been adopted and messaging adapted to ensure it is relevant to the individual’s current life stage.

To underscore the point, Ms MacNeill cites recent campaigns with high-profile bloggers hand-picked to appeal to each Legendairy audience: ‘Cooking For Busy Mums’; Michelle Bridges (of ‘The Biggest Loser’ fame) and ‘Starts at 60’.

“It’s all about calling for action, then providing inspiration and ideas to help people actually do something, using the language and channels that our audiences already use and respect,” she said.

“At the end of the day, the underlying objective is simple — we want more people to consume more dairy, more often.”

Here’s a quick whip around of where Legendairy has been seen by consumers lately.



One of the billboards in public transport shelters across metropolitan areas.

## Advertising activity

- Start and End Your Day With Dairy digital advertising ran from February to April achieving 20,702,572 views of the ad.
- Digital advertising for a Start and End back to school competition resulted in 9628 entries.
- Last year’s popular multivitamin television commercial was updated to include the Start and End Your Day With Dairy call to action. It aired across prime-time television, reaching 1,425,000 grocery buyers with kids aged five to 12 at an average frequency of 7.6 times.
- 641 billboards in public transport shelters across metro areas nationally were unveiled in February, all positioned around shops and retail centres.
- Targeted advertising has been running in sport and fitness publications including *ABC Footy* magazine (readership 35,000), *Men’s Fitness* (readership 206,000) and *Men’s Health* (readership 527,000).
- A magazine partnership has been established to educate women 50+ about the increased four serves of dairy foods per day recommendations for that age group. Ads are appearing until October across key titles read by this audience including *Diabetic Living*, *Better Homes and Gardens*, *New Idea* and *That’s Life*. A social media campaign is also driving consumers to visit <a href="http://www.legendairy.com.au/nutritionfrom50">www.legendairy.com.au/nutritionfrom50</a>.

## With some well-known faces

- Olympian Michael Klim is on-board as a Legendairy Ambassador. His ap-

pointment alone generated metro media coverage reaching 682,763 people — and it’s still growing.

- Michelle Bridges embraced Legendairy, enabling us to position dairy as a secret weight loss weapon to 250,000+ members of her online 12 Week Body Transformation challenge.

## In sport

- The ‘Legendairy Start and End Swim Series’ was hosted by Klim in Sydney on April 16 with media exposure for the event reaching more than 21 million people.
- Anytime Fitness gyms were secured as a partner, communicating dairy as a source of protein for muscle health to more than 420,000 members across more than 350 gyms.
- The AFL Legendairy Farmer Round provided extensive media coverage and saw dairy messaging take over Ethiad Stadium and the corresponding Foxtel national TV broadcast during round two.
- A partnership with Collingwood Football Club is helping take dairy into the community. This includes naming rights to two children’s clinics and messaging to the club’s vast member network.

## In the classroom

- The Discover Dairy website was relaunched, just in time for the new school year, providing primary schools with project information, lesson plans and resources.
- The 2015 Picasso Cows program has kicked off. This year 83 schools will participate in Picasso Cows and a further 62 schools will participate in

the Picasso Cows Make-Over program.

- The Start and End schools competition has concluded and prize presentations have started for 10 lucky schools who have won dairy products and a visit from a farmer or a 'Legendairy' bench for the playground. Media coverage is rolling in from each presentation.

- 37 Life Education educators have received professional development training by Dairy Australia dietitians so they can incorporate dairy messages into their school tour schedule.

- A partnership launched with the Australian Dental Association and Sydney Thunder Cricket's community program to deliver education and resources to 1600 students in NSW and ACT.

### In doctors' surgeries

- A new campaign has just been launched to GPs, dietitians and dentists, positioning dairy as one of the latest 'must-haves' with supporting practice resources and web information at <www.legendairy.com.au/must-haves> also available.

- Legendairy nutritional messages have just featured in the annual Australian Maternal Health Nurses conference and will also be presented at

## ***'It's all about calling for action, then providing inspiration and ideas to help people actually do something.'***

the national Dietitian's Association of Australia conference in May.

### In the news

- A back-to-school media release on CSIRO research into the importance of starting the school day with dairy was pitched to mainstream media, achieving a total estimated national audience reach of 6,225,709 across print, TV, radio and online outlets. Highlights included features in the *Daily Telegraph*, *Herald Sun*, *Courier Mail*, *Adelaide Advertiser*, Channel 7 News (SA), and ABC News on 3.

- A major announcement, in conjunction with the Australian Institute of Sport, highlighting new research into dairy's benefits for elite cyclists is expected to generate national news coverage, including print, TV, radio and online stories.

- Regular columns have also been secured with *Bowls Australia* and *Osteoporosis Australia* special interest magazines.

"In addition to the big consumer push, we've also maintained our commitment to ensuring a high profile for Legendairy within regional communities," Ms MacNeill said.

"Recently we've delivered promotional trailers in many regions, rolled out farmer training programs in media and social media, continued to support agricultural shows and published farmer stories in local community media, amongst many other localised activities."

Ms MacNeill said the Legendairy approach borrowed heavily from high-profile, proven behavioural change campaigns such as 'Quit' and 'Slip, Slop and Slap' by adopting a phased, long-term approach to understanding target audiences, providing emotive messaging that talks to them at their specific life stage, using channels that they already reference and respect, and then providing regular reminders to help them adopt and sustain new habits.

Legendairy was launched in August 2013 and is now in its 18th month. 

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# Balanced approach produces results

Key points

Sustainable approach takes account of climate  
Producing consistent returns  
Aim for easy-care cow producing its weight in milk solids

By Carlene Dowie

**T**ASMANIAN dairyfarmers Ken and Jill Lawrence take a balanced and careful approach to operating their farm. This approach has allowed them to make the most of the good climate and water availability of their farm at Osmaston, near Deloraine.

The farm system takes account of the impact of wet and cold winters on the soil, pastures and animals. This sustainable approach has reaped rewards for their business, with returns consistently in or close to the top 10% in Tasmania. "You need to do that (be in the top 10%) to make a good income out of it," Mr Lawrence said.

Their approach was recognised in the 2014 Tasmanian Dairy Business of the Year awards at which they won the 2014 Dairy Environmental Award and

were a finalist in the 2014 Dairy Farmer of the Year Business Award.

## Farm history

The 487-hectare property was bought and cleared by Mr Lawrence's grandfather in the late 1930s and run as a mixed farming operation, including dairy, until the wool price collapse in the 1990s, when it was converted to 95% dairy.

This helped make the business big enough for Ken and his brother Brian to operate together. In 2006 the family bought a second farm at Meander, and in 2007 Brian and his wife moved there, leaving Ken and Jill running the Osmaston farm.

## Low impact cows

The Lawrences milk up to 910 predominantly Jersey cows. They aim to breed a cow that is easy-care, is about 450 kilograms liveweight and that produces its weight in milk solids.

Performance indicators from the 2015 dairy business awards (for season 2013-14) back up the success of

*'There are always people interested in getting into dairy in the state; we've not had an issue replacing people.'*

this approach. The figures reveal that their cows produced 105% milk solids per cow as a percentage of liveweight compared with an average 84% for all farms in the awards and 87% for the top 10% of farms.

This also produced outstanding feed conversion efficiency. The Lawrence herd produced 82 grams of milk solids (MS) per kilogram of dry matter consumed compared with the average of all herds of 73g/kg MS.

The herd is calved in August and September to avoid the need to have cows on the pastures in the June and July. "It gets wet and cold here in winter; we grow no feed here in July," Ken Lawrence said.

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The Lawrences aim to breed a cow that is easy-care, about 450 kilograms in liveweight and that produces its weight in milk solids.

The property has an effective milking area of 236ha with an additional 266ha of dairy run-off also utilised. The Lawrences aim to produce 375,000-400,000kg MS each year — about 1650kg MS/milking ha and about 450kg MS/cow.

Irrigation is the key to the consistent milk production. About 90% of the milking area (210ha) is irrigated, both from on-farm water storage (about 550 megalitres) and Meander Dam irrigation water (400ML). Three centre-pivots irrigate 140ha with the remainder irrigated by more labour-intensive lateral irrigators.

The Lawrences are looking to expand the amount of irrigation water by enlarging the dam. “We currently have 4ML/ha available and I would like it to be 5ML/ha,” Mr Lawrence said.

The irrigation season can start as early as late October and runs to mid-March. “I don’t irrigate past mid-March because of the chance of having an early break, because I don’t want it to get muddy,” he said.

The farm is divided roughly in half with a central roadway separating



Ken Lawrence aims to be in the top 10% of farms in Tasmania to ensure his business produces a good income for his family.

the paddocks. The herd is split in two with about 500 cows run on one side and 400 on the other.

“We are not too fussed about how to split it; it tends to be as they calve,” Mr Lawrence said. “We don’t try to keep all young stock together.”

Pasture management is based around managing the heavy clay soils. The rotation is never less than 21 days. “With that number of cows, we like to have bulk in paddocks,” Mr Lawrence said.

Grain is used through most of the season to drive pasture intakes. Silage is cut in spring, both into the pit and as bales, and fed out with hay in the autumn as pasture growth slows.

A new source of fertiliser is being tried this year. Poppy meal from seed production is being used with nitrogen behind the cows. Mr Lawrence said the meal was 50% organic carbon, with 50kg of nitrogen/tonne and good levels of phosphorus, potassium, magnesium and calcium. He said its inclusion in the fertiliser mix should enable him to halve his fertiliser costs.



The rotary dairy was upgraded three-and-a-half-years ago with automatic cup removers, retention arms, scales, autodrafting and milk meters.

### Environmental works

The Lawrences won the environmental award in recognition of a number of practices on their farm, including nutrient mapping and budgeting, revegetation and planting shelter belts, riparian management and supporting biodiversity.

They have planted shelter belts throughout the farm to protect cows from both the cold and heat. They are currently planting more shelter belts to replace some that had to be removed when the latest centre-pivot irrigator was installed.

### Business performance

The farm has had impressive business performance. It produced a 12.3% return on asset last season and 6.5% in its award-winning 2012-13 season.

The keys were low operating costs (\$3450/ha) and high pasture and crop utilisation (10.2 tonnes dry matter/ha).

One of the challenges for the business after the farm succession plan was put into place was the use of more employed labour. The farm has four full-time employees and two casuals.

“I’ve had to get used to having staff,” Mr Lawrence said. “That has been challenge over years but we have a good retention rate with staff; they stay a few years before they progress or change.

“There are always people interested in getting into dairy in the state; we’ve not had an issue replacing people.”

The rotary dairy, which was built 18 years ago, was upgraded three and half years ago with staff in mind. Automatic cup removers, retention arms, scales, autodrafting and milk meters mean only two, not three, staff are needed for milking. One person can operate the shed on their own but the Lawrences prefer to have two for safety and to ensure a smooth operation, but the second person is able to bring in the other herd while the first herd is being milked.

Indicator	2013-14	2012-13
Milking area (ha)	236	236
Dairy run-off (ha)	266	266.
Effective area (ha)	502	502.
Peak cows milked	850	910
Production milk solids (kg)	389,103	386,014
Production (kg MS/milking ha)	1649	1636
Production (kg MS/cow)	458	424
Pasture and crop utilised (tonne dry matter/milking ha)	10.2	11
Labour used (full time equivalent)	6.3	5.8
Labour efficiency (cows/full time equivalent)	136	156
Operating costs (exclude finance)/kg MS	\$4.45	\$3.89
Operating profit (earnings before interest and tax)	\$1,028,740	\$628,633
Return on assets (%)	12.3	6.5

# Minimising composting nitrogen losses

**Key points**

- ✓ Dairy effluent used for composting
- ✓ Trial measures greenhouse gas emissions
- ✓ Adding chicken manure increased losses

**By Johannes Biala**  
**Researcher and project co-ordinator**  
**Queensland University of Technology**

INCREASINGLY, dairyfarmers do not consider their manure or pond sludge as waste to be pushed into a ditch to solve a problem but are instead looking for ways of using these residues to enhance soil productivity and reduce fertiliser costs.

However, recent research has shown that characteristics of the composting mix — particularly the carbon-to-nitrogen (C/N) ratio, bulk density, porosity and pH — have to be within the optimum range (see Table 1) to prevent significant nitrogen losses and minimise greenhouse gas emissions.



Establishing and turning of windrow for compost production on a dairy farm.

The trend of increased use of farm residues and composting is no more evident than in Victoria's Western Dis-

trict, where a number of farmers now compost on-farm and off-farm residues and utilise the generated compost for their advantage. John Cotton, for example, a dairyfarmer near Birregurra, Vic, became interested in composting and compost use several years ago when he learned about improved pasture productivity following compost use on other dairy farms in the district.

***'Composting and use of compost is generally seen as positive but the effects these activities have on greenhouse gas emissions are not fully understood yet.'***

Consequently, with the help of Camperdown Composting Company he embarked on a composting program in which on-farm (pond sludge, yard scrapings and pen manure) and off-farm (chicken litter and green waste) residues are mixed and composted.

Composting and use of compost is generally seen as positive but the effects these activities have on greenhouse gas emissions are not fully un-

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2	14.28	414
3	1.14	114
4	1.14	114

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**Banded stockpiles of pond sludge and yard scrapings with gas-measuring chambers.**

derstood yet. This is the reason the National Agricultural Manure Management Program seeks to advance manure management as a means of:

- reducing nutrient losses and greenhouse gas emissions; and
- improving the efficacy and value of manure products for users, allowing for greater fertiliser input reductions.

To find answers to these questions, an on-farm trial was carried out at Mr Cotton's dairy farm to determine the loss of nitrogen as nitrous oxide and the emission of carbon as methane when organic dairy wastes were stockpiled or composted.

The trial was funded through the Australian Government's Filling the Research Gap program, along with contributions from Dairy Australia and other organisations, and carried out jointly by the Queensland University of Technology and the Victorian Department of Economic Development, Jobs, Transport and Resources.

Properties of on-farm residues available at Mr Cotton's farm suggest that high bulk density (yard scrapings, pond sludge) and high moisture content (pond sludge) make it difficult to compost the farm residues on their own. Hence, shredded green waste and chicken litter are blended with the farm residues to improve characteristics of the compost mix, almost doubling (+85%) the volume of input materials utilised. Lime is also added, although most raw materials show slightly alkaline pH values. Despite these improvements, the blended composting mix used in the trial was relatively dense and dry, exhibiting high pH and a low C/N ratio of 13:1, to which the high nitrogen content of

the chicken litter contributed (see Table 2).

During the trial — between January and June 2014 — regular gas samples were taken from the composted and stockpiled materials to determine emissions of methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O), the two most important greenhouse gases for the dairy industry. Methane is generated

when organic matter is broken down in conditions in which oxygen is deficient (for example, in a slurry lagoon or a cow's stomach), and nitrous oxide is generated as part of the nitrogen cycle during the transformation of ammonium into nitrate and vice versa.

Gas measurements revealed that stockpiling of yard scrapings showed low methane and nitrous oxide emis-

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emissions (see Table 3), most likely because it contained considerable quantities of soil, stones and wood chips, materials that did not degrade easily and did not have appreciable nitrogen content.

Stockpiled pond sludge emitted the highest volume of methane per tonne of wet input.

Composting resulted in sizable methane emissions, despite relatively low moisture content of the composted material throughout the trial.

This was caused by the high oxygen demand associated with the high rate of biodegradation in the initial composting phase. Hence, the majority of methane emissions occurred during the first 60 to 100 days of composting and stockpiling.

Conversely, nitrous oxide emissions were primarily detected towards the end of the composting process when windrow temperatures declined to below 40 degrees Celsius.

***'This project has shown that the addition of chicken manure and lime to the compost mix enhanced nitrogen losses.'***

Nitrous oxide emissions from the composted material were markedly higher than from the stockpiled pond sludge (see Table 3).

The excess nitrogen in the compost mix (low C/N ratio), which resulted from the addition of chicken litter, contributed to elevated nitrous oxide emissions and nitrogen losses during composting.

The issue that is more important from an agronomic and financial point of view, however, is the loss of ammonia through volatilisation. Ammonia losses were not measured in this trial

but a rough estimate suggests that total nitrogen losses during composting amounted to about 35%, most of which would have been through ammonia volatilisation.

This project has shown that the addition of chicken manure and lime to the compost mix enhanced nitrogen losses through ammonia volatilisation and nitrous oxide emissions and was detrimental to nitrogen conservation. A more cost-effective and nutrient-efficient strategy might be to apply the chicken litter and lime in line with rotational cropping, which allows for immediate incorporation of the chicken litter and minimisation of ammonia losses, if there is a need to use chicken litter on a dairy farm.

A comprehensive soil-testing program combined with the preparation of a farm nutrient budget should be used to determine whether the extra nitrogen and phosphorus contained in chicken litter is required in the farm fertiliser program.

The high variability in the distribution of nutrients across dairy farms also needs to be taken into consideration to ensure the nutrient and soil-conditioning benefits delivered through the use of compost are maximised.

**More information may be found at the Department of Agriculture website at <<http://www.agriculture.gov.au/climatechange/carbonfarming/futures/ftgr>>.**

Characteristic	Optimum
Carbon to nitrogen (C/N) ratio	25 - 30:1
Moisture content (%FM)	50 - 60%
Porosity	35 - 45%
Oxygen concentration	> 10%
Bulk density	<640 kg/m <sup>3</sup>
pH	6.50-8.0

Product characteristic	Unit	Pond sludge	Yard scrapings	Manure from pens	Chicken litter	Green waste	Blended composting mix
Bulk density	kg / m <sup>3</sup>	940	1160	330	560	330	610
Moisture	%	74.3	41.8	51.9	25.8	38.5	40
pH	-	7.38	8.04	7.15	5.88	7.32	7.9
Conductivity	mS/cm	1.88	4.4	3.53	17.82	6.2	6.26
Nitrogen	% dm	1.32	0.79	0.69	4.9	1.7	1.62
Total carbon	% dm	14.4	9.5	32.7	35.2	30.5	21.1
C/N ratio	-	10.9	12	47.4	7.2	17.9	13
Nitrate — N	mg/kg fm	7.1	5.2	335	65	4	6.1
Ammonium — N	mg/kg fm	742	184	84	8526	470	1479

Manure management	Emissions per t wet feedstock as CO <sub>2</sub> -e		
	CH <sub>4</sub> (kg)	N <sub>2</sub> O (kg)	Total (kg)
Composting	14.18	49.00	63.19
Stockpiling of yard scrapings	2.47	13.89	16.35
Stockpiling of pond sludge	19.89	31.79	51.68

# Australian milk production up



By Amy Bellhouse  
Analyst  
Dairy Australia

- Key points**
- ✓ February resurgence in national milk production
  - ✓ National milk production up 2.8% year-to-date
  - ✓ January packaged milk sales up 1.3% year-on-year

As at about this time last year, the 2014/15 season looked likely to come under pressure from elevated grain and hay prices, expensive temporary water and falling international dairy commodity markets. Input prices have indeed remained relatively high, but strong domestic demand for dairy and competition for milk at the farmgate have still enabled a reasonable season.

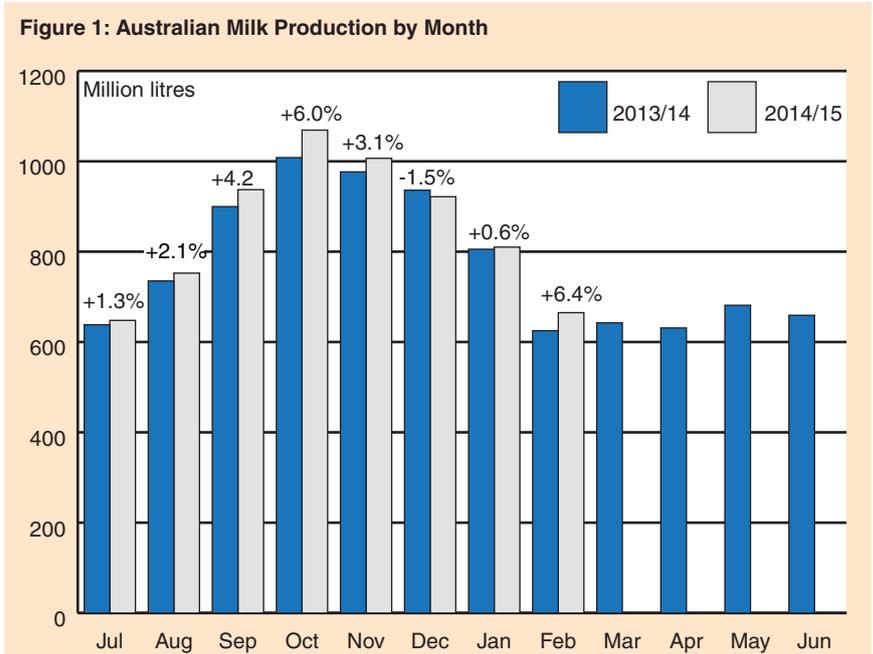
The national year-to-date (YTD) increase in milk production is 2.8%, for the July to February period, assisted by a February resurgence in milk production, with growth of 6.4% in year-on-year terms.

Queensland continues to trail other states, with a 3.7% year-on-year decline for February, though this is an improvement relative to the YTD change of -5.4%. Anecdotal evidence suggests that improved seasonal conditions, including cyclone-produced rain in some areas, are setting farmers up with a renewed pasture base heading into autumn and winter.

An excellent season in New South Wales has augmented the benefits of increased competition for milk at the farmgate and better alignment of milk volumes with processor requirements, supporting a continued recovery after several years of decline.

Good conditions (particularly a mild summer) are also boosting milk production in Gippsland, raising the prospect of a return to 2011/12 production volumes following two somewhat depressed seasons. Tasmania's growth continues to accelerate (up 11.5% for February and 11.3% YTD).

Recovering from a difficult spring,



Western Victoria (up 6.9%, down 2.1% YTD) and South Australia (up 5.3%, down 0.6% YTD) continue to show late-season promise, though SA and areas north of the Princes Highway in Western Victoria remain dry. After three consecutive full season declines, production in Western Australia has responded to a combination of firmer farmgate pricing and favourable weather to increase 6.4% for the month, producing a YTD increase of 4.8%.

Nationally, production is expected to remain strong, but growth will slow in the final months of 2014/15. According to the Bureau of Meteorology, serious and severe rainfall deficiencies increased during March in both extent and severity through southern SA and western Victoria.

Many areas need a good autumn break to aid in the establishment of annual pastures and reduce reliance on supplementary feed, as well as to ensure adequate production in grain growing regions.

At the time of writing, northern hemisphere crop conditions have been adding upward pressure to international grain markets, which is not uncommon at this time of year, and could continue to cause volatility for a while yet. This holds implications for both current and new season domestic grain prices.

According to the Bureau of Meteor-

ology, outside of the tropics, most of mainland Australia is likely to be wetter than normal from April to June. Tasmania has a roughly equal chance of being either wetter or drier. There is at least a 70% chance of El Niño, with the ENSO (El Niño-Southern Oscillation) indicator being raised to ALERT on April 14.

Dairy Australia's current milk production forecast anticipates 2% growth for the full season to an adjusted range of 9.40 to 9.45 billion litres.

Packaged milk sales data shows that volumes are virtually unchanged year-to-date (June to the end of January), at +0.1% growth, to 1451.6 million litres. January sales were up 1.3% year-on-year. By sub-segment, sustained modest growth YTD in full-cream milk (+3.0%) has lifted and combined with marginal UHT volume growth (+0.1%) just enough to offset ongoing declines in sales of both reduced fat (-3.9%) and no fat (-11.0%).

Dairy Australia's next Situation and Outlook report will be released on June 17. This report includes a comprehensive market analysis and outlook, as well as results from this year's National Dairy Farmer Survey (NDFS), and provides invaluable information for farmers, dairy manufacturers and industry service providers.

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

# Global market bumpy ride continues



By John Droppert  
Analyst  
Dairy Australia

Key points

- ✓ Commodity prices retreat again
- ✓ NZ, EU supply dynamics keep markets weak
- ✓ Demand sluggish, but many buyers yet to cover late 2015 needs

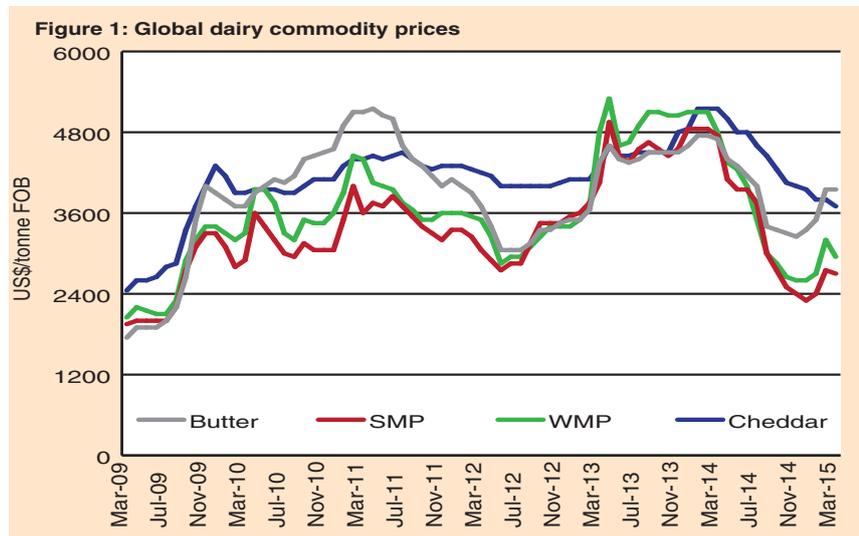
THE bumpy ride that is global dairy commodity markets took another turn recently, as doubts about the impact of New Zealand's drought compounded oversupply concerns, removing support from the recent price recovery. Farmers in north-western Europe have been actively and loudly celebrating the end of milk production quotas, while buyers in most demand regions remain comfortable, with immediate needs covered.

GlobalDairyTrade (GDT) auction results have been particularly volatile in recent months, with prices soaring as the drought in New Zealand took hold then plummeting when subsequent data and reforecasts reduced the anticipated impact on milk supply.

At the time of writing (following event 138), the weighted-average GDT price across all product lines was back on par with end-2014 levels, at US\$2620/tonne. Compared with year-ago levels, prices are 35% lower on average, even though the volume sold at the most recent event was also lower (30% down). Continued sluggish buying activity from China and, to a lesser extent Russia, remain major market constraints.

Other buyers (particularly in the Middle East and Africa) have been using the period of low prices to restock, and now have their immediate needs well covered. Looking ahead, these buyers have seen little urgency in shoring up supplies for the second half of calendar 2015.

The emergence of the drought in New Zealand was a key catalyst for the early 2015 price rally, and in simi-



lar fashion its diminished impact has brought about a sharp correction. Fonterra's full-season milk intake forecast was recently moderated to reflect an expected 2% decline — compared with the 3.3% fall expected previously. Dairy Companies Association of New Zealand (DCANZ) data to February suggests total national milk production is up 2.5% for the first nine months of the season, implying a particularly sharp taper will be necessary to meet such forecasts — given about 80% of the season's milk is typically collected by this point.

February data suggests a 6% decline in volumes for that month alone, while Fonterra's March intakes were reportedly down a mere 3%. The real threat to NZ output is the potential for a second season of low farmgate prices in 2015/16, which many local commentators believe would undermine the viability of the more heavily leveraged (often growing) enterprises.

Although NZ's disappearing drought has taken much of the blame for the recent fall in prices, European market indicators have been tracking below NZ prices for a number of months now, suggesting an alternative source of market weakness. Milk production trends in the EU-28 are difficult to gauge at present.

Official data to January suggests a steady slowdown in year-on-year growth (January 2015 production was flat versus January 2014), while more recent estimates suggest Germany, France, the Netherlands and Ireland are now tracking below 2014 comparables.

On one hand, short-term measures to limit quota overrun have been relaxed from April 1 as the quota system ended, yet broader market pressures will likely constrain the emphatic supply response many seem to expect.

In the United States, the US Department of Agriculture recently lowered its 2015 production forecast for the sixth month in a row, as margins begin to tighten. Local analysts report that many farmers are electing to cut back on feed costs, rather than cull cows, with output per cow consequently decreasing. Others are benefiting from having used the profits of recent months to lock in feed purchases in advance, when prices were low. Having finished the 2014 year up 2.4%, US milk production grew by a slightly slower 1.9% for 2015 to February — and 1.7% for February itself. Although tighter, production margins are still favourable for most of the country, with the exception of California, where a greater exposure to depressed international markets and ongoing drought pressure have seen production drop away: down 3.8% for February.

The need for ongoing caution has been borne out through the recent recovery and retreat in commodity prices. Although a longer period of depressed returns will impact the outlook to Australia's 2015/16 season, the mounting pressure on key competitors may prove helpful in better balancing the market as the southern hemisphere spring approaches. **D**

Contact: John Droppert, email <[jdroppert@dairyaustralia.com.au](mailto:jdroppert@dairyaustralia.com.au)>.

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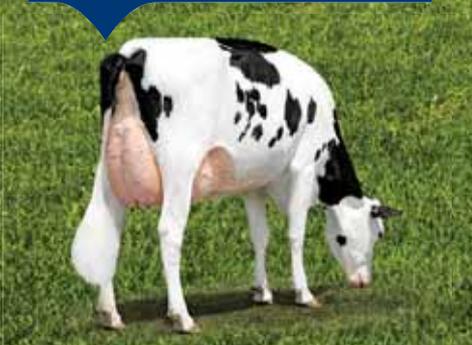
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(l-r) Dam: Seagull-Bay Snowman Darling VG-85. (photo Beth Herges). Dam: Elmar Goldwyn Jessica 4 (photo Bradley Cullen). MGD: Clear-Echo M-O-M 2150-ET VG-87 (photo Beth Herges).

\*TPI & gTPI are servicemarks of Holstein Association USA, Inc. Offer valid until 31st March 2015 and while stocks last. Prices exclude GST.



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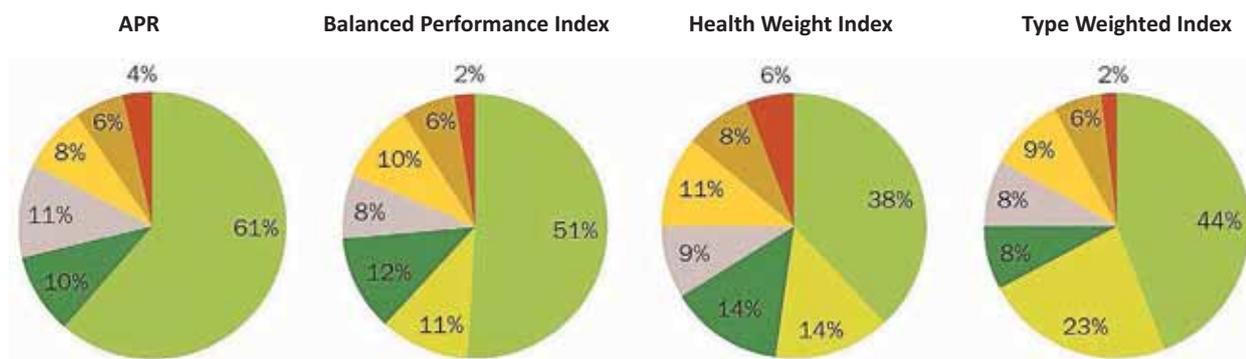


Figure 1: How the new indices compare to the old Australian Profit Ranking

## Big changes for ABVs

- Key points**
- ✓ Three new indices launched
  - ✓ New ABVs for Feed Saved and Residual Survival
  - ✓ Expression of Type ABVs changed

THE April Australian Breeding Values release heralded some major changes, with the introduction of three new breeding indices, new breeding values for feed saved and residual survival, updated type expression and other refinements.

The Australian Dairy Herd Improvement Scheme (ADHIS) introduced three new breeding indices with the April 2015 ABV release:

- **Balanced Performance Index (BPI):** focuses on maximising net profit through production, fertility and type; replaces the current Australian Profit Ranking (APR).
- **Type Weighted Index (TWI):** focuses on improving overall type, mammary system, udder depth and fore udder attachment.
- **Health Weighted Index (HWI):** strongest focus on fertility, cell count, feed saved and survival.

### New ABVs

The release also include a Feed Saved ABV for the first time (see stories on pages 32-33 and pages 68-73).

A Residual Survival ABV has also been added. It is also part of all three of the new breeding indices and includes all the reasons why cows last in the herd that aren't related to production, fertility, cell count or other traits that have their own economic values in the indices.

Residual Survival has replaced Survival in the indices to ensure a component of survival isn't unfairly double counted. To breed for longer lasting

cows, continue to use the Survival (Longevity) ABV as it is the most complete trait for all the characteristics that improve longevity in cows.

### Facelift for Type ABV

The expression of Type ABVs and the definition of 'average' has changed to be more consistent with the way breeding values are expressed in other countries.

Type ABVs are now 'standardised' to make it easier to see if an animal

is average, a bit above average or extreme for a trait. One standard deviation will be set to 5. For example, a bull with an ABV of 105 is 1 standard deviation above average.

A higher ABV is not necessarily better. For example an ABV of 112 for stature indicates an extremely large stature but not everyone wants bigger cows. In this case, an ABV around 100 may be more preferable. The standardised expression of type ABVs does not affect the ranking of sires. **D**

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**7.3 SCE**  
**4.1 PL**  
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## Farmers name their index

**PATRICK GLASS**, dairy-farmer, North East Victoria: "All indices. For most of the herd we will select from the top 20 bulls for Balanced Performance Index. But we'll use the Type Weighted Index to select sires to use over cows that have type problems in the family. And we'll look at the Health Weighted Index to select sires for cows with fertility problems."



**JAMES NEAL**, NSW: "With a herd that is 70% Holstein, 22% crossbred, 5% Jersey and 2% Red breed, my goal is to breed easy-care cows that have a long productive life in the herd. I select from the *Good Bulls Guide*, which means all the sires on the list are good for production. Our next priorities are to improve fertility and mastitis resistance and the Health Weighted Index accounts for these."



**RAY KITCHEN**, Western Australia: "The Balanced Performance Index is a good reflection of our breeding priorities. It is primarily an economic index, designed to help us improve profit through production but it also allows for traits that affect functionality in the herd and longevity — for example cell count, fertility and udder conformation."



**DAVID JOHNSTON**, Western Victoria: "Type weighted index. As a stud breeder I've always paid a lot of attention to type. In the past I've spent a lot of time comparing bulls on their various type traits. The new type weighted index has done the hard work for me. I'll probably create a short list of top bulls based on TWI and then look at ABVs for health traits such as fertility and mastitis."



**TIM HUMPHRIS**, Northern Victoria: "Improving fertility and the health of our herd has been our top breeding priority for some time. The Health Weighted Index will do a lot of the hard work for me. I'm really looking forward to seeing the rankings based on the Health Weighted Index when the *Good Bulls Guide* comes out in April."



**JO and BRYAN DICKSON**, Western Victoria: "As a commercially focused herd, we will use the Balanced Performance Index to select sires to use over most of the herd. That's the index that best matches our breeding goal: to breed high production cows with the health, fertility and functional type to last many years in our herd. But there will be small groups of cows that we particularly want to improve fertility and cell count so we will use the Health Weighted Index to choose sires to use over them. And similarly there's a small group that we want to primarily improve functional type so we'll use the Type Weighted Index to select their sires."



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**4.0 DPR**  
**2.8 SCR**  
**6.9 SCE**  
**7.3 PL**

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## Understanding Australian Breeding Values

**A**USTRALIAN Breeding Values are relative measures, meaning they make more sense when compared to each other or to an average.

The 'average', also known as the 'base' is a clearly defined group of animals to which all others are compared.

In Australia, the average is defined as cows of the same breed that are six years, +/- 2 years of age. It is updated annually so it remains current and reflects the cows that are milking in herds around Australia. For example, in 2015, the average includes cows born between 2007 and 2011.

The average is set at 0 for production traits and indices. It is set to 100 for type and management traits

**See table opposite.**

## AUSTRALIAN BREEDING VALUES — APRIL 2015

<b>Table 1: ABV description tool describing the direction and expression of production, management and non-production traits.</b>		
<b>Production ABVs</b>	<b>ABV More than 0</b>	<b>ABV Less than 0</b>
ASI	Dollars more profitable from production than average.	Dollars less profitable from production than average.
Protein kg	Kilograms of protein more than average.	Kilograms of protein less than average.
Protein %	Percentage of protein more than average.	Percentage of protein less than average.
Milk L	Litres of milk more than average.	Litres of milk less than average.
Fat kg	Kilograms of fat more than average.	Kilograms of fat less than average.
Fat %	% more fat than average .	% less fat than average .
<b>Workability ABVs</b>	<b>ABV More than 100</b>	<b>ABV Less than 100</b>
Milking Speed	% More daughters rated satisfactory or better than average. Faster milking speed than average.	% Less daughters rated satisfactory or better than average. Slower milking speed than average.
Temperament	% More daughters rated satisfactory or better than average. Temperament is more acceptable than average.	% Less daughters rated satisfactory or better than average. Temperament is less acceptable than average.
Likability	% More daughters rated satisfactory or better than average. More likable than average.	% Less daughters rated satisfactory or better than average. Less likable than average.
<b>Management ABVS</b>	<b>ABV More than 100</b>	<b>ABV Less than 100</b>
Cell Count	% Lower cell count than average (more resistance to mastitis)	% Higher cell count than average (less resistance to mastitis)
Survival	% More daughters will survive from one year to the next compared to the average.	% Less daughters will survive from one year to the next compared to the average.
Residual Survival	% More daughters that will survive from one year to the next that isn't explained by another ABV .	% Less daughters that will survive from one year to the next that isn't explained by any other ABV .
Calving Ease	% More normal or easier calvings than average.	% Less normal or easier calvings than average .
Daughter Fertility	% More daughters pregnant within 6 weeks.	% Less daughters pregnant within 6 weeks .
Feed Saved	Kg dry matter feed saved per cow per year.	Kg dry matter feed wasted per cow per year
Liveweight	% More liveweight than average.	% Less liveweight than average.
<b>Type ABVs</b>	<b>ABV of 105 means one standard deviation above average for</b>	<b>ABV of 95 means one standard deviation below average for</b>
Overall Type	Overall Type	Overall Type
Mammary System	Mammary System.	Mammary System.
Stature	Taller stature.	Shorter stature .
Udder Texture	Softer texture.	Fleshy texture.
Bone Quality	Bone quality (flatter bone).	Bone quality (coarser bone).
Angularity	More angular.	Less angular and more strength.
Muzzle Width	Wider muzzle.	Narrower muzzle.
Body Length	Longer body length.	Shorter body length.
Body Depth	Deeper body depth.	Shallower body depth.
Chest Width	Broader chest width.	Narrower chest width.
Rump Length	Longer rump length.	Shorter rump length.
Pin Width	Wider pins.	Narrower pins.
Pin Set	Rump angle (more slope).	Rump angle (less slope).
Foot Angle	Foot angle (more angle) .	Foot angle (less angle).
Rear Set	More curve to the rear legs when viewed from the side.	Straighter rear legs when viewed from the side.
Rear Leg Rear View	Straighter legs when viewed from the rear.	Legs "hock in" more when viewed from the rear.
Udder Depth	Shallower udder depth.	Deeper udder depth.
Fore Attachment	Smooth fore udder attachments.	Fore udder attachments (less smoothly attached).
Rear Attachment Height	Higher rear attachments.	Lower rear attachment.
Rear Attachment Width	Wider rear attachments.	Narrower rear attachment.
Centre Ligament	Stronger ligament.	Weaker centre ligament.
Teat Placement (Front)	Closer front teat placement.	Wider front teat placement.
Teat Placement (Rear)	Closer rear teat placement.	Wider rear teat placement.
Teat Length	Longer teats.	Shorter teats.
Loin Strength	Stronger loin.	Weaker loin.



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- JACEY +2.8
- LAWMAN +1.9



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- TROY 103
- JACEY 103
- UNIQUE 103
- SAJAC 103



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- WOOD 103
- UNIQUE 102
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- UNIQUE 109
- TAMPA 107
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Brendan and Sarah Glass are part of a family business focused on profitable dairyfarming.

## Profit at heart of Glass operation

Key points

- ✓ Running 500 Holstein cows on 597ha
- ✓ Operating as normal commercial dairy farm
- ✓ Good cow genetics foundation of business

By Poul Bech Sørensen

**T**HE Glass family owns 500 Holstein cows producing 8500 litres of milk per year primarily on pasture at Gundowring, Victoria.

The aim is to improve the bottom line via optimal use of knowledge, science, genetics and pasture management.

Everything the Glass family does in its dairy is focused on profit. The farm is part of the Focus Farm Project administered by Murray Dairy.

A Focus Farm is not a “demonstration” or “best-practice” farm; it is an ordinary commercial dairy farm coping with the day-to-day challenges of the dairy industry.

In the next two years a support group of dairyfarmers, the farm’s agronomist, vet, banker and accountant, and Department of Economic Development, Jobs, Transport and Resources (DEDJTR) staff will meet every six weeks on the Glass farm with a

clear purpose: to assist the Glasses to achieve their stated personal and business objectives.

Given the varied backgrounds, philosophies and experiences of the support group members, discussion is vigorous at times as to which is the best way forward for the farm, but the success of the focus farm concept lies in the group’s diversity.

Not only is it hoped that the Glass family benefits from the support group but the group members themselves discover new ways of looking at things in sharing their professional or farming experiences.

The farm, bought in 2004, covers 269 hectares with an additional 328ha of leased land.

According to the group the farm performance is already in the top 20% from an economics perspective, so the support group will:

- monitor the daily decision-making process to identify why the farm is doing so well;
- review reproductive performances;
- review the breeding program;
- explore alternative approaches to commercial fertilisers; and
- monitor and make optimal use of the pastures.

### Healthy and fertile Holstein cows

The foundation for profitable milk production is cows with good genetics. “Our ideal cow is medium-sized with a production of high milk solids and structurally sound udders,” Brendan Glass said. “Fertility and herd health are equally important so the cows breed back and get into the next lactation with ease and without mastitis. The cows must perform well in turning grass into milk solids, because that’s how we get paid.”

With seasonal calvings, good reproduction is extremely important. “Cows need to calve easily and in sync with nature to take advantage of the growth curve of the pastures,” Mr Glass said. “This results in many calvings in a relatively short period of time so a live and vigorous calf that gets off the ground is a must.

“We breed cows 80 days after calving using a prostaglandin injection after a week of natural heats for eight weeks, then we turn bulls out for two or four weeks. Heifers are bred according to size and usually we start at the age of 14 months with a pregnacol program in which heifers get three injections and Controlled Internal Drug Releases (CIDRs) then blanket AI. Bulls are put out for eight weeks.” ▶



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◀ In recent years Mr Glass has been using sires from the Scandinavian-based co-operative Viking Genetics. “In Scandinavia they have a unique indexing system and collect extensive data on very important traits like health, fertility, calving ease, hooves etc,” he said.

“The amazing thing is that in Scandinavia they have collected this type of data for more than 30 years and include all economically important traits into a total merit index called NTM. This makes it easy to select the most profitable genetics for our dairy.”

All replacement heifers are retained to maintain the Glass herd. The main culling reasons are fertility, mastitis and hooves but the daughters of the Viking Holstein sires are already showing improvement for these important traits. Mr Glass said he hoped to have the added benefit of selling heifers in the future as prices were currently lucrative for the live export market into China, South Korea and Japan due to recently established free trade agreements.

Sires used on the farm from Viking Genetics with cows in milk are Rakuna, D Sol, D Odder and Onside. Heifers are from D Sol, Bento and Miracle; this year the family used Obama in the heifers.

### Pasture management

Grasses are selected according to soil fertility and length of growing season. Early-maturing ryegrasses are used for the hills, Italian ryegrasses on lower areas and perennial ryegrasses on river flats.

Companion species are sown in an effort to improve growth rates and build

### ***‘Our ideal cow is medium-sized with a production of high milk solids and structurally sound udders.’***

a wedge of feed leading into winter. Forage brassica, oats and ryecorn are used to do this primarily. A pure stand of oats is often sown in autumn in one or two paddocks after being cultivated and fallowed through summer.

Where possible, late-maturing grasses are used to maintain feed quality later into spring. The first paddocks to be grazed are the pure oats stands, with the next grazing being the existing perennial pastures that were grazed through until mid-April and then top-dressed as needed after pre-seed spraying.

It is worth noting that the Glass family has an uncanny skill in being able to find time to prepare paddocks in advance to ensure good production.

Paddocks are typically fertilised with super and potash in the autumn. Nitrogen is added later pending rainfall. Additional fertiliser containing nitrogen, potassium and sulphur may be added in late August.

### Calvings follow grass production curve

Mr Glass calves once a year in autumn. He sows ryegrass every year so it is in line with the calving pattern and the milk price, which is higher from April to August.

The grass production curve peaks in August, September and October,

when they usually get two cuts for silage. The grass is cut and left to dry for about three days or when it reaches 30%-40% dry matter. Silage is stored in pits dug into the ground. In years of high rain and resulting yields they may fill several pits and keep the silage for subsequent seasons with less rain. “I know farmers who have kept silage in such pits for a number of years,” Mr Glass said.

The average rainfall is 850-900 millimetres in this part of Victoria and there is no irrigation on the farm. It can be a challenge in drought years such as experienced in 2000-10, but in the past four years, patterns of rainfall have been closer to normal.

### The milk price

The current breakeven milk price is \$5.20 per kilogram of milk solids (MS). These are net figures when all costs are subtracted, such as depreciation, feed, fuel, power, labor and interest. In the financial year 2013-14 the milk price was high at \$7.47/kg MS while the price for 2014-15 is \$6.73/kg MS.

“When comparing to the milk price in other major dairy countries we are actually in a good situation,” Mr Glass said. “The milk is sold and processed by French-owned Parmalat into fresh milk, yoghurt, sour cream etc for the local market.”

The cows are milked in a 50-unit rotary twice a day. An automatic cow ID system gives all relevant information on a screen installed beside the milker, monitoring date of calving, breeding, production, pedigree, mastitis etc. **D**

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

Rank	BullID	Bull Name	Indices			Production			Survival		Conformation Traits			Workability			Daughter Fertility		Cell Count		Feed Saved		Source			
			BPI \$	Rel	HMI	TMI	ASI	Rel	ASI	Rel	Survival	Rel	Over Type	Mam Syst	Type Rel	Milk Spot	Temp	Life	Rel	Dtr Fert	Rel	CC		Rel	Feed Saved	Rel
1	CANBEE	COUNTRY ROAD ROUMARE CANBEE	335	80	237	345	279	90	134	53	104	70	106	103	83	102	103	81	93	72	116	79	-51	42	AUT	
2	GOLDREST	TOPSPEED GOLDYN-ET	307	73	252	286	217	83	62	30	104	63	101	102	72	102	100	102	72	97	148	73	114	38	GAC	
3	CHRISTMAS	EMU BANKS CHRISTMAS-ET	298	78	191	309	248	87	99	31	104	68	107	100	81	102	101	101	78	96	108	78	-143	41	GAC	
4	NIELS	HILL VALLEY NIELS	286	70	240	306	149	81	56	27	107	54	105	104	63	98	102	103	72	102	128	71	-4	33	ABS	
5	SHOLTZ	ST. CLAIR SHOLTZ-TWIN	271	74	190	270	198	84	54	30	106	65	104	103	72	101	104	104	67	100	148	76	-125	38	ABS	
6	WESTGATE	GALLRAE JOCKO 3438	265	81	218	276	148	90	95	48	108	71	109	106	78	103	103	102	84	99	120	82	-24	40	GAC	
7	ROUFECTOR	BUNDALONG ROUFECTOR	261	78	175	289	227	88	86	36	105	68	109	106	77	105	103	104	79	94	100	80	-72	39	AUT	
8	GONZO	CURRAJUGLE GONZO	255	83	241	238	74	94	223	71	107	70	99	105	84	102	101	103	84	110	126	82	34	42	ABS	
9	MIDNIGHTSPEC	HILL VALLEY MIDNIGHT SPECIAL	254	74	179	238	187	83	74	26	103	66	108	104	79	99	98	97	76	99	122	71	-87	40	ABS	
10	USEAGE	KAARMONA CALEB	251	85	214	243	155	94	207	62	106	77	108	109	85	101	100	102	89	108	132	87	55	42	GAC	
11	29H012772	BALLYCAIRN OMAN PELLO	251	79	196	188	138	87	59	26	106	73	98	96	81	101	101	102	77	111	168	81	-61	41	ABS	
12	DELSANTO	MANNA FARM DEL SANTO	247	90	175	269	233	98	1084	188	99	82	107	110	95	99	102	102	97	97	86	119	93	21	46	GAC
13	7H8081	ENSENADA TABOO PLANET ET	242	92	212	253	91	98	604	126	110	92	104	109	97	100	103	103	96	100	132	98	-67	47	GAC	
14	REALM	ECLIPSE ROUMARE REALM	234	76	161	211	225	85	67	34	105	65	97	100	73	104	103	101	76	93	72	80	42	38	GAC	
15	29H011932	MORNINGVIEW LEGEND	234	88	146	215	171	96	311	50	105	84	104	104	91	100	96	100	86	107	147	96	-188	44	ABS	
16	JANEK	RENGAW JARDIN JANEK	232	71	175	219	198	82	64	20	105	60	104	105	70	100	108	103	73	101	136	70	30	37	ABS	
17	CARLANA	KAARMONA CARLANA	229	71	152	211	189	79	44	23	103	62	102	104	75	102	101	101	72	100	140	68	-90	39	GAC	
18	DOLBY	GUM RIDGES ROUMARE DOLBY	227	72	170	233	142	82	51	28	106	62	102	105	67	101	102	102	74	99	135	73	-72	36	GAC	
19	HOTAYLORMADE	TAHORA TAYLORMADE	224	83	196	229	124	93	124	53	105	76	105	110	81	102	99	101	78	108	114	92	53	40	SEM	
20	KINGTIDE	BUNDALONG PLANET KINGTIDE	222	68	181	165	112	78	37	20	105	58	97	103	69	99	101	101	67	99	106	68	-68	36	GAC	
21	EUROSTAR	ECLIPSE EUROSTAR	221	81	200	227	107	91	122	61	104	70	105	107	73	100	100	101	84	106	142	84	92	38	GAC	
22	ALTAMOONWALK	HILL VALLEY MOONWALK	220	74	200	246	86	86	91	27	110	58	108	108	68	103	102	103	71	100	133	73	0	36	AUT	
23	FLASHBACK	CARENDA FLASHBACK	219	70	181	229	120	80	47	22	107	62	106	104	74	101	103	104	71	103	162	68	-23	38	GAC	
24	WYMAN	PIROLO GOLDW. WYMAN	219	84	185	214	101	93	221	50	108	76	102	103	88	96	100	102	89	107	162	85	0	43	GAC	
25	MOTOWN	ECLIPSE ROUMARE MOTOWN	218	74	162	206	156	85	78	38	103	63	101	100	74	100	100	100	80	100	140	73	-2	35	GAC	
26	29H012470	INDIJKS BABYLON	217	87	148	188	155	96	377	92	102	80	102	102	99	88	100	100	92	108	156	91	-119	44	ABS	
27	DEANCOX	MANNA FARM DEANCOX	215	79	161	226	186	88	87	42	104	70	106	103	77	101	102	102	82	97	98	81	26	40	GAC	
28	LAIDLEY	GLOMAR LAIDLEY	215	71	162	181	158	81	53	22	104	61	100	95	71	99	100	99	102	102	114	72	24	37	GAC	
29	ATTICUS	KIRK ANDREWS ATTICUS	213	74	168	198	159	84	71	34	104	63	108	103	70	101	99	101	78	101	104	71	42	38	GAC	
30	BUDDHA	BUSHLEA PERFECTOR BOLD-ET	213	85	164	189	140	94	254	96	103	78	102	102	89	101	101	102	90	100	135	87	-27	44	GAC	
31	BARBADOS	WANDILLA ROUMARE BARBADOS	212	75	187	257	66	85	81	29	105	64	110	109	73	102	103	100	77	99	127	76	-59	38	GAC	
32	JIFFEY	RENGAW SHOTTLE JIFFEY	209	77	184	212	74	87	78	29	108	67	101	102	73	102	103	102	76	103	179	78	-14	38	AGR	
33	AJFANTOM	AJLEJAMA REALM FANTOM	207	71	154	193	175	81	63	24	105	61	98	98	74	103	102	102	72	98	115	70	78	38	GAC	
34	CURIO	COUNTRY ROAD ROUMARE CURIO	207	74	141	199	146	84	58	32	104	63	104	101	70	101	100	100	78	96	126	76	-118	37	GAC	
35	CRACKAJACK	ECLIPSE ROUMARE CRACKAJACK	201	82	176	169	125	93	229	63	103	72	95	102	84	99	101	99	90	93	123	78	115	42	GAC	
36	DARNET	MANNA FARM DRENALIN	201	71	178	218	70	81	56	20	105	59	108	111	68	103	102	101	77	102	100	70	-69	36	GAC	
37	29H013053	GRAN-J OMAN MCCORMICK	200	93	176	157	73	99	5057	516	107	95	101	99	98	101	99	100	99	114	143	99	29	47	ABS	
38	OPALEYE	DILEE PLANET OLLIE 958-ET	198	70	170	227	119	80	50	28	106	59	106	110	67	98	101	102	69	98	108	70	13	36	GAC	

continued next page

# Alta's Elite ABV Sires

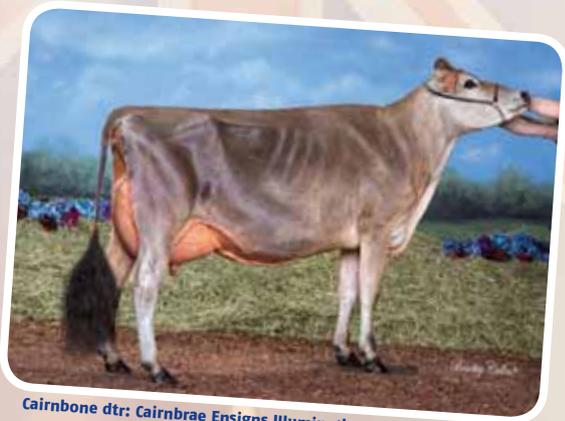
## CANBEE *(Roumare / Informer / Raimon)*

- ▲ Australia's #1 BPI sire at 335
- ▲ Highest Protein sire +46kgs
- ▲ Australia's #1 TWI sire at 345
- ▲ High semen fertility +2.4%



Canbee dtr: Wattlebank Canbee Satin - GP 84

## CAIRNBONE *(Tbone / Alf / Lester)*



Cairbone dtr: Cairnbrae Ensigns Illumination - 88pts Max

- ▲ New Release
- ▲ Top 10 BPI 297
- ▲ #2 TWI sire +118 Mammary
- ▲ Breed Leading semen fertility +6.5%



**Alta Genetics Australia**

Melbourne Head Office: (03) 9330 3444 Tasmania: (03) 6442 3527

Email: [info.au@altagenetics.com](mailto:info.au@altagenetics.com)

[www.altagenetics.com/australia](http://www.altagenetics.com/australia)



For more information contact ADHS  
 Phone: (03) 8621 4240  
 email: <dabernemethy@adhis.com.au>  
 website: <www.adhis.com.au>



**Australian Dairy Improvement Scheme**



**Source of Bulls**  
 ABS ABS Australia  
 AGR Agri-Genie  
 ALT Alta Genetics  
 CBH Coomboona Holsteins  
 CRV CRV Australia  
 GAC Genetics Australia  
 GGI GGI Australia

**LIC** Livestock Improvement  
**REM** AUSRED Genetics  
**SEM** Semex Australia  
**UVS** Universal Sires  
**TLG** Total Livestock Genetics  
**VIK** Viking Genetics  
**WWS** World Wide Sires  
**TBA** To Be Advised

from previous page

Rank	Bull ID	Bull Name	196	78	138	198	126	89	114	34	105	63	107	103	71	104	98	100	79	102	72	108	78	-115	37	ABS
39	LAZZARO	GLOMAR LAZZARO	196	68	163	245	124	79	48	24	103	58	108	113	68	101	103	104	69	106	82	120	67	6	36	GAC
40	JENKINS	KIRK ANDREWS JENKINS	195	86	180	239	45	95	289	86	106	78	107	107	86	101	103	103	91	106	82	137	89	-19	43	GAC
41	BUDLIGHT	WANDILLA INFORMER BUSTER 8TH-TWIN	194	72	141	146	167	81	58	33	102	63	97	98	76	100	100	101	78	102	59	90	69	26	39	GAC
42	QUIZZICAL	ECLIPSE QUIZZICAL	193	72	194	186	61	84	76	27	105	58	100	106	69	100	102	102	67	106	87	142	72	106	36	ALT
43	ALTAGOLDPLAN	SARDI GOLDPLAN-IMP-ET	191	88	158	171	88	96	385	78	107	82	102	99	92	106	101	103	88	106	87	116	92	-20	45	GAC
44	7H9321	RALMA GOLD CROWN	189	72	161	196	129	82	62	23	104	60	102	107	72	102	103	103	70	107	64	80	71	72	38	ABS
45	CHOCOLATE	MIDWAY PARK TENNYSON CHOCOLATE	186	86	189	213	9	95	346	101	107	77	105	108	86	99	103	102	90	108	81	169	88	2	43	ABS
46	THROTTLE	ELMAR THROTTLE	184	93	168	208	41	99	3702	530	110	98	107	105	99	100	104	104	99	104	99	166	99	-56	47	ABS
47	SHUTTLE	PICSTON SHUTTLE	182	80	180	216	75	87	65	19	106	75	106	110	87	104	101	103	77	104	84	143	86	86	43	ALT
48	011HO10675	LAKE-EFFECT ALTACALIBER	178	70	128	137	116	79	41	18	104	60	98	102	70	99	101	103	76	106	82	141	68	-77	36	GAC
49	JENKELANI	COOMBOONA LEGEND JERRICO	178	80	165	224	21	87	54	23	110	74	108	109	84	102	101	102	74	106	82	150	84	-111	42	ALT
50	011HO10661	SULLY ALTAMETEOR																								

Good Bulls Guide for Holstein — Genomic ABV(g/s)

Rank	Bull ID	Bull Name	Indices			Production			Survival			Conformation Traits			Workability			Daughter Fertility			Cell Count			Feed Saved			Source
			BPI \$	BPI Rel	HMI	TMI	ASI	ASI Rel	No. Dtrs	No. Hds	Survival	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	318	52	250	302	218	64	0	0	106	38	103	105	40	102	102	102	50	104	36	124	50	6	24	GAC	
2	VIZABULL	CARENDA PICOLA 375	306	50	215	289	205	63	0	0	106	36	103	103	38	100	102	102	52	106	35	154	48	-141	23	GAC	
3	VALIUM	CARENDA PICOLA 354	301	50	238	272	205	63	0	0	106	36	101	101	37	101	102	102	51	106	34	117	48	38	22	GAC	
4	JUMPON	RENGAW KMA JUMPON	292	56	217	294	231	68	0	0	104	44	105	104	45	99	101	101	55	97	42	127	55	-4	26	GAC	
5	CRVBOWROCKY	BOUW ROCKY	290	50	236	281	152	63	0	0	108	35	105	104	38	101	102	102	47	110	34	146	48	-41	23	CRV	
6	REACTOR	CARENDA PICOLA 352	287	54	204	294	230	66	0	0	105	42	105	107	43	103	102	102	56	100	40	116	53	-58	25	GAC	
7	VERMOUTH	CARENDA PICOLA 394	287	51	224	262	220	63	0	0	102	37	100	105	39	102	101	100	49	103	36	119	49	70	23	GAC	
8	VANCE	CARENDA PICOLA 349	287	52	222	278	198	64	0	0	106	38	105	104	39	102	101	103	53	104	37	125	50	7	23	GAC	
9	ROYALBEE	HINDLEE CANBEE ROYAL 14 6-ET	282	55	207	279	190	67	0	0	107	42	104	102	45	103	102	102	57	102	38	141	53	-83	26	GAC	
10	JUSTLE	RENGAW MOM JUSTLE	280	55	226	240	156	67	0	0	108	41	101	102	44	100	102	103	56	107	41	125	56	-26	25	AGR	

Good Bulls Guide for Red Breeds — Australian Proven

Rank	Bull ID	Bull Name	Indices			Production			Survival			Conformation Traits			Workability			Daughter Fertility			Cell Count			Feed Saved			Source
			BPI \$	BPI Rel	HMI	TMI	ASI	ASI Rel	No. Dtrs	No. Hds	Survival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Dtr Fert	Rel	CC	Rel	Feed Saved	Rel		
1	VFOSKE	V FOSKE	310	82	230	288	205	96	145	16	108	68	102	104	58	102	104	104	88	112	71	111	91	-95	33	VIK	
2	ATOSIKKO	ASMO TOSIKKO	249	85	201	276	145	96	164	21	104	77	103	106	85	99	104	99	88	102	74	141	92	-22	40	VIK	
3	GEDBO2263	G EDBO	242	78	225	210	115	93	80	10	106	66	96	101	60	110	104	72	103	66	55	91	151	33	33	VIK	
4	RANDERSDAVID	R DAVID	235	83	212	216	65	95	133	29	110	77	100	101	79	100	99	98	88			114	90	-33	38	VIK	
5	VR SOLERO2851	VR SOLERO	198	70	153	182	119	86	30	11	104	57	99	101	57	101	103	67				115	84	-31	32	VIK	
6	FASTRUP	R FASTRUP	193	83	144	194	121	95	125	17	107	69	104	102	63	94	100	100	88	105	83	122	89	-68	34	VIK	
7	ARBONJOVI	BOSGOWAN BON JOVI	176	88	125	141	130	99	659	146	102	76	100	100	79	102	100	102	96	106	87	98	94	-29	38	GAC	
8	ARBODDOWN	LODEN BOB	166	91	106	128	146	99	1705	242	103	88	101	99	86	96	98	99	98	96	95	94	98	-56	40	GAC	
9	ARBLEVER	LOUVIC LEVER	161	75	158	187	61	91	73	32	103	52	102	105	56	99	96	99	78	101	63	139	77	108	28	GAC	
10	ARBOBAMA	BEAULANDS OBAMA	152	70	110	144	118	88	57	23	105	45	99	101	45	105	100	102	80	102	55	69	67	-11	21	GAC	

# ILLAWARRAS

## *more than just a pretty face*

**HIGHLIGHTING CURRENT LIFETIME TOP TEN IN JUST TWO HERDS**  
**using both AI and home bred bulls to breed**  
**large numbers of Illawarras producing**  
**consistently high volumes of high quality milk.**

### OVENSDALE (Rob & Maree Newton, Whorouly, Vic)

Current Illawarra herd 284. Currently 48 cows in herd exceeding 50,000 ltrs with 82 cows having surpassed 10,000 ltrs. 88 cows in herd have surpassed 10,000 ltrs in a lactation. Top production cow - 13,909 ltrs, 6 cows exceeding 100,000 ltrs lifetime.

TOP TEN LIFETIME	MILK LTRS	PROT KGS	B/FAT KGS	LACT.
OVENSDALE TRINKETT 89	102348	3451	3676	8
OVENSDALE ROSE 79	92817	2823	3062	8
OVENSDALE PRIMULA 16	91802	2755	2879	8
OVENSDALE PEARL 451	86224	2729	2680	8
OVENSDALE BEAUTY 283	85083	2739	3358	9
OVENSDALE BEAUTY 288	84448	2793	3225	8
OVENSDALE SCARLET 143	84399	2678	3082	7
OVENSDALE SCARLET 161	81901	2574	2762	8
OVENSDALE PIXIE 56	81875	2714	3322	7
OVENSDALE SCARLET 150	81645	2807	3590	7



**Ovensdale  
Buttercup 280**  
68,358 ltrs  
6 lact cont



**Ovensdale Buttercup 294**  
67,065 ltrs 5 lact cont



**Ovensdale Scarlet 150**  
81,645 Ltrs 7 lact cont



**Ovensdale Pixie 78**  
63,548 ltrs 7 lact cont

[www.illawarrasaust.com.au](http://www.illawarrasaust.com.au)

[betty@illawarrasaust.com.au](mailto:betty@illawarrasaust.com.au)



**longevity, PRODUCTION, fertility, PRO**

## **WALLUMLANDS SUNSTORM 8**

(Absolute)

**SUPREME CHAMPION**

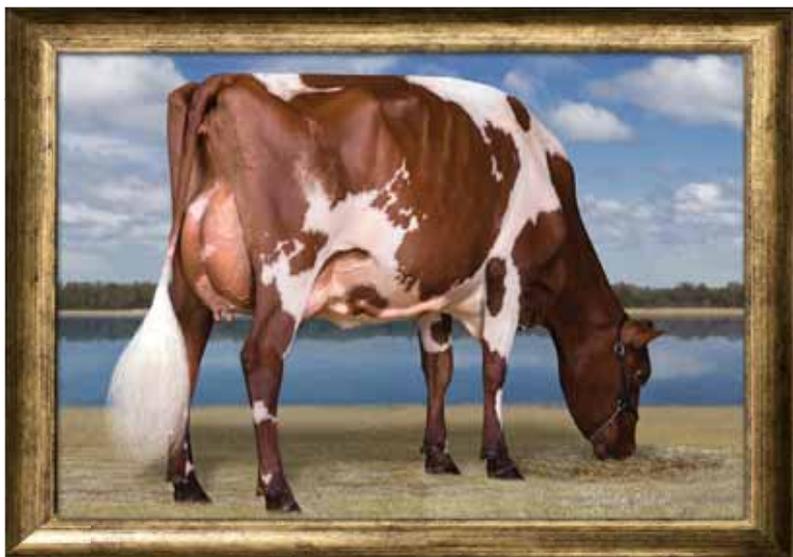
**ALL BREEDS**

**INTERNATIONAL DAIRY WEEK 2015**

3.10yrs - 6858 ltrs - 265kgs 3.86% Fat  
208kgs 3.03% Prot - PI 103 - 187 days

Dam: Wallumlands Sunstorm 5  
59,840 Ltrs cont 8 lact

*Bacon, Govett & Gordon, Vic.*



### **GLENBROOK (Ian & Julie Mueller, Murray Bridge, SA)**

Current Illawarra herd 266. Currently 56 cows in herd exceeding 50,000 ltrs with 51 cows having surpassed 10,000 ltrs. 60 cows in herd have surpassed 10,000 ltrs in a lactation. Top production cow - 15,327 ltrs, 2 cows exceeding 100,000 ltrs lifetime.

Llandoverly  
RM Poppy  
**107,076 ltrs**  
**8 lact cont**  
(Pictured 2 days  
before calving)



#### **TOP TEN LIFETIME**

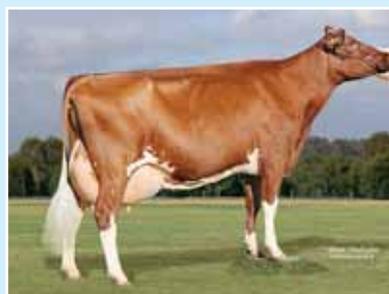
	<b>MILK LTRS</b>	<b>PROT KGS</b>	<b>B/FAT KGS</b>	<b>LACT.</b>
LLANDOVERLY RM POPPY	104041	3292	3781	8
GLENBROOK RHAPSODY 21	96748	2884	3028	8
GLENBROOK RHAPSODY 22	95807	2975	3595	8
CLAREFIELD ULTIMATE SUNBEAM	84241	2672	3299	7
GLENBROOK BEAUTY 19	82837	2679	3263	8
GLENBROOK SYLVIE 7	75310	2303	2766	7
LLANDOVERLY JTT PRIDE 4	70121	2142	2735	6
GLENBROOK NANCY 23	69610	1956	2329	8
GLENBROOK VENUS 16	68724	2143	2550	6
GLENBROOK BUTTERCUP 29	67750	2013	2451	5



**Glenbrook Rhapsody 21**  
101,975 ltrs 8 lact cont



**Glenbrook Rhapsody 22**  
98,832 ltrs 8 lact cont

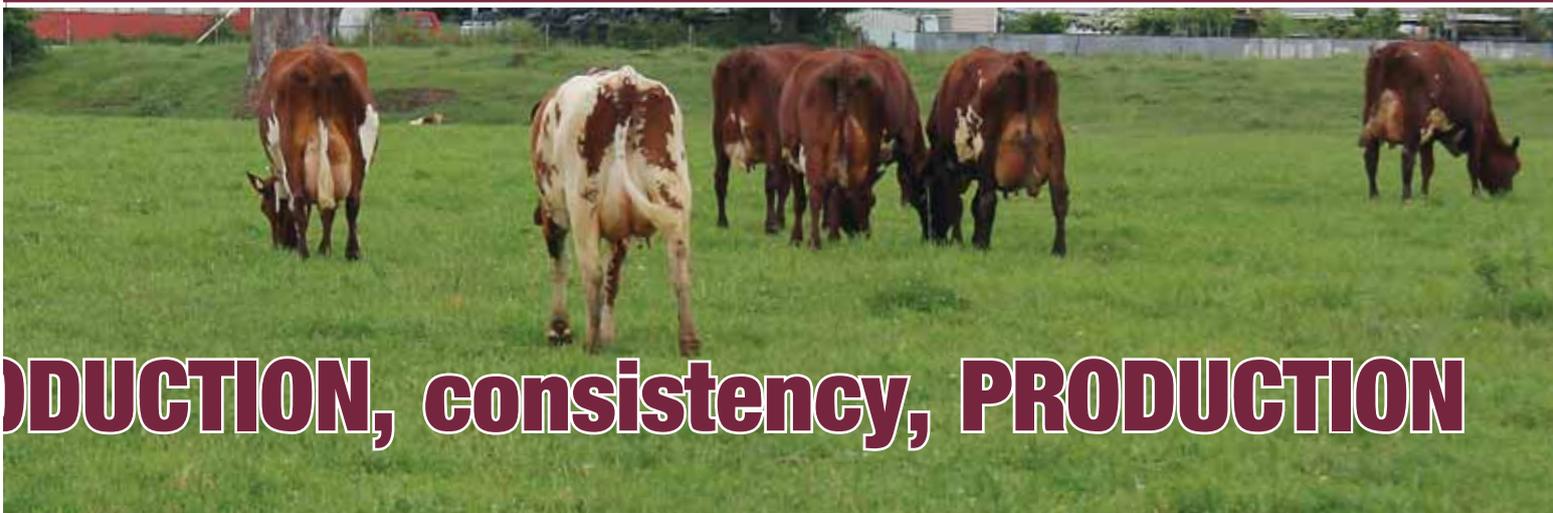


**Glenbrook Buttercup 29**  
70,974 ltrs 5 lact cont.

**WANT TO LEARN MORE ABOUT ILLAWARRAS? TALK TO A REAL FARMER.**

Michael Tuhan (Vic) Mob: 0419 377 098  
Ian Mueller (SA) Mob: 0488 321 489

Tom Cochrane (NSW) Mob: 0402 317 060  
Shane Bourke (Qld) Mob: 0437 661 189



**PRODUCTION, consistency, PRODUCTION**

# AUSTRALIAN BREEDING VALUES — APRIL 2015



For more information contact ADHIS email: <dabernethy@adhis.com.au>  
 website: <www.adhis.com.au>



**Australian Dairy Improvement Scheme**



**Source of Bulls**  
 ABS Australia  
 AGR Agri-Gen  
 ALT Alta Genetics  
 CBH Coomboona Holsteins  
 CRV CRV Australia  
 GAC Genetics Australia  
 GGI GGI Australia

**LIC** Livestock Improvement  
**RED** AUSRED Genetics  
**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

Rank	Bull ID	Bull Name	Indices			Production			Survival			Conformation Traits			Workability			Daughter Fertility			Cell Count			Source			
			BPI \$	BPI Rel	HWI	TMI	ASI	ASI Rel	No. Dtrs	No. Hds	Survival	Survival Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Fert	Dtr Rel	Rel	CC		Rel	Feed Saved	Rel
1	RACEWAY	ABERDEEN VALERIAN SANDOWN-ET	362	79	286	375	219	89	112	42	107	69	59	107	113	81	104	105	84	99	73	84	79	-58	38	GAC	
2	NAVARIAN	COLNARCO NAVARIAN	328	73	262	334	219	84	76	34	106	59	106	109	110	64	102	103	80	100	66	126	77	15	30	GAC	
3	CSCAMBITON	RIVERSIDE AMBITION	310	73	266	303	184	84	63	26	104	61	104	109	109	69	104	100	103	78	103	90	74	86	33	ABS	
4	ELTON	CAIRNBRAE JACES ELTON	306	92	215	327	213	99	3588	406	105	94	109	107	95	104	105	104	99	100	97	121	98	-142	44	ABS	
5	BOSGREGSTAR	WHITE STAR GREG	303	73	202	303	260	86	93	34	99	59	99	93	94	70	103	103	106	75	104	59	103	74	-58	33	CRV
6	CAIRNBONE	CAIRNBRAE TBONE ENSIGN	297	69	232	339	192	81	55	22	104	54	104	118	118	61	100	101	102	75	101	62	111	69	-47	28	ALT
7	CSEDISON	CAIRNBRAE TBONE EDISON	285	70	152	299	278	81	67	28	102	56	106	104	104	64	103	103	102	78	97	60	109	70	-241	28	ABS
8	MAXAPPEAL	RIVERSIDE MAXIMUM APPEAL	260	74	200	290	159	86	62	27	106	62	107	104	104	69	102	102	103	68	101	71	108	76	-51	33	ABS
9	ROUNDHILL	ABERDEEN VALERIAN ROUNDHILL-ET	247	73	194	246	152	84	66	31	105	59	106	106	106	66	103	102	103	76	104	69	92	74	-16	32	GAC
10	VAVOOM	ROCKLEIGH PARK VALERIAN VAVOOM	238	74	156	194	177	85	70	26	103	60	101	108	108	65	101	103	103	76	101	68	90	78	-106	32	ABS
11	VANAHEM	PANNOO ABE VANAHEM	233	89	182	278	140	99	1519	257	106	78	109	108	91	103	108	106	98	98	86	110	92	-75	42	ALT	
12	VASILIS	KAAROMA VASILIS	221	72	161	223	146	84	64	24	105	58	104	100	100	61	102	102	102	74	98	96	90	76	-58	29	AGR
13	LIGHTWOOD	LIGHTWOOD LUCRATIVE	220	92	147	251	161	99	2094	296	106	94	107	105	96	101	102	102	102	99	98	120	97	-122	44	GAC	
14	BROADSIDE	BROADLIN 2420 SPIRITUAL	218	73	178	226	147	84	62	37	104	63	104	106	74	100	102	102	74	99	65	113	74	42	35	GAC	
15	SANDBLAST	NOWELL SANDBLAST	216	87	181	180	173	97	552	117	98	77	102	107	86	100	102	104	94	104	84	104	87	144	40	AGR	
16	TAILBOARD	NOWELL TARSAN	213	92	160	222	152	99	1531	265	102	94	104	103	90	100	101	101	104	98	97	133	98	-6	42	GAC	
17	CSCMELVARA	WALLACEDALE MELVARA	205	70	171	231	118	84	83	26	106	55	107	112	63	102	104	104	78	98	55	132	71	-13	28	ABS	
18	BOSMURMUR	OKURA LIKA MURMUR SJJ	203	87	152	187	130	97	459	61	101	77	98	96	88	98	101	101	93	103	82	149	94	-9	41	CRV	
19	ARIES	NOWELL ZODIAC	193	74	143	140	132	84	64	23	102	61	100	99	69	103	102	102	76	101	68	109	74	-11	33	GAC	
20	GAINFUL	KAAROMA GALEAO	189	83	147	240	127	94	229	75	102	72	108	108	77	100	102	102	92	94	78	139	86	-27	36	GAC	
21	TOMTOM	BROADLIN NAVAGATE	188	70	134	221	151	83	72	30	103	56	109	103	64	102	100	103	78	98	56	136	71	-27	29	GAC	
22	DELIAN	LOXLEIGH DELIAN	186	76	138	221	129	87	79	44	104	62	109	107	66	102	98	101	79	98	70	80	79	-51	32	GAC	
23	MAXIMUM	SUNSET CANYON MAXIMUM	178	87	148	202	65	96	276	62	106	86	105	102	86	100	102	101	87	108	91	126	91	-40	40	AGR	
24	BARTPOWER	DARAWAY FLOWERPOWER SATIRA	172	90	178	217	25	98	882	220	105	90	109	114	89	100	100	102	97	102	94	134	94	33	42	GAC	
25	VALERAGAY	BROADLIN 2429 VALERIAN	158	74	123	149	85	85	68	30	104	61	102	98	66	102	101	102	76	99	68	97	78	-9	32	GAC	
26	PASSIVE	BERCAR PASSIVE	153	92	126	193	79	99	1191	246	105	94	103	102	92	100	100	100	97	100	97	101	98	6	43	GAC	
27	ALTAGALAXIES	GALAXIES CELEBRITY	151	91	160	226	-2	99	1083	151	109	87	112	114	92	101	103	101	103	97	101	92	146	94	-56	43	ALT
28	BOSREFUTE	WALLACEDALE VIOLETS REFUTE	136	80	110	177	90	92	122	40	102	70	105	106	69	102	101	102	85	94	77	100	85	15	33	CRV	
29	BADGER	BEULAH TARANAK BADGER	136	93	111	159	50	99	3803	530	105	98	105	103	97	99	102	101	99	99	99	133	99	-69	44	GAC	

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

Rank	Bull ID	Bull Name	Indices			Production			Survival			Conformation Traits			Workability			Daughter Fertility			Cell Count			Source		
			BPI \$	BPI Rel	HWI	TMI	ASI	ASI Rel	No. Dtrs	No. Hds	Survival	Survival Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Fert	Dtr Rel	Rel	CC		Rel	Feed Saved
1	0200JF08165	BROADLIN HATMAN	310	61	218	336	243	76	25	13	105	43	108	103	46	103	106	105	67	98	39	92	60	-80	22	SEM
2	DRAX	BEULAH BRAX 4262	308	42	246	332	204	55	0	0	107	29	108	108	32	103	105	105	43	98	26	109	39	-2	16	GAC
3	VIPOR	NOWELL VIPER	307	70	260	323	175	81	50	18	106	58	106	113	65	107	103	104	71	102	68	74	71	35	31	AGR
4	CRVBRAX	PANNOO BRAX	294	47	231	356	172	60	0	0	108	33	113	112	37	103	107	107	49	98	30	102	46	-86	18	CRV
5	GRIFF	KAAROMA GRIFFIN	291	48	226	311	186	61	0	0	107	35	108	110	38	104	105	106	50	100	32	96	46	-53	18	GAC
6	LEVIGENES	BROADLIN LEVI	290	49	209	301	217	61	0	0	106	36	106	105	40	102	105	105	51	98	34	98	48	-60	19	GAC
7	CRVMUMFORD	WHITE STAR MUMFORD	287	50	199	281	221	61	0	0	104	36	104	106	41	103	103	105	50	99	33	92	49	-97	20	CRV
8	BROWNLOW	DALBORA BRAX 5097 BROWNLOW	284	41	213	302	191	53	0	0	106	28	106	107	30	102	105	106	42	100	24	119	38	-53	15	AGR
9	BORAT	BROOKBORA TBONE BORAT	266	50	186	281	189	62	0	0	106	38	105	105	41	103	105	105	52	98	34	112	49	-100	20	GAC
10	SEGA	KADDY LARFALOT SEGA - ET	262	63	151	252	252	62	23	11	101	51	104	100	58	103	107	104	67	94	41	109	61	-171	27	GAC

## Selection for Immunity+ proves its worth

IN 2013, decades of research and hard work in collaboration with the world-renowned University of Guelph in Canada resulted in the launch of Semex's Immunity+ sires worldwide.

"Some cows and cow families just do not get sick," Semex chief executive officer Paul Larmer said. "They go virtually unnoticed in the herd, doing their job day in and day out.

"Worldwide, dairymen are requesting these sires because they know, just like we know, that it makes sense. And, lowering drug costs and increasing productivity through healthier calves and cows is a goal of all producers everywhere.

"In 2013, *Dairy Herd Management* recognised Immunity+ as an Innovative Product of the Year at World Dairy Expo. This was a very definite endorsement from the dairy industry that this technology is truly unique, valuable and a game changer."

There is a lot of on-going research in the immune response field, and in each case, the findings further validate many benefits of this outstanding new technology:

- starting with the expectation of 4-8%

***'... high immune cows have significantly more total immunoglobulin and betalactoglobulin in their colostrum...'***

reduction in disease, an analysis of three large dairies has shown a disease reduction in daughters by Immunity+ sires that is at least 8% or more, with most notable reductions in mastitis and pneumonia;

- using Semex bulls and daughters tested for immune response, a study by Emam et al (August 2014) validated the transmission of immune response to the progeny from their sires;

- Crispi-Thompson et al (August 2014) did an association study between the genomic markers on the 50K panel and immune response for a group of Semex bulls; a significant peak on chromosome 23 was found confirming previous results from the association studies using cows;

- the same research project calculated immune response heritability and indicated the actual heritability could be

even higher than the original estimate of 25%;

- preliminary findings by Cartwright et al (May 2014) suggest high immune responders have significantly less digital dermatitis (footwarts or hairy heel warts) than average.

- Fleming et al (August 2014) showed how high immune cows have significantly more total immunoglobulin and betalactoglobulin in their colostrum. These cows are expected to provide superior passive immunity to their calves through this enhanced colostrum. The paper suggests the future possibility of innovative ingredients for functional foods, enhancing both human and animal health.

In Australia, dairyfarmers are recognising the value of using Immunity+ sires in their own strategy to improve their herd and animal health.

Brian and Kathy McCosh, Panmure, Vic, are using Immunity+ sires on their 320-cow Holstein stud. "We like the fact that colostrum could play a big role in the health of our young stock," Mr McCosh said.

Article supplied by Semex, visit website <[www.semex.com](http://www.semex.com)>.



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# Breeding long-lasting cows

**Key points**

- ✓ Long-lasting cows pay back rearing investment
- ✓ Herd has 56 50,000-litre cows
- ✓ Low cell count also important

By **Lloyd Peters**  
Field officer  
Illawarra Cattle Society of  
Australia

**T**HE average productive life of the dairy cow around the world is decreasing, with an average number of lactations being quoted from the United States and Denmark of 2.4 lactations. It is reported much of the decrease in dairy cow longevity can be put down to lameness, mastitis or fertility problems, with these problems reported to be as high as 70-80% of culling reasons. Additional lactations increase the time available for a cow to pay back the high investment cost of rearing it.

The Holstein Friesian Association of Australia runs the All-breeds Classification Scheme. This scheme identifies and rewards cows with high lifetime production that also maintain a sound structural frame, are able to keep up with the herd and have a highly workable udder.

A cow that has produced 50,000 litres is eligible for the Superior Type and Production Award (STP) award. This award can progress to a Silver, Gold and Diamond Award, with the Diamond award for cows that have produced 100,000 litres. It is certainly a great milestone and has been likened to a human reaching 100 years.

The Illawarra Cattle Society is part of the All-Breeds Classification Scheme.

The Illawarra Cattle Society recognises the value of lifetime production and lists cows with more than 50,000 litres, (figures confirmed by annual herd-recording reports from herd-recording authorities) in its Annual Year Book.

Currently, the highest Illawarra cow still in production is in the herd of Braelee Pastoral, Mt Gambier, South Australia. In the past decade the highest lifetime production of 132,000 litres came from Silverleigh Cindy2 in the herd of Priebbenow Partnership, Oakey, Qld. Silverleigh Cindy, dam of Cindy 2, was also in the herd at the same time, also with 100,000 litres to its credit.



**Ian, Julie and Trent Mueller, Glenbrook Stud, SA, whose herd has more than 50 animals with a lifetime production of more than 50,000 litres.**

The 2014 Illawarra Year Book lists three herds with more than 50 cows above the 50,000 litre mark.

The Glenbrook herd of Ian and Julie Mueller, Glenbrook, Murray Bridge, SA, has 56 Illawarras above the mark. Glenbrook maintains a herd of about 400 cows, with 60% registered Illawarra and the balance commercial Holsteins, producing 3,000,000 litres annually.

Twenty-six-year old Trent, son of Ian and Julie, is in charge of the cropping and irrigation program, while there is another full-time worker, plus three casual part-time milkers.

The impressive Glenbrook property is on southern outskirts of Murray Bridge with 95 hectares of irrigated "swamp" from the Murray River, 45ha of highland lucerne and pasture irrigated by centre pivot, and 60ha of highland non-irrigated cropping. Ian considers that an area of non-irrigated cropping is important to the overall health of the herd.

The herd is milked twice daily. After the afternoon milking, the herd has access to a mix of brewers grain, silage and hay ration mixed in a mixer wagon and trough fed. Apart from that mixed ration, grazing is the feeding method. The night time feed is the swamp pasture and the main day ration is the highland irrigation.

A second property six kilometres away at Brinkley is also owned by Glenbrook, which is good cropping country, and supplies the silage and hay needs of the herd, while a further 610ha grazing property at Meningie is used to fatten steers and grow out the dairy replacements.

Despite some of Glenbrook's high lifetime producers now being up to 13th lactations, Ian maintains that he cannot carry cows that are a burden or a nuisance in the herd, so sound feet and legs are important, as are somatic cell counts, which must be kept down to produce a product of optimum value.

Ian quoted the record of his two highest lifetime cows at the present time:

- Llandoverly RN Poppy, which on its last 305-day lactation produced in excess of 15,000 litres of milk and on its current lactation on its first eight monthly recordings had an average cell count of 158,000; and
- Glenbrook Rhapsody 21, which reached the 100,000-litre mark in recent months, and its monthly cell count has ranged from 118,000 to 297,000 in its current lactation.

Fertility is another aspect of lifetime production on which Ian places importance. It takes a good cow to reach 50,000 litres in seven lactations, so it needs to calve regularly.

One other thing that is often overlooked is getting progeny from these high producing cows.

On the law of averages a cow in seven lactations will produce 3-4 heifer calves. Rearing replacements from the best cows is sound economic practice.

Glenbrook has an annual "pilgrimage" to Adelaide Show where it has been highly successful over many years. In 2012, Glenbrook Venus 19 was All Breeds Champion Cow. **D**

*Article supplied by the Illawarra Cattle Society of Australia.*

# GENERATION NEXT LOVES LONGEVITY.

CHRIS DORNAUF'S FAMILY HAVE BEEN MILKING LIC BRED COWS FOR 50 YEARS. WITH LESS THAN 10% EMPTIES AND 110% LIVWEIGHT TO MILKSOLIDS CONVERSION, CHRIS KNOWS HE IS MILKING THE RIGHT COW.

## THAT'S NEXT GENERATION THINKING.



**NEXT GENERATION  
THINKING**

# Heifer genomic selection tool launched

- Key points**
- ✓ Genetic selection tool for heifers
  - ✓ Allows early identification of best replacements
  - ✓ Help increase genetic gain in herd

**A**USTRALIAN researchers have developed a new tool that will help dairyfarmers make more informed, profitable selection and breeding decisions in their herd. It has the potential to double the net income per cow from genetic improvement.

The genetic selection tool developed, called Clarifide, was launched in Australia in March. It takes genetic information from an animal's DNA and converts it into a practical decision-making tool for farmers.

Clarifide is the culmination of many years of research and development at the Australian Dairy Herd Improvement Scheme (ADHIS), the Victorian Department of Economic Development, Jobs, Transport and Resources (DEDJTR) and Zoetis.

DEDJTR senior research scientist Jennie Pryce said a tool like Clarifide gave farmers access to more reliable data for a number of traits not previously possible. "Research suggests that farmers could double the value of their investment if they adopt a genomic selection tool for their breeding and selection decisions," she said.

Clarifide's simple tail-hair DNA test

will allow farmers to identify superior animals from as early as birth and identify whether or not these animals possess the potential to deliver on economically important traits including milk production, fertility and overall durability.

"With an extra level of precision, farmers can now confidently select their best replacement animals, allocate higher value or sexed semen to genetically superior females, and increase the rate of genetic gain for economically important genetic traits, with the use of this new DNA technology," Dr Pryce said.

South West Gippsland dairyfarmers Peter and Jeanette Clark were able to realise the hidden genetic potential of their heifers after using Clarifide during trials in Victoria.

"We could never have imagined the extent of genetic potential that existed in our herd without a genetic test like Clarifide," Mrs Clark said.

"We realised we were missing out on an opportunity to mate our heifers to top-rated semen after seeing their breeding values, so this tool has allowed us to make faster genetic improvements in our herd and know that we are breeding from the cow families that will make this advancement possible."

Chief executive officer of Holstein Australia Graeme Gillan said he be-

lieved the Australian dairy industry should take advantage of valuable breeding tools.

"In Australia, genomic testing is an under-utilised technology, especially at female level, so it is exciting that there is going to be another channel that farmers will be able to incorporate into their business," he said.

"A farmer's biggest asset is their herd, so if they don't value genetics, they are missing out on an opportunity to know more about animals from an early age and make better breeding decisions," he said. "The more farmers can get out of their herd, the more opportunity for gain.

"In essence, farmers can put their money and efforts into the animals that will help to build a more profitable farm."

Zoetis technical services manager Emily Piper said the new tool would allow farmers to avoid the risk of raising genetically inferior animals.

"We can now assist dairy producers with the difficult decisions around selection and management of heifers using a simple tail hair sample," she said. "That DNA sample can deliver a wealth of knowledge to producers about the animal's future production, health and type potential." **D**

**Article supplied by Zoetis, see website <[www.genetics.zoetis.com/Australia/](http://www.genetics.zoetis.com/Australia/)> for more information.**

## Strong Holstein line up from ABS

**A**BS Australia has a strong Holstein sire line up in the April sire summary in the United States, packed with both new graduates and veteran bulls, all impressing the market with production, type and fertility. A leader in the sire battery for these profitable traits is Aftershock, one of the most complete all round bulls for type and production in the US.

ABS Australia key account manager Peter Maxwell said Aftershock was a consistent type and production transmitter. "Daughters all over the world are showing outstanding dairy strength and excellent udders," Mr Maxwell said.

View-Home Monterey is a stand-out and sits among exclusive company with its dam, Pine-Tree 2149 descending from one of the world's most successful bull-producing families, Rudy Missy.

ABS Australia national sales manager

Paul Quinlan said Monterey excelled across the board and would appeal to a wide range of Australian dairyfarmers.

One of Australia's most exciting home-bred sires, Elmar Gerold, A2, is bred from the cow family that dominated 2015 International Dairy Week, winning champion, reserve and Honourable Mention cows, all bred and exhibited by the Hore family, Elmar Holsteins.

Mr Maxwell said Gerold's dam, Elmar Goldwyn Jessica 4-ET EX-91, has an outstanding mammary system, combined with great dairy frame and quality feet and legs. "Boasting calving ease, Gerold is a nice option for heifer matings," Mr Maxwell said.

"It has excellent daughter and semen fertility, and is an outcross to many sires used in the industry previously. Gerold's type numbers for udders are outstanding

for height and width of rear udder and fore attachment."

Two new Jersey bulls to make an impact in the April index run are CSCVisionman and CSCMelvara.

Mr Quinlan said ABS Australia was introducing more exciting findings from global research relating to sexed semen trials. New products would be released for Australian dairyfarmers this year.

"Following last year's customer feedback, ABS is positioned to test all global bulls on the Australian system to receive an Australian genomic ranking alongside their country-of-origin ranking, which has proven popular with Australian breeders," he said.

**Article supplied by ABS, contact Paul Quinlan, mobile 0417 202 001; Peter Maxwell, mobile 0437 808 123, or Marcus Rees, mobile 0417 202 005.**

## Making the right choice in the sexed semen market

Since the advent of Artificial Insemination (AI) in dairy cattle, farmers and breeding companies alike dreamt of selecting the sex of the calves born. Today, that dream can be a reality through the use of sexed semen.

When it comes to sexed semen production, making the right choice is essential and economic sense shows farmers need to choose the best product to increase their chances of producing heifers.

In 2002 Cogent Breeding was the first company in the world to offer sexed semen commercially to Australian Farmers and today, Cogent's partnership with Universal Sires Australia means the very best of the world's genetics are still readily available throughout the country.

When investing in genetics and in particular sexed sorted genetics, it is vital to use the correct sires to meet the needs of your herd. With the largest, most diverse range of bulls available in the Cogent line-up, you can be assured that your breeding objectives will be met and maintained. With the added peace of mind that the semen on offer is processed in Cogent's privately operated, world class laboratory.

## Cogent – pioneers in technology

Cogent has tried, tested and continuously improved sexed semen for more than 15 years. Although the technology for sorting sperm has not changed the process has and Cogent has enhanced and improved the product enormously. This includes the application of various new procedures including world-leading quality controls and an exclusive freezing technique underpinned from years of on farm experience.

In 2014, Cogent took semen sexing to a new level of efficiency and accuracy with an investment in the very latest sperm sorting technology.

The new semen sexing machines and purpose-built quality control laboratory are the most efficient and accurate machines available in the world today. They offer a huge improvement in terms of optical clarity, sorting accuracy and finished product quality which in turn, enables dairy farmers to improve the way they manage their herds' breeding programmes and production capacity.

Cogent's Andy Smith said: "Despite the improved production efficiency of the new machines, it is important for us at Cogent to ensure we continue to focus on quality rather than quantity. We ensure that every single straw of semen sexed or conventional meets or exceeds our industry-leading quality standards.

"Owning our own sexing laboratory has a huge advantage in supply chain management as it means we have full control of everything from nutrition to how regularly bulls are collected to achieve optimum results. At Cogent, we use bull specific extenders to maximise quality for the customer. Having control of the entire process means we are never putting bulls under stress when demand is high, we can continue to monitor it and amend our rota accordingly."

## Cogent quality control

Cogent uses more quality control in the semen sexing process than any other stud in the world. We ensure that every single straw of semen sexed or conventional meets or exceeds our industry-leading quality standards.

In total, Cogent performs seven objective tests on the semen; all but one are post thaw so as to take into account the effects of freezing and thawing on the semen. These tests include; looking at morphological defects, proportion of sperm membrane integrity, acrosomal integrity, DNA integrity and fertilization ability. On average a Cogent dairy sexed semen straw contains >90% female semen.

## Harmony Freeze

Cogent sourced the Harmony Freeze technique in 2002, in an effort to find a gentler, less damaging method of freezing semen. Harmony Freeze is an incredible process that leaves a significantly higher proportion of live, healthy sperm after thawing than any other commercial freezing method available.

Harmony Freeze technique resulted in 16% more live semen after thawing than semen thawed using the conventional method. More live healthy semen means more pregnancies. Only sexed semen frozen at Cogent is Harmony Frozen.

For more information on the Cogent's sexed semen processing procedures or sires available contact your Universal Sires Australia representative.

**Universal Sires PO BOX 3116,  
ALBURY NSW 2640**

**Peter Semmens 0488 404 373  
peter@universalsires.com.au**

**John Penn 0417 668 117**

**Mike Jeffery 0418 655 136**



**Cogent product is now available in Australia from Universal Sires**

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## **Only sexed semen frozen at Cogent is Harmony Frozen**

*In 2014, Cogent took semen sexing to a new level of efficiency and accuracy with an investment in the very latest sperm sorting technology.*



## Are you working in perfect harmony ?



**Harmony Freeze** - Only Cogent produced sexed semen is frozen using our unique and exclusive 'Harmony Freeze' technology which is minimising sperm damage during freezing and maximising progressive linear motility and sperm cell viability.

**Quality** - We are also the only stud in the world where sexed semen undergoes, and must pass, 7 different quality control checks before released for sale. Only the best sperm cells are selected for sorting, resulting in 90% female calves and conception rates approaching conventional semen when used following our guidelines.

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*Cogent product is now available in Australia from Universal Sires*

# Breeding for feed efficiency

- Key points**
- ✓ More milk for less feed
  - ✓ Breeding value identifies best converters
  - ✓ Genomics key to research

By Carlene Dowie

**A** NEW Australian genetic breeding value will help Australian farmers breed a herd that produces the same amount of milk for less feed. The new Feed Saved Australian Breeding Value (ABV) is the result of eight years of research and development by the Dairy Futures Cooperative Research Centre (CRC).

Dairy Futures CRC chief executive Dr David Nation said the Feed Saved ABV was the world's first feed efficiency breeding value that incorporated real feed intake data as well as a prediction of feed required for maintenance. "This is the first practical use of genomic tests to measure a trait that can't be routinely measured on farm, and the start of more extensive genomic testing to improve the range



**Dr David Nation:** This is the first practical use of genomic tests to measure a trait that can't be routinely measured on farm.

of traits important to dairyfarmers," he said. "Visually, you can't spot a highly feed-efficient cow, but farmers can now breed for it."

The Feed Saved ABV was published for the first time in April by the Australian Dairy Herd Improvement Scheme (ADHIS). It is included in the *Good Bulls Guide* and in the tables published in this magazine (see pages 55-60). All of the new ADHIS Australian



One of these groups of cows eats less feed to produce the same amount of milk — but the difference can only be identified through Australian genomic technology. These cows, at the Victorian Government's Ellinbank Centre, form part of the reference population for the new Feed Saved ABV.

selection indices — the Balanced Performance Index, the Health Weighted Index and the Type Weighted Index — include the Feed Saved ABV trait. It replaces liveweight in the indices.

Dr Nation said the Feed Saved ABV would be relevant to all the feeding systems that dairyfarmers used in Australia.

"The Feed Saved ABV allows farmers to breed cows in a new way: by reducing their maintenance requirements for the same amount of milk produced," Dr Nation said.

"Introducing the Feed Saved ABV creates a future where we can keep selecting for feed efficiency. Up until now, feed efficiency was delivered by bigger cows with sharp increases in milk production that increased faster than feed intake was increasing.

"This isn't sustainable, as these larger cows now have a greater feed requirement for maintenance, and production can't keep increasing at the same rate. The Feed Saved ABV provides a solution where farmers can now identify sires and cows that require less feed for the same amount of milk produced. They literally save feed."

In genotyped Holsteins, Feed Saved incorporates two components:

- residual feed intake based on research on cows and calves in Australia, the Netherlands and the UK and the genomic values derived from that research; and
- maintenance feed requirements, calculated from type traits such as the liveweight breeding value.

In other breeds, Feed Saved is calculated based on just the maintenance requirements predicted from the type traits.

**1.50** FI

**1.4** DPR

**4.5** SCE

**2.9** PL

**+.04** %F

## CAPTION

MAYFIELD X FREDDIE X LUCKY STAR

250HO01117 Stanton's Caption

Dams: Stanton's Freddie Cameo, VG 85

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### How the feed-saved ABV works

The Feed Saved ABV is expressed in kilograms (dry matter) of feed saved per cow per year. A positive number represents feed saved; a negative number represents extra feed consumed.

There is a range in Feed Saved ABVs among bulls and cows. In April 2015, Feed Saved ABVs for Holsteins ranged from -271 to +348 kilograms.

At this stage, reliabilities for Feed Saved ABV are lower than production traits at about 35% but this will improve as 120 new cows are added each year to the population being studied for the trait and more data is obtained from international collaborations.

Feed represents about half of a typical dairy farm's variable costs, so any opportunity to reduce feed is valuable to dairy farm businesses.

Some bulls can save at least 100kg of dry matter per cow per year.

While this might only equate to a quarter of a bale of hay, when multiplied across an entire herd and compounded year-on-year, the savings add up.

### Dairyfarmers welcome new value

Dairyfarmers have welcomed the development of the new value. Brian Anderson, Bundalong Holsteins, Kongwak, Victoria, said he was excited by the research.

"It'll like putting less petrol in a car for the same distance," Mr Anderson said.

"But feed efficiency has got to be in balance with other productivity traits. When going for something new, we're only tweaking the breeding program, but if I can get a couple of one per cent savers going my way than that might be the difference in using a bull in a breeding program."

Aubrey Pellet, Hill End, Vic, said the Feed Saved ABV was important. "Beyond the cost of growing grass, purchased feed is my largest cost," he said.

"So if I can breed a herd of cows that gives me the ability to reduce my feed costs, it will go directly to the bottom line, and it may give me the option to maintain feed costs and increase production."

Ron Paynter, Ellinbank, Vic, said he would not use the Feed Saved ABV directly in how he selected sires for his farm business, but it would have an impact because it was included in the three new breeding indices. "It will fil-

### Understanding feed efficiency

Take two seemingly identical cows



**COW A**  
**Production:** 6890 litres/year  
**Liveweight:** 600 kilograms  
**Feed:** 20 kilograms dry matter a day



**COW B**  
**Production:** 6890 litres/year  
**Liveweight:** 600 kilograms  
**Feed:** 19 kilograms dry matter a day

**Cow B is more efficient than cow A**  
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ter through," he said. "The thing that I'm really interested in on our farm is profitability, so I'll be focusing on the index that focuses on profitability and know that the Feed Saved ABV is built into it."

Con Glennen, White Star Jerseys, Noorat, Vic, said the genomic breeding values were exciting and when a more reliable Feed Saved ABV was available for Jerseys, there was "no

doubt" he would consider it in his breeding decisions.

### Feed Saved ABV development

Senior research scientist at the Department of Economic Development, Jobs, Transport and Resources (DED-JTR) Dr Jennie Pryce is one of the key researchers in the development of the Feed Saved ABV.

She said although the efficiency of ▶

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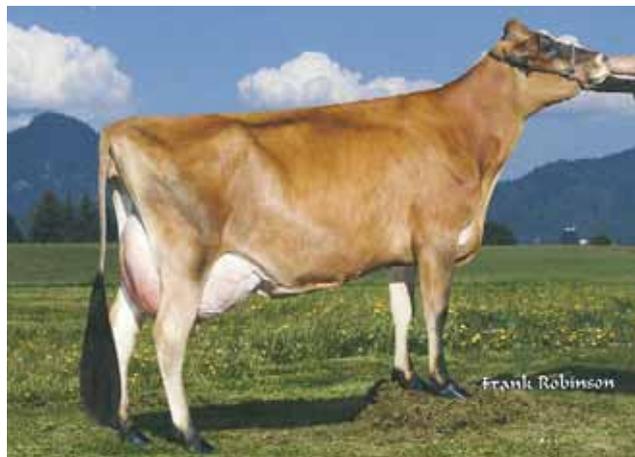
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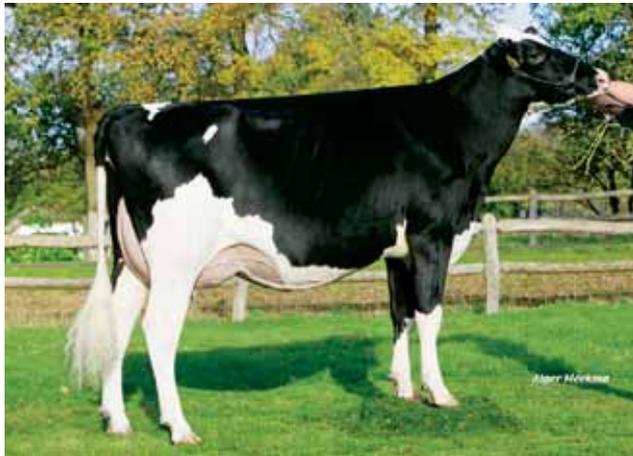
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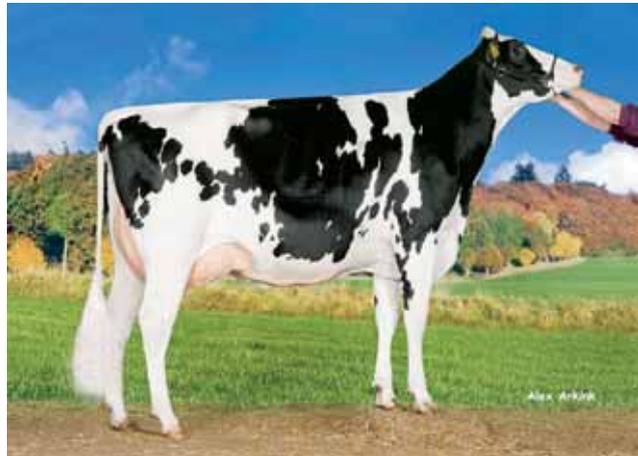
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**BETTER COWS | BETTER LIFE**





**Ron Paynter:** Feed Saved ABV will have an impact because it is included in the three new breeding indices.



**Aubrey Pellet:** Beyond the cost of growing grass, purchased feed is my largest cost.

◀ dairy cows in terms of milk production per kilogram of liveweight had doubled since 1950, largely through selection for improved production, the missing piece of the puzzle had been knowing exactly how much cows ate for any given level of production. “So there may be cows that produce

the same amount of milk that eat more or less feed,” she said. “Our research started at that particular point: identifying those animals that are the best converters of feed into product.

“So if we want to look at real efficiency of dairy cows, you actually have to measure how much they have

eaten. So take two cows and for all intents and purposes they appear to be exactly identical — they yield exactly the same amount, they weigh exactly the same amount — so where the difference in efficiency lies is in the amount of feed they eat.”

The research involved using feed bins fitted with electronic identification tag readers mounted on load cells. Animals were then fed lucerne cubes in these bins — with the amount that each animal ate recorded by the readers.

Two different sets of experiments were conducted this way. One set looked at heifers and measured growth rates; the other looked at cows and measured milk production.

In both experiments, the researchers were looking for the difference between what the animal ate and what it was expected to have eaten given

## Bull proofs reveal new ABV's value

**T**HE introduction of Feed Saved Australian Breeding Value as a component of all three new Australian breeding indices offered farmers a fantastic start to making gains in saving feed, Dairy Futures Cooperative Research Centre chief executive officer Dr David Nation said.

Dr Nation said there was a big range in Feed Saved ABVs. “This is as expected, because it hasn't been selected for in the past,” he said.

The range in Holsteins is -271 to +348 kilograms dry matter/cow/year, with a big standard deviation (77kg). This is also true for Jerseys (-248 to +348kgDM/cow/year range and a standard deviation of 88kg).

“There are top bulls to choose from in all of the three new indexes with a positive Feed Saved ABV, and many other bulls that have Feed Saved ABVs that are close to zero,” Dr Nation said. “As expected, there are many sires with a negative ABV. I expect to see more and more positive bulls for feed saved over time as sire analysts look for new genetics that is elite on each of the three indices.”

**Holsteins:** There were real differences between the three selection indices, and these differences helped farmers place different focus on their breeding goals, Dr Nation said.

“More positive bulls (for Feed Saved ABV) are found in the Health Weighted

Index because it puts twice the emphasis on Feed Saved compared with the other indices,” he said.

“The Balanced Performance Index has a real mix of positive and negative bulls, and elite bulls on the Type Weighted Index typically have a negative Feed Saved ABV. This demonstrates the value of having three different indices so that farmers can choose elite bulls based on the traits that are most important for their own herds.”

**Jerseys and other breeds:** Dr Nation said the results for Jerseys and other breeds showed similar trends in the different indices as observed in the Holsteins, except there are more negative Feed Saved ABVs.

“This is because the genomic aspect of Feed Saved (that corrects the trait for feed intake) is only available for Holsteins at this point,” he said. “However, this doesn't change how farmers can use Feed Saved ABVs to make improvements — because there are good bulls at the top of each of the lists for the three different indices.”

**A final word:** “Elite Holstein sires that have a genomic record are more likely to have a positive Feed Saved ABV, which demonstrates the value of using DNA information as part of a bull's proof, and helps farmers make more informed breeding decisions,” Dr Nation said. “The value is real, because these genotyped sires are able to have an assessment of their daughter's feed intake, which is often a positive influence on the Feed Saved ABV.”

**Table 1: Trends in Feed Saved Australian Breeding Values (FS ABV) for the top 30 proven bulls in each new index**

Holstein		
	Av Feed Saved ABV	# sires with a positive FS ABV
Health Weighted Index	29	21
Balanced Performance Index	-12	14
Type Weighted Index	-49	7
Jersey		
	Av Feed Saved ABV	# sires with a positive FS ABV
Health Weighted Index	-33	9
Balanced Performance Index	-53	7
Type Weighted Index	-53	6

## AUSTRALIAN BREEDING VALUES

its size/maintenance requirements and its growth or milk production.

The research was conducted on heifers at Rutherglen, Vic, and Taranaki, New Zealand, and cows at Ellinbank, Vic. Collaboration with overseas research groups provided dry matter intake records for an additional 1000 cows.

Dr Pryce said genomic selection technology was then used with the data from the experiments. "Because you can only measure feed intake with a relatively small population, genomics helps you to relay the information you get to the wider population," she said.

"For each of the animals we had more than 600,000 genetic markers and we were able to look at association between each of those genetic markers and this residual feed intake trait," she said. "You come up with a pretty simple, albeit very long, genomic prediction equation."

This could then be applied to any Holstein animal for which there were genetic markers, such as genotyped dairy bulls used for artificial breeding.

### ***'Introducing the Feed Saved ABV creates a future where we can keep selecting for feed efficiency.'***

Dr Pryce said the other important part of the Feed Saved ABV was that it took into account maintenance requirements.

For example, if there were two cows with the same residual feed intake (producing the same amount of milk for the extra feed consumed above maintenance requirements) but one cow weighed 450kg and the other weighed 620kg, the smaller cow would be a better choice because the total amount of feed it consumed would be less (because its maintenance requirements would be less).

#### **Feed Efficiency in other countries**

Other countries have moved towards evaluating feed conversion efficiency and incorporating in their breeding indexes. For example, in December, Holstein USA updated the Total Performance Index (TPI) formula to include Feed Efficiency.

But it is totally different to the Australian Feed Saved ABV as it is based on an estimate of milk production minus the cost of feed used for maintenance. **D**

**Contact: View a short video on find out more about breeding for feed efficiency using the new Feed Saved ABV and Australia's new breeding indices at website <<http://dairyfuturescrc.com.au/animal-improvement/feed-saved/>>.**

**Read about how the Feed Saved ABV was developed and funded, pages 32-33.**

*The Feed Saved ABV is a Dairy Futures CRC project delivered with the support of the Commonwealth of Australia and Dairy Australia. The Victorian Department of Economic Development, Jobs, Transport and Resources made major contributions to the project through rearing heifers in Rutherglen, studies of milking cows at Ellinbank, and development of breeding values by geneticists at AgriBio in Melbourne. Large-scale research activities were made possible through funding grants from the Gardiner Foundation. Detailed studies that compared efficient and inefficient cows were done by the University of Melbourne. ADHIS has overseen the development of feed efficiency trait and will include the trait in all evaluations from April 2015 onwards.*

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# Feed stations boost milk response

Key points

- ☛ Feed stations improve AMS operation
- ☛ Allow farms to manage feed better
- ☛ Computer sets individual rations



**W**HEN Malcolm and Kellee Hick were planning their automatic milking system (AMS), they quickly decided that out-of-parlour feed stations were a necessity, not an optional extra. Less than a year after installing their AMS, Mr Hick said the feed stations were already well on the way to paying for themselves through improved milk production and enhanced robot efficiency.

***We are probably feeding more pellets in total now but it is more profitable.***

The couple dairy near Denmark, Western Australia, with the herd calving in three batches: late autumn, spring and summer. At the peak of the

season they milk 220 cows through three DeLaval VMS box robots with four out-of-parlour feeders and four automatic drafting gates.

“We saw the feeding stations in action at Marcus Crowden’s AMS farm in Tasmania, and we realised they played an important role in achieving good voluntary cow movement around the farm, as well as allowing individual feeding,” Mr Hick said.

“In the old dairy we were feeding a flat rate of 1.5 tonnes per cow per year and production averaged about 8000 litres per cow.”

He said the couple had expected production to fall in the first year of automatic milking while the cows and the people adjusted to a new way of farming but their production was actually higher than at the same time the previous year.

“We are on track to average 9000 litre/cow in our first year of automatic milking and we couldn’t be happier,” Mr Hick said.

He uses DelPro, DeLaval’s herd-management software program, to deter-



**Malcolm and Kellee Hick say robotic milking has allowed them to spend more time with their children Ryan and Lara.**

mine each cow’s level of concentrates according to production and body condition.

“We are probably feeding more pellets in total now but it is more profitable because Delpro only gives extra feed to those cows that respond in milk production.”

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References: 1. O. AlZahil *et al.* 2008, *J. Dairy Sci.* 91:1166-1174. 2. R. Martineau *et al.* 2007, *Canadian Journal of Animal Science*, 88, 335-33. © 2014 Zoetis Inc. All rights reserved. Zoetis Australia Pty Ltd Level 6, 5 Rider Boulevard, Rhodes, NSW 2138. [www.zoetis.com.au](http://www.zoetis.com.au) 04/14 AM03119 PAL1105.

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◀ This season Mr Hick expects the highest production cows to receive about 2t while the lower-producing cows get about 1.5t. At their peak, the high-production cows are fed about 12 kilograms/day.

“That’s when it is important to have feed stations,” Mr Hick said. “The VMS box units are only designed to provide a trickle of feed while the cow is being milked. Cows can’t physically eat more than a couple of kilograms while they are being milked. It doesn’t make sense to try to feed more than that in the boxes as it holds up the robots.”

Located just after the dairy, the feed stations encourage cows to leave the robots once milking is finished, freeing up the robot to milk another cow.

The Hicks have been pleasantly surprised by how well the herd has adapted to moving around the farm on their own. In summer cows were averaging 2.5 milkings a day (average 180 days in milk) and virtually none required fetching from the paddock. The farm operated comfortably with one less labour unit.

“People are always interested in the robots but a successful automatic milking system is all about voluntary cow movement, which comes down to pasture allocation, the feed stations and the automatic drafting gates,” Mr Hick said. “Delpro is the command centre that makes it easy to manage all those things.”

Mr Hick spends about half an hour a day on the computer, checking key reports and entering data about animal management such as health treatments, joinings and calving.

“DelPro is not hard to use, and Kellee has also learnt enough to keep the system going if I’m out,” Mr Hick said. “The biggest challenge at the beginning was learning to trust the computer to do it for us. If the system doesn’t work as expected — for example, the cows end up in a different place — I know it’s me who set something wrong, not the computer. It requires a slightly different mindset.”

Perhaps the benefit most valued by the Hick family is the flexibility of the daily routine.

“I probably work the same hours in total as before but I’ve been able to create a daily routine that allows me time to have breakfast with our young children, Ryan and Lara. And I like being able to adjust the day’s tasks around family events or other farm priorities, such as silage harvest.” **D**

Article supplied by DeLaval, phone 1800 817 199, website <[www.delaval.com.au](http://www.delaval.com.au)>.

## Feed stations popular in Aus

**A**LTHOUGH originally developed for European barn-style dairy systems, out-of-parlour feed stations have proved to be successful in Australia’s grazing-based systems.

Since 2008 DeLaval has offered feed stations as an option with its VMS robotic box systems sold in Australia and New Zealand.

DeLaval’s managing director for Australia, Murray Antram, said the feed stations had been far more popular here than in NZ. About 90% of DeLaval customers investing in robot boxes have included feed stations in their design, and several have installed extras over time.

“I think the initial appeal to Australian farmers is the ability to customise the ration to individual cows — both the amount of concentrate fed and the ingredients,” Mr Antram said. “But AMS farmers have also discovered the feed stations play an important role in the farming system because they help voluntary cow movement around the farm and free up the robots to harvest more milk.”

Out-of-parlour feed stations are also suitable for conventional milking systems. Later in the year DeLaval expects to offer them as an option with its herringbone and rotary dairies.

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# Can cow intake be increased?

**Key points**

- Cow intake determined by rate of eating and time spent eating
- Pasture with forbs and legumes studied
- Plantain has role in transition diets



By Lesley Irvine,  
Tasmanian Institute of  
Agriculture Dairy Centre

ONE of the questions addressed at the annual Tasmanian Institute of Agriculture (TIA) Dairy Centre open day late last year was 'Can cow intake be increased?'. About 60 people attended the day to hear from a range of speakers. A summary of the key points from some of the speakers is provided below.

## Pushing the intake barrier

Dr Bill Wales, from the Victorian Department of Economic Development, asked 'How much pasture can a 550 kilogram cow eat?'. At the individual cow level, intake is determined by the rate of eating (bite mass x bite rate) and the time spent eating. If the amount eaten in each bite can be increased, then the total intake can be increased (see Table 1 next page).

Dr Wales said pasture intake was influenced by the management decisions made by the farmer, including:

- paddock size and number of cows (pasture allowance);
- pasture mass (height);
- nutritive characteristics (eg pasture type); and
- other factors (eg supplements, climate).

While each of these factors can be managed as best as possible to optimise cow intake and pasture consump-

tion, intake of pasture was restricted to about 20 kilograms of dry matter (DM)/day.

Dr Wales and his team at Ellinbank have been studying a flexible feeding system that incorporates total mixed rations into grazing systems in an effort to push through the intake barrier. This partial mixed ration system aims to further increase per cow intake and improve rumen function and digestion.

Conclusions drawn from this work include:

- tall dense sward enables cows to consume high intakes due to increased bite mass;
- the ideal plant needs to have similar characteristics to total mixed rations for high intake;
- providing cereal grain in the dairy can increase total intake but substitution of pasture for supplements limits total intake to 22kg DM/day;
- providing a partial mixed ration or grain mix in the dairy, containing wheat grain, canola meal and maize, to cows can further increase total intake to 24kg DM/day; and
- removing pasture restrictions can increase total intake to 26kg DM/day.

The work being conducted at Ellinbank is ongoing but has clearly demonstrated that increased intakes can be achieved. Work is soon to be published showing the impact of different feeding systems on milk production. Profitability of feeding options needs to be taken into account.

## More Milk From Forage

Keith Pembleton, from TIA, told the open day one part of the the More Milk From Forage project had been investigating if pasture containing forbs and legumes could deliver the next

productivity gain from the feedbase.

Milk production response experiments have shown an increase in milk production (volume and milksolids) in early to mid-lactation where cows graze either a ryegrass, clover and plantain mixture or a spatially adjacent monoculture, which is where the clover, plantain and ryegrass are sown as individual species in strips, side-by-side.

***'This partial mixed ration system aims to further increase per cow intake and improve rumen function and digestion.'***

This increase in milk production is in comparison to cows grazing a 'standard' ryegrass pasture.

Cows grazing on a clover and plantain mixture had lower milk production than each of the other treatments.

## Plantain and its effect on DCAD

Brodie Hill, a fourth-year Agricultural Science student at the University of Tasmania, undertook his honours project within the More Milk From Forage project. Mr Hill investigated the use of plantain as a transition cow diet.

The transition period for dairy cows consists of the three weeks before calving and three weeks post-calving.

During this time, there are a lot of metabolic changes occurring within a cow and it is most prone to issues such as milk fever (low blood calcium levels).

Many dairyfarmers now use commercially available 'lead feed' pellets, which are designed to reduce the Dietary Cation-Anion Difference (DCAD), which

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assists cows mobilise calcium from the bones, preventing blood calcium levels from dropping too low.

To achieve this result, the DCAD must be below 0 milliequivalents (mEq)/100 grams dry matter (DM).

**'This shows that plantain has potential for use in transition cow diets; the next phase is to look at how it can be successfully achieved within the whole farm system.'**

In his honours project, Mr Hill compared three transition cow diets:

- plantain — DCAD of -3.3 mEq/100g DM;
- ryegrass — DCAD of +28.5 mEq/100g DM; and
- control transition feed (lead feed pellets, ryegrass and hay) — DCAD of -3.1 mEq/100g DM.

To measure the impact of these diets on their associated group of cows, urine pH was tested (this is known to be negatively correlated to blood calcium levels). Normal urine pH is about 8; target urine pH for a transition diet to have an impact on calcium mobilisation is between 6.2 and 6.8.

After 12 days, the urine pH for the cows grazing plantain was the lowest at 6.4 compared with 7.8 for ryegrass and 7.3 for the control transition feed.

This shows that plantain has potential for use in transition cow diets; the next phase is to look at how it can be successfully achieved within the whole farm system.

**Megalac**

Mark Freeman outlined a recent study at the TIA Dairy Research Facility investigated the feeding of Megalac (protected fat) to dairy cows. There were 60 cows in the control herd that were fed 4kg/day of pellets and 60 cows in the Megalac herd that were fed 4kg/day of pellets plus 250 grams/day of Megalac.

These diets were fed from 20 days in milk to 220 days in milk, at which point the Megalac was taken out of the diet and all cows were fed 4kg/day of pellets. The feeding of Megalac increased the volume of milk (Table 3). There was no difference in cow fertility measures. **D**

A copy of the open day handout is available on the TIA Dairy Centre website <[www.utas.edu.au/tia/centres/dairy-centre](http://www.utas.edu.au/tia/centres/dairy-centre)>.

Article courtesy of Tassie Dairy News.

**Table 1 Influence of larger bite size on intake**

Bite mass (g)	0.8	1.2
Bite rate (bites/minute)	50	45
Time grazing (minutes)	450	450
Intake (kg DM/day)	18.0	24.3

**Table 2: Average daily milk yield and condition scores of cows fed either the control or Megalac diet**

	Diet		SED	Significance
	Control	Megalac		
Milk yield (kg/d)	21.7	23.0	0.55	*
Residual milk yield (d-220 to 250) (kg/d)	14.8	15.6	0.43	*
Milk fat (g/kg)	43.4	43.0	0.68	NS
Milk fat (kg/d)	0.946	0.995	0.025	NS
Milk protein (g/kg)	31.4	30.8	0.28	*
Milk protein (kg/d)	0.685	0.713	0.016	NS
Condition score 35 days in milk (1-8 scale)	4.18	4.18	0.08	NS
Condition score 200 days in milk (1-8 scale)	4.81	4.83	0.08	NS

**Table 3: Average fertility measures for cows fed either the control or Megalac diet**

	Diet		Significance
	Control	Megalac	
Conception rate to first service	0.70	0.68	NS
Conception rate to second service	0.66	0.66	NS
6-week in-calf rate	0.80	0.78	NS
12-week in-calf rate	0.92	0.90	NS
Days to conception	90.8	89.9	NS
Inseminations per conception	1.46	1.43	NS

NS = not significant

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# Website helps with feedpad planning

**Key points**

- Website to help with feedpad planning
- Consider financial impact
- Planning, building permits may be required



By Michael O'Keefe,  
Dairy extension officer,  
Rutherglen, Vic

**A** NEW website <[www.dairyfeedpads.com.au](http://www.dairyfeedpads.com.au)> helps dairyfarmers considering building a feedpad step through the decision-making process.

A well-designed feedpad can be a great asset to a dairy business. However, the right feedpad for the farm can often be harder to pick than simply selecting what works for someone else.

The website aims to cut down the time and effort it takes to find the right information on the various feedpad options and guide people through the process of planning a feedpad.

The website is a joint-venture between the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) and Dairy Australia and brings current and relevant information together on one site.

The first decision to make is if the feedpad is needed. Making a significant change to the feeding system, such as a feedpad, is likely to change the cost structure of the business.

It could be cheaper to consider some other options before heading down the feedpad path.

Think about the following:

- Is a feedpad the best way to manage wet soils, feed wastage or heat stress for the herd?

- It is worth considering if there are other options to achieve this?

A new integrated system should provide the flexibility to utilise different feed ingredients and reduce feed wastage to boost milk production and increase milk income less the purchased feed cost.

It is important to understand the current financial profile of the business, including revenue, operating finance and capital costs, before investing in a new system.

***Making a significant change to the feeding system, such as a feedpad, is likely to change the cost structure of the business.***

Before committing and starting to build the feedpad, the website suggests farmers do two things.

First, use the “check it out tool” for an initial assessment of the proposed feedpad’s financial impact. Then, if the investment looks promising, complete a whole-farm analysis with the farm’s adviser. This will enable the farmer to go into the project with their eyes wide open — no surprises.

### Types of feedpads

Feedpads can be classified according to their permanency (for example, semi-permanent or permanent) and the manure management method used (for example, scraping or flood-washing).

An effectively sited, designed, constructed and managed feedpad should provide cattle with easy access to

feed, minimise feed wastage and prevent adverse impacts on amenity and the surrounding environment (that is, natural resources such as soil, water and air).

A **semi-permanent feedpad** usually consists of a formed earthen or rubble pad located adjacent to the dairy or the main farm laneway. Feed can be placed directly onto the ground or rubber matting or in modular steel or concrete troughs. Accumulated manure is scraped away from the pad. Earthen and rubble pads cannot be flood-washed to remove manure.

A **permanent feedpad** usually consists of a concrete pad located adjacent to the dairy or the main farm laneway. The pad generally consists of a concrete alley that is used by vehicles for delivering feed (drive alley) and a separate alley that cattle stand on while feeding (feed alley). The pad usually has a longitudinal slope of 0.5-3% (that is, along the entire pad length). Accumulated manure can be either scraped or vacuumed from the alleys or flood-washed into a containment sump or pond.

### Impact on feed wastage and winter paddock management

Dairy Australia’s Grains2Milk program investigated feed wastage across 50 Australian dairy farms.

The project considered six different feeding systems from temporary systems such as delivering feed onto the ground or into hay rings (low capital cost), semi-permanent earthen feedpads and permanent concrete feedpads (high capital cost).

The project found that the total estimated feed wastage for temporary systems was about 18% while semi-

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permanent and permanent feedpads had low wastage rates of 1.5%-2%.

The results showed that significant amounts of feed could be wasted when delivered directly onto the ground or into hay rings and the price of bought-in feed could dramatically reduce the payback period on a semi-permanent or permanent feedpad.

**Planning considerations**

A successful feedpad or freestall development requires a lengthy consultation, planning and design process to ensure compliance with the local planning scheme and to provide ease of operation and management for the farm.

When considering the development of a new feedpad or the expansion of an existing system it is important to bear in mind the legislation that might apply.

In particular, it is necessary to consider:

- whether a feedpad is an allowable use, having regard to the zoning of the site and other relevant planning provisions;
- whether a planning permit is required;
- whether an EPA Victoria Works Approval is required; and

- which other government authorities may be involved in the assessment of any planning permit application and the information they might require.

***A successful feedpad or freestall development requires a lengthy consultation, planning and design process.***

A dairy farm is defined in the Victorian Planning Provisions as “extensive animal husbandry”, which is land used to keep or breed farm animals (including birds) at an intensity where the animals’ main food source is obtained by grazing, browsing or foraging on plants grown on the land.

This includes any emergency and supplementary feeding or incidental penning and housing of cattle provided they obtain the majority of food from the land.

In the farming zone, land can be developed and used for extensive animal husbandry without requiring a planning permit while in other rural

zones a planning permit may be required.

Some farmers may wish to build a feedpad to increase the productivity of their farm by supplying the majority of feed on the feedpad. This enables the farm to be stocked at a higher rate than it otherwise would be if relying only on the farm’s pastures. This is intensive animal husbandry and will require a planning permit.

A planning permit for intensive animal husbandry can be applied for in the following rural zones: Farming, Rural Activity and Green Wedge.

In addition to the planning permit requirement for the “use” of a site for intensive animal husbandry, any associated “buildings and works” (including earthworks) may separately trigger the need for a planning permit.

For example, within the farming zone a permit is required to construct or carry out earthworks that change the rate of flow or the discharge point of water across a property boundary, or earthworks which increase the discharge of saline groundwater.

It is recommended to talk to the local shire about the planning process when considering a feedpad. **D**

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# Tech key role in feed management

**Key points**

- Auto drafting and feeding system
- Grain feeding linked to walkover scales
- Activity and feed monitoring system



By Shan Goodwin

TECHNOLOGY plays a key role in feed management on the farm of Colac, Vic, dairyfarmers Mark and Sam Billing. The couple have been enthusiastic early adopters of a range of technology, with a clear aim to use it to drive profitability.

Given the array of products available it was easy to spend big, but the decision to use cutting-edge tools had to be based on a return on investment, Mr Billing said.

The couple milks 450 Holsteins under a dryland pasture-based system, with grain used to manage pasture shortfalls.

They built their 44-unit Westfalia rotary 21 years ago, and as their cows were calving 12 months later, they fit-

ted electronic cow identification neckbands to facilitate differential feed for production — well ahead of most dairyfarmers. At that stage they were herd testing every three or four weeks.

In 2006 they had the first installation on a rotary anywhere in the world of WestfaliaSurge Dematron 70 milk meters to facilitate removal of the clusters and measure the milk quantity and quality (conductivity).

The aim of the technology is to measure and manage cow feeding and production on an individual level. The responders allow automatic drafting and grain feeding to production or to bodyweight based on data from the walkover scales.

Cows are monitored 24-7.

“All those tools are interlinked and complement each other — for example our walkover scales are connected to our grain feeding — and all can be accessed in the office or at cow-side level,” Mr Billing said.

At the moment they feed an average of 1.8 tonnes per cow per year of grain concentrate, pellets and crushed

wheat, based on production worked out by their GEA DairyPlan herd-management system. The cows are all autumn calving and milking is all year round with late cows on an extended lactation.

The Billings also installed a grain-monitoring system that enables both them and their feed company to monitor grain usage rates and silo levels on a daily basis.

“It has meant our grain company can pre-emptively order grain based on how fast it is being used and how much is left,” Mr Billing said. “We haven’t ordered a load of grain since we put it in last June.

“Our company offers early ordering discounts so we are getting a bonus there, but above that, it is one less job for the farmer and more control of our grain stores.”

In May 2014 GEA Farm Technologies approached Mr Billing to trial its new CowScout activity-monitoring system within an existing pasture-based operation.

The CowScout tag, fitted to the col-

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lar, works with an accelerometer to gather and record the animal's activity, which determines when an animal is on heat. It also monitors and records eating or grazing time, which creates alerts if the animal is outside expected parameters, indicating a health problem.

"We were given 100 collars, and we put the tags on as the cows calved," he said. "Activity monitoring started pretty much from day one."

The data collected is stored in two-hour blocks, and 24 hours of data is stored in the tag itself. The data is then constantly transmitted to the farm database when it is in range of the antenna at the milking shed.

Because it is a wireless system, transmitting data via a radio technology, the cows don't have to go through antennas to download the data. The antenna has a range of up to 500 metres.

"Because we get real-time alerts, high activity cows can be recorded in the software before they come in for milking," Mr Billing said.

The monitoring of eating activity as well as heat activity allows farmers to better monitor herd health. Real-time alerts can be sent to a smart phone or laptop or tablet to notify immediately



Mark Billing with a cow fitted with the CowScout monitor that measures feeding behaviour.

if a cow is on heat, has lowered its eating pattern or if there is a system problem.

"Compared with our current system, this is far and away better," Mr Billing said. "It gives you real time data. We very early picked up on a heifer with a displaced abomasum because its eating behaviour had changed from eight hours a day to four hours.

"Our springer paddock is close

enough to the antenna that we can monitor real time changes.

"We even detected a change in the way a sorghum paddock was grazed. The sorghum had sprung up to chest height, whereas the previous brassica was below knee level."

**With additional information supplied by GEA Farm Technologies, phone 1800 789 100, email <info.auft@gea.com>.**

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# Choosing the best calf-housing option

**Key points**

- ✓ Many options available for calf housing
- ✓ Consider climate, budget, labour and preferences
- ✓ Disease control important factor



**N**UMEROUS calf-housing options are available for dairy farms. Each has advantages and disadvantages but regardless of the option selected all calves should be raised in an environment that is:

- clean;
- dry;
- well-drained;
- provided with sufficient bedding;
- draught-free and well-ventilated; and
- free of projections that may cause injury.

When selecting a calf-housing system, climate, budget, labour constraints and individual preferences need to be considered.

Calf housing does not have to be elaborate to be effective. The focus should be on providing calves with shelter from the weather and plenty of clean bedding.

Even the best facilities will not succeed without proper management.

Within a farm, combinations of housing systems may be used for calves of different ages. A common hybrid system is individual housing for the first two or three weeks followed by group housing.

Whatever system is used, calves housed in pens must be able to turn around, lie down and fully stretch their limbs.



The aim of all calf housing systems is to protect the calves' welfare by providing a clean, safe and comfortable environment.

## Individual versus group housing

Individual housing may achieve the best disease control and allows the rearer to closely monitor each calf.

Dismountable individual pens should be designed so that partitions can be taken apart and stored when they are not needed, and the pens are easily cleaned with available equipment.

As pens form a microclimate inside the larger housing system, it is important to consider ventilation and draughts at calf level within the pen.

A floor area of two square metres

should be provided for each calf in individual pens to permit self-grooming and prevent overcrowding.

Calves housed in single pens should be able to see neighbouring calves and be kept in the company of other calves from three weeks of age.

**Group management** is simpler than individual management but it is harder to respond to individual needs.

Calves should be grouped by size and age to reduce competition and facilitate observation and management.

Small group sizes of 5-10 calves combine the advantages of group management with ease of record-keeping and monitoring.

	Individual housing	Group housing
<b>Disease control</b>	<ul style="list-style-type: none"> <li>✓✓✓ Least risk of diarrhoea and respiratory disease</li> <li>✓ Close monitoring of each calf</li> <li>✓ Easier record keeping</li> </ul>	<ul style="list-style-type: none"> <li>✗ More disease risk due to increased contact between calves</li> <li>✗ Harder to monitor individuals</li> </ul>
<b>Cleaning &amp; hygiene</b>	<ul style="list-style-type: none"> <li>✓ Reduced exposure to faecal material</li> <li>✗ More labour intensive</li> </ul>	<ul style="list-style-type: none"> <li>✓ Easier access for mechanised cleaning</li> <li>✗ Good hygiene needed to control disease</li> </ul>
<b>Labour</b>	<ul style="list-style-type: none"> <li>✗ Labour intensive feeding</li> </ul>	<ul style="list-style-type: none"> <li>✓ Less labour intensive, easier management, suited to group feeding systems</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>✓ Less pizzle sucking</li> <li>✗ Little opportunity for contact between calves</li> <li>✗ Growth check at weaning</li> <li>✗ More fearful at 3 months</li> </ul>	<ul style="list-style-type: none"> <li>✓ Better for social development, play and exercise</li> <li>✗ Competition between calves</li> <li>✗ Uneven growth rates</li> <li>✗ Good ventilation is essential</li> </ul>

Fewer pen divisions are needed and access for cleaning is usually easier in larger pens.

A floor area of 1.5-2 square metres should be provided for each calf in group pens to permit self-grooming and prevent overcrowding.

The increased physical contact between calves increases disease risk so it is essential to have facilities for segregating or isolating sick calves.

When calves are fed in groups, care is needed to ensure all calves (even the slowest drinkers) are consuming what they need and that fast drinkers are not consuming too much.

**Tethering** is considered acceptable as long as calves are provided with suitable shelter and access to adequate water and nutrition.

The tethering method should not cause injury to the calf and all calves should be able to move around and exercise.

### Fully enclosed versus open housing

Fully enclosed, controlled-climate (heated and ventilated) calf sheds are usually not justified under Australian conditions.

**Open or partially enclosed housing** that provides passive cooling is the most cost-effective option in most regions.

The closed sides should protect calves from prevailing winds and rain but windows can be used to improve ventilation in good weather. Remember to check natural ventilation at calf level.

### Purpose-built versus retro-fit/temporary

A purpose-built shed could include:

- a storage area for feed, medications and equipment;
- a hospital area for sick calves;
- an area for handling calves — for example, a draughting race with crush pens or stalls;



Open or partially enclosed housing that provides passive cooling is the most cost effective option in most regions.

- weighing equipment;
- computer facilities;
- electronic scanning equipment; and
- a loading ramp.

Retro-fitted or temporary pens can be constructed from steel reinforcing mesh weldmesh or gates or hurdles.

If outdoors, shelter can be provided using a tarpaulin to cover one corner ▶

Table 2: A comparison of fully enclosed and open housing		
	Fully enclosed housing	Open housing
Disease control	✗ Increased disease if ventilation and climatic conditions not managed well	✓ Less disease risk
Ventilation	✗ Reliance on mechanical ventilation	✓✓ Good ventilation
Shelter	✗ Warmer for calves	
Cleaning and hygiene		✓ Easier access for mechanised cleaning
Labour	✓✓✓ Pleasant work environment ✗ Higher level of staff training and competence to operate	✗ More exposure to unpleasant weather conditions
Costs	✓ Higher stocking rates ✗ Greater start-up costs ✗ Higher cost per unit area	✓ Cheaper construction ✓✓ Lower energy use

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◀ from prevailing winds, or large hay bales can be used.

Temporary outdoor pens can easily be moved to a clean area of the paddock. Existing buildings can be converted to calf sheds but they may need modifications — for example, hay sheds can be effective calf shelters using stacks of fodder to block the weather.

The air space of the building needs to be considered when planning stocking rates, not just the floor area, otherwise respiratory disease can result.

In some buildings, ceiling height can severely limit air space.

### Hutches

Hutches made of polyethylene or fibreglass can be bought commercially while homemade hutches can be constructed from material such as marine plywood.

Some designs can be turned upside down for thorough cleaning and wheels may be fitted to make them easier to relocate.

Hutches are usually 1.2-1.5m wide and 2-2.4m long, although smaller hutches (1.2m by 1.2m) are cheaper and acceptable in warm climates.

To provide shelter from the wind,



**Calf hutches provide an environment that is dry and protected from the weather.**

hutches should be twice as long as they are wide.

The calf can either be restrained using a collar and chain or contained in an outdoor run (at least another 2sqm), enabling some contact with other calves.

Hutches should be placed so calves can see each other but at least 1m apart to prevent physical contact between calves (to control the spread of disease).

Hutches should be slightly elevated to allow drainage and prevent flooding.

A 15 centimetre layer of sand, gravel or crushed stone, or a pallet can be used, and ideally the outdoor run should slope away from the hutch.

Securing the feed and water buckets outside the hutch is labour-efficient and helps keep the calf's pen dry.

Hutches should not be placed in excessively hot, windy and wet locations but a sunny location in winter will allow the run and part of the bedding to dry out.

Light-coloured, reflective hutch materials will reflect sunlight and prevent the hutch heating up too much.

In hot summer conditions hutches should be placed in a shady area or it may be necessary to provide extra shade.

Fold-down or removable ventilation panels may be used and hutches can be raised on concrete blocks to increase airflow underneath.

### Igloos

Igloos are designed for groups of calves and allow the calf to choose between a sheltered warm environment and an outside area for exercise and play. ▶

**Table 3: A comparison of purpose built and retro-fitted calf housing facilities**

	Purpose-built facility	Retro-fit/Temporary
<b>Cost</b>	<ul style="list-style-type: none"> <li>✗ Higher start-up costs</li> </ul>	<ul style="list-style-type: none"> <li>✓ Construction materials can be relatively cheap</li> <li>✗ May be compromises in existing building design or facilities available</li> <li>✗ Feeders may be expensive</li> </ul>
<b>Ventilation</b>	<ul style="list-style-type: none"> <li>✓ Likely to be more efficient to operate</li> <li>✗ Planning permission needed and design must be approved by a structural engineer</li> </ul>	<ul style="list-style-type: none"> <li>✗ No planning permission needed, although if poorly sited or managed EPA may enforce changes</li> </ul>

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all sorts of designs, sizes and materials or are commercially available as Ecoshelters.

Site preparation is needed. Curtains can be incorporated so the sides and ends can be used for controlling temperature and ventilation.

They retain heat so are warm in winter, although care needs to be taken to maintain ventilation when the side curtains are rolled down.

### Conclusions

There is no single best way to rear calves and there are endless variations within each system.

Any calf-housing system will need

to be tailored to the individual farm's particular circumstances (budget, staffing, facilities, preferences and climate).

Remember that the aim of all calf-housing systems is to protect the calves' welfare by providing a clean, safe and comfortable environment. **D**

**Contact: Dairy Australia, phone (03) 9694 3777, email <kdavis@dairyaustralia.com.au> or website <www.dairyaustralia.com.au>.**

*Article extracted from Dairy Australia's Comparison of Calf Housing Systems booklet.*

	Advantages	Disadvantages
Disease control	✗ Group housing can allow spread of disease	
Ventilation	✓✓✓ Excellent ventilation for calves	✗ Ventilation can be poor if all openings are closed to keep in the warmth
Shelter	✓✓✓ Excellent shelter for calves, warm in cold climates	
Cleaning & hygiene	✓ Allows easy access for cleaning equipment	
Costs	✓ Fairly inexpensive	
Labour	✓ Provides protection for carers from the weather; allows flexible management	

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# Raising calves for robotic milking

Key points

- ✓ Remove extra teats and disbud calves
- ✓ Ensure heifers well grown
- ✓ Good stature vital characteristic



By Kendra Kerrisk, FutureDairy Project leader and Associate Professor, University of Sydney

**M**OST dairy cows can be milked by robots. But a few refinements to the routine practices for raising replacements can better prepare cows for robotic milking.

Practices worth reconsidering include calf rearing, monitoring heifer growth rates and conformation, cow identification and breeding.

While calf-rearing practices are basically the same for conventional or robotic milking, removal of extra teats and disbudding are more important for calves that will be milked automatically.

Removing extra teats at a young age

is especially important for AMS farms because extra teats can slow down robotic cup attachment, thereby reducing the number of milkings that can be conducted each day.

As it is much less painful for heifers to have teats removed at a young age, farmers should make it standard practice to check each calf for extra teats when it is removed its mother.

Effective disbudding or dehorning is important because a 'horn stump' on an individual cow can allow that animal to dominate other cows in an AMS.

There is no formal research to show that horn stumps increase the dominance behaviour but most AMS farmers agree that cows with horn stumps in a predominantly dehorned herd prevent herd-mates passing through single-file areas such as drafting gates and into milking stalls. At times these cows can create unnecessary congestion at the dairy.

Once calves are weaned, it is important to keep a close eye on their growth rates and adjust their diet if



FutureDairy project leader Kendra Kerrisk says a few refinements to calf-rearing practices can produce cows better suited to robotic milking.

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needed. In an AMS herd it is particularly important that heifers are well-grown to ensure each can hold its own place in the herd.

Smaller heifers may be disadvantaged in the AMS holding yard. With voluntary milking 24/7 it cannot simply wait for the last row or rotation as in a conventional milking system as the cows keep coming and there is no end to the milking session.

Well-grown heifers that are pre-trained will generally hold their place in the queue without problems.

While udder conformation traits may either hinder or help robotic cup attachment, cows with poor stature are less likely to be assertive traffickers when they are managed with voluntary cow movement.

At weaning it is recommended to assess each calf's structure, especially the back legs and stature.

If there are likely to be surplus replacements, consider selling any calves that have particularly poor leg and foot conformation.

The focus on cow identification is a little different with an AMS. The robots and drafting gates work from an automatic ID chip.

But a visual ID is still required for a farmer's own observations

**'Practices worth reconsidering include calf rearing, monitoring heifer growth rates and conformation, cow identification and breeding.'**

of cows in the paddocks and laneways. At FutureDairy we found collar numbers more useful than freeze-branding.

Tail-docking is not necessary for an AMS. In fact, robots may confuse the end of a docked tail for a teat if it is tucked around the udder of a nervous heifer at the first few milkings. However, we do recommend switch trimming just before heifers enter the milking herd.

**Breeding priorities**

Our experience at FutureDairy, and feedback from commercial farmers, suggests that there's no need to make radical changes to breeding objective because most cows can be milked by robots.

However some minor adjustments might be needed to the breeding objective, such as increased attention to udder conformation, rear leg placement and milking speed.

Teat placement at the bottom of the lobes of the udder is ideal. Robots will have difficulty attaching cups to cows with crossed-over rear teats so avoid over-selecting for a strong central ligament when selecting sires for udder conformation.

When considering rear leg placement, pay attention to rear set, foot angle and rear leg rear view.

It is also worth considering milking speed when selecting sires to use over an AMS herd.

A large proportion of slow milkers will reduce the number of cows that can be milked through AMS boxes.

These are all quite small adjustments to routine practices but a little extra effort with rearing replacements will ensure they have long, productive lives in an AMS. **D**

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

*FutureDairy's major sponsors are Dairy Australia, DeLaval and the University of Sydney. Visit website <www.futuredairy.com.au>.*

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# Contract rearing gives business bonus

Key points

- ✓ Contract heifer rearing used
- ✓ Aim to wean calves at 12 weeks
- ✓ Rearer paid on weight gain



By Jeanette Severs

**T**HE Macalister demonstration dairy farm is co-operative-owned, with a board of management and community advisory committee, and employs managers and staff.

While it is undergoing a significant review of its business, financial and strategic management, it is maintaining its calf strategy.

For the past 10 years all heifer calves have been contract reared off the farm.

“One of the motivators was to free the staff to concentrate on milk and grass production and get much better value,” veterinarian and board chair Mark Humphris said.

“While incentives paid to managers vary between individuals and negotiated goals, at the moment bonuses are paid based on pasture and milk production.”

Board member Bill Lack manages the relationship with the contract heifer rearers.

The demonstration farm has a spring-calving herd, largely Jersey and Friesian hybrids, with about 25% of the herd straight Holstein.

Calves are taken from their mothers within 12 hours of birth. Bull calves are sold within 12 days and heifer calves are sent off-farm at 12 weeks of age.

“The calves spend as short a time as possible on their mothers to ensure short exposure to disease,” Mr Humphris said. “The highest likelihood of disease is from the cow’s back end. Isolating the calves from the cows reduces their risk of Johne’s as well as other conditions that affect calf health.”

In their first 12 weeks the heifer calves are fed fresh milk before being weaned at eight weeks onto palatable oaten hay and two kilograms of high-energy pellets per day. The pellets contain 20% protein and 12.5% metabolisable energy (ME).

The Jerseys are expected to achieve 75 kilograms and the Holsteins and Friesians 100kg by 12 weeks of age.

“We get them used to eating grain to reduce the risks of transporting them



The aim of the Macalister Demonstration Dairy Farm is to have cows at good mature weights.

and changing diet when they get to their next home,” Mr Lack said.

“They also get access to clean water constantly. We also might add molasses to a muesli mix with very similar protein and ME rates as the pellets.

“It’s a little more palatable than the pellets and is used to increase their interest and intake before they go on to pellets. The idea is to grow them as quickly as we can.”

***‘We need to provide evidence to support that our products are being produced sustainably.’***

The board provides a budget line for calf rearing costs “and it’s up to the manager to keep to that”, Mr Lack said.

“It is the farm manager’s responsibility to manage calf health to realise optimum weight gain.”

When the heifer calves reach their optimum weights they are kept within their year groups and go to a third-party contract rearer.

“Probably the biggest driver for the decision to contract heifer-rearing is that we don’t have the land to raise heifers,” Mr Humphris said.

“The board decided it had to pay for agistment or for weight-gain contract rearing.”

Mr Lack said the farm could get better value out of the irrigation country by producing milk rather than raising heifers.

As part of its strategy the board underwrites the cost of pellets fed by contractors in the first three months.

“Between 12 and 20 weeks of age the contractors are paid to give 2kg of pellets per calf per day, then 1kg pellets/calf/day for the next month,” Mr Lack said.

“Then from six months of age until six weeks before the heifers calve, the contractors are responsible for weight gain.

“They get paid per kilogram gained and we set goals for them to achieve. It averages out at 0.75kg/day/heifer across the year.”

The target is 490kg for the Friesian and Holstein heifers and 370kg for the Jerseys by the age of 22 months, when they return to the home farm.

Bonuses are paid if the contractor achieves more than the target weight gain.

The penalty for achieving less than 90% of target weight gain means reduced payment in the final accounting.

“The aim at calving is to have the heifer at 80% of mature weight,” Mr Humphris said.

“At 24 months she is 85% of mature weight — usually 510kg.”

Mature weight for the Friesian and Holstein heifers equates to 600kg. ▶

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◀ “The beauty of this system is you get data every month and identify averages, ranges of weight and spread of data,” Mr Humphris said.

There are still challenges with the 10-year-old system, including underachieving target weights, fatalities and decreased revenue from milk production.

“I think it’s still a fair bit to police,” Mr Humphris said.

“We often sit at the board and discuss the expense of rearing heifers but on many properties the cost of raising heifers includes staff time, cost of feed, purchasing or leasing country et cetera.

“We choose to pay someone else to do that and it raises the stakes of getting milk production to the level we’re happy with.

“That means an extra 1000 litres from the animal by them being at the required weight when they calve.

“It’s up to the rearer to manage parasite control to achieve the target weights so you hope they are doing it right.

“Even though you’re paying people by kilogram increase, there’s still a risk of them turning off lighter cattle.”

Mr Lack said success was about



Young calves on a contractor’s farm.

building and maintaining relationships with people.

“That means increasing communication around time of mating,” he said.

They estimate it costs \$800-\$1500/heifer to grow and rear the animal, plus the costs of transport, artificial insemination and veterinary costs.

“It varies when we find we’re putting more heifers into the contract,” Mr Lack said.

“For instance, 10 more heifers born in a season means increased costs to rear them and we need to adjust the budget item upwards.”

Disease risks have included bovine viral diarrhoea, or pestivirus, which has resulted in heifer deaths.

“We were caught out and we had to put in controls. That’s now been documented as a risk,” Mr Humphris said.

Mr Lack said from the whole-of-farm perspective, contract heifer-rearing had its offsets on the home farm.

“From a business perspective, contract heifer-rearing keeps the focus of the manager and staff on producing grass and making milk,” Mr Lack said.

“And with staff turnover being what it is in the dairy industry, they don’t have to worry about growing heifers into the herd.

“The focus on the manager is the first 12 weeks and then a live calf and live cow at the end of two years.” **D**

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# Calf-rearing change delivers returns

**Key points**

- ✓ Improved rearing delivers big gains
- ✓ Data key to assessing success
- ✓ Feed calves more milk



By Jeanette Fisher\*

**W**IDESPREAD adoption of better calf and heifer management practices would deliver big returns to dairyfarmers through improved lifetime feed conversion efficiency and a reduction in the cost of rearing replacement heifers.

But change is a challenge. The dairy industry has made many obvious changes and has adopted new technologies that have made a visible difference to the way dairies operate in the past 30 years.

The changes adopted most rapidly across the industry are those that rely on technology — a gadget that can be shown off to the neighbours and admired at an on-farm field day. Improvements that rely purely on acceptance of a theory take much longer to be adopted.

Calf and heifer management is a good example. There have been few gadgets associated with calf care and, in reality, there have been few changes made to calf care in the past 30 years.

Widespread adoption of better calf and heifer management practices alone would deliver many benefits to the dairy industry, including:

- improved lifetime feed conversion efficiency (FCE);
- improved animal welfare outcomes;
- increased longevity of cows;
- reduced dependence on antibiotics;
- reduced cost of rearing replacement heifers; and
- reduced greenhouse gas emissions per litre of milk produced.

In short, adoption of better management strategies ticks all the boxes.

The information needed to drive change at a farm level comes from two different sources.

The first is internal — specific information derived from the existing management system on the farm.

The other, external, source is the global dairy industry, via magazines, websites, seminars, industry bodies and advisers.

Adoption of better management practices will happen only if farmers



**No scours here — this is manure (and a few woodchips) from calves drinking 16.8 litres of milk per day.**

can see the deficiencies and associated costs of their current practices. The view of many calf-management specialists is many dairyfarmers do not have even a basic understanding of the success of their calf-rearing system.

This view is certainly supported by my experiences on farm. It is a rare exception to find a dairyfarmer who has even the most basic information (such as accurate calf mortality and morbidity figures) at their fingertips. Unless farmers collect and analyse this and other data relating to their existing calf-management system, they will not have the necessary information to make objective decisions about change.

Information derived from sources outside the farm varies in quality and ease of access. Research findings, although valuable, can be difficult to source and to interpret because most farmers do not have the time to spend hours trawling the internet searching for and reading scientific papers. This means it is easier for farmers to rely on more accessible sources of external information, such as farm advisers who have an accumulated bank of knowledge and who can relay that knowledge in a way that is specific for the particular farm they are advising.

Another credible and easily accessible source of information is print media — magazines and newspapers. However, many of these present anecdotal articles based on personal observation, case study reports or random investigations rather than systematic scientific evaluation. For example, an article in a farm magazine may highlight changes in the calf management on a particular farm and imply that the management is first-class when in fact the changes have brought the farm to just above average.



**High producer of the future: an ad lib milked dairy calf that more than doubled its birthweight by six weeks of age.**

Other good sources of information are industry bodies, whose excellent information often tends to be of a more general nature and with a focus on topics such as improving welfare outcomes and minimising residues rather than specific business management advice. The least credible source of information is that found on packaging (feed bags etc). A lot of this type of information is either seriously out of date or just plain wrong.

On many farms change does not happen because farmers “do not know what they don’t know”. At a recent meeting with a small group of dairy industry leaders, a farmer told me he still fed his pre-weaned calves straw and they “looked great”.

He did not justify his decision to stick with this outdated management practice with measured facts such as his calves’ growth rates and calving weights — just an unbusinesslike, subjective assessment of the success of his management. He had no idea that aspects of his management were “old hat” and I am guessing this farmer has created a barrier to progress (and profitability) by resisting innovation and change. He has no idea of what he does not know, and that lack of knowledge is having a marked impact on his bottom line.

There is no question that the science behind recommendations for change is out there; it is just a matter

of the dairy industry recognising its importance, picking it up and running with it.

A case in point is the amount of milk calves are fed. It has been proven beyond doubt that calves' nutritional intake in the first eight weeks of life metabolically programs their lifetime growth, feed conversion efficiency and milk production.

It has also been proven that to achieve these benefits the greater percentage of nutrients must come from milk, not concentrates. Optimal growth rates — that is, biologically normal growth rates which a calf would achieve if left to suckle its dam — will not be achieved by feeding the widely accepted 4-5 litres a day.

I recently bought and raised some calves that, over the rearing period, had an average daily gain of 1.39 kilograms. They consumed an average of 1.78kg of dry matter of calf milk replacer (the equivalent of 14.25 litres of whole milk) a day and had a feed conversion ratio of 1.33:1.

Calves fed this volume of milk must be managed well; none of my calves scoured, even though 73% had unacceptable passive transfer levels. This gives some idea of what good management can achieve. Collecting statistics, such as I did, makes it easy to decide whether or not management changes will be beneficial.

### Growth rates

Low growth rates in pre-weaned heifers are costly and contribute to low lifetime production levels, high first-lactation cull rates and metabolic and reproductive problems.

The aim of rearing calves should be

to produce heifers that become profitable, long-lived members of the dairy herd but on many dairies the aim is to get them weaned onto grain and out into the back paddock as soon as possible, with no thought as to the long-term financial and welfare consequences of this strategy.

The theory of early weaning for replacement heifers is well past its use-by date but has left an ongoing legacy of high mortality and morbidity rates and calves that are failing to reach their genetic potential.

Part of the reason farmers are not doing the best possible job with their heifers is that they lack access to services, products and information that are readily available in other countries. Access to these management tools would reinforce the excellent calf and heifer management resources developed by the like of Dairy Australia.

However, another side of the coin is that farmers do have access to information which, for many reasons, they do not use. Farm advisers, vets and industry bodies can only do so much to inform and encourage uptake of information — the ultimate decision to implement advice rests with the farmer.

Often recommendations for change are made but 12 months later nothing has changed. Why?

There are many reasons why farmers fail to fully implement planned changes but all stem from one root cause: lack of commitment. This can be partial or total but the end result is the same.

The reasons for this lack of commitment are many and varied:

1. failing to understand impact of

the current system's deficiencies (like the man with the straw);

2. head in the sand — ignoring research findings and/or available information, not having on-farm data;

3. not understanding the benefits of planned changes;

4. believing that the costs might outweigh the benefits (particularly true of calf management, where the payback for change does not come until two years later when the calf enters the milking string);

5. not understanding the variables — 'If I change x, what will happen to y?';

6. the farmer being pressured into developing a plan for change which he/she is not convinced he/she needs;

7. setting unrealistic goals;

8. lack of resources or infrastructure;

9. lack of sufficient staff and/or lack of staff with the right commitment;

10. unwillingness to change;

11. no accountability — any planned change needs to have someone overseeing the project to ensure that it follows the plan; and

12. no follow-up — if change is implemented the results need to be monitored to ensure the planned outcome was achieved.

In summary, farmers who have minds receptive to change, who question their current management and who are open to new ideas will achieve greater productivity and profitability than those reluctant to move out of their comfort zones. **D**

*\*Jeanette Fisher is principal of specialist heifer-rearing on-farm advisory service HeiferMax, website <www.heifermax.com.au>.*



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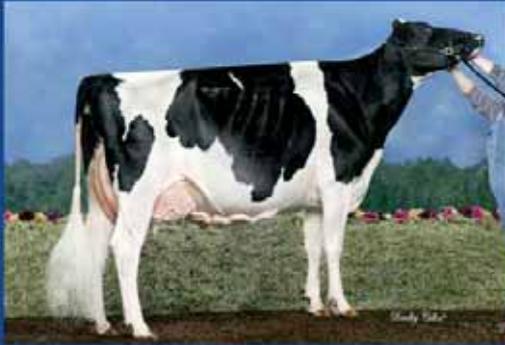
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# It's on again!

## The Victorian Winter Fair



After the success of last year's new inaugural Victorian Winter Fair, this year's event will again be held at the Bendigo Exhibition Centre on the 30th June to the 2nd July.

The fair is organised by the North West Victoria sub branch of Holstein Australia. National Herd Development has signed up again as the major sponsor.

This year's event will see top international judge, Mr Perry Phend, Wisconsin, USA presiding in the show ring.

Perry Phend is an accomplished dairy cattle judge, having served as the official judge at numerous state shows and fairs. He's placed cattle at many US national shows, and has also been called upon to judge national shows in Japan, Uruguay, Mexico and Canada.



**Mr Perry Phend, Wisconsin, USA, will be officiating at this year's Victorian Winter Fair.**

A familiar face at World Dairy Expo, he's served as the official judge for the 2003 International Milking Shorthorn Show and the 2004 Central National Ayrshire Show. He's worked for many well-known herds, including Carrousel Farm, Lylehaven, Rolling Lawns and Nabholz Farm. The 1999 Klussendorf-MacKenzie Award winner, he has worked with more than 100 animals that have been nominated for All-American awards.

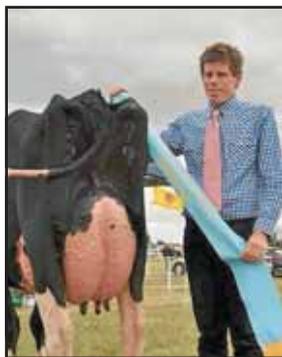
Mr Phend will be assisted by Associate Judge, Mr Lachlan Fry, Brunswick Junction, WA.

Lachlan, alongside his family own and operate Katandra Park, which is home to 130-registered Holstein, Jersey & Brown Swiss cows. The farm is located along the

picturesque Brunswick River, in Brunswick (160km south of Perth), Western Australia.

In 2011 Lachlan was the recipient of the Semex-Holstein Australia Youth Fellowship Award.

Lachlan has enjoyed competing in numerous dairy and beef judging and herdsman's competitions across Australia in recent years representing W.A. A highlight of this was winning the National Dairy Junior Judging Final held in New Zealand in December 2013. Lachlan has also been privileged to judge a number of dairy and beef shows in Western Australia as well as interstate.



**This year's Associate Judge will be Lachlan Fry, Brunswick Junction, WA.**

### Event Program:

- Tuesday 30th June: Welcome Dinner with guest speaker, Bendigo Exhibition Centre
- Wednesday 1st July: 10am - Dry Heifer Classes  
7pm - Australian Holstein Showcase Sale
- Thursday 2nd July: 10am - In Milk Classes

### Australian Holstein Showcase Sale:

Holstein Australia will run in conjunction with the Victorian Winter Fair the Australian Holstein Showcase Sale on Wednesday 1st July at 7.00pm. This live animal only sale will feature an elite collection of Australia's most distinguished Holstein cow families. Australasia's leading dairy auctioneer, Brian Leslie, from Dairy Livestock Services will conduct the sale.

**For more information regarding the sale contact: Ron Chittick 0417 738 816**

**All other inquiries regarding the Victorian Winter Fair can be directed to: Clare Modra 0419 200 981 victorianwinterfair@gmail.com**





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For further information contact Kylie Boston  
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# LEGENDAIRY

# DairySA Innovation Day 2015: Powering Up Your Herd

On 20th May 2015, DairySA brings together Australia's foremost dairy industry experts, thinkers and innovators for the annual DairySA Innovation Day.

Held at the Barn Palais, Mount Gambier, #DID15 will see conference delegates immersed in the theme 'Powering Up Your Herd'; an expose of new technology and research around genomics, herd testing, on-farm innovation, herd management and farm business, delivered by a line-up of internationally renowned speakers and dairy industry leaders.

Dr Jennie Pryce from La Trobe University will give an international perspective on the use of genomics in commercial female selection, optimising breeding programs and accelerating genetic gain with examples of practical application of these technologies from Brian Houin, Homestead Dairy, Indiana USA.



**Dr Jennie Pryce**



**Brian Houin**

She will also expand on the use of genomics in herd development: deciphering ancestry and breed, identifying novel breeding values (feed saved, heat tolerance, health traits and more), selecting replacements and controlling inbreeding.

The application of precision technologies for pasture-based dairy systems and potential technological developments on dairy farms over the next 10 to 20 years will be explored by the Tasmanian Institute of Agriculture's Dr Richard Rawnsley.



**Dr Richard Rawnsley**



**Dr Matthew Shaffer**

He will share results from research into the use of on-animal sensors to better understand behaviours of dairy cows and how management interventions such as supplementary feeding impact on grazing behaviours at an individual animal level.

Dr Matthew Shaffer from the Dairy Futures CRC will discuss innovation and new research in herd testing with a focus on existing and future tools to enable dairy farmers make better herd management decisions.

The afternoon will include a special session on 'Stepping Up' which will explore career pathways and future planning in dairy. Guest speaker Jed Boshier and young farmer Phil Stasiw will talk about their journeys in dairy farming; from study, to sharefarming and moving up the chain. This session will be of great interest to young dairy people planning their path in dairy and looking for first-hand accounts of experiences in a wide range of dairy farming roles.

The DairySA Innovation Day 2015 will conclude with the ever-popular Top Paddock graze and sip, followed by dinner where guests will have the pleasure of hearing from Jed Boshier on his experiences working in China's dairy industry and his insights into the Chinese dairy sector.

For more information, contact Kylie Boston: [kylie@dairysa.com.au](mailto:kylie@dairysa.com.au) or 0407 231 547 or head to <http://www.dairysa.com.au/news-events.aspx>



## WHAT'S ON

<b>May 16:</b> Warrnambool, Vic Contact:	<b>Great South West Dairy Awards</b> Recognising western Victorian farmers in range of areas Phone (03) 5557 1000, email <awards@westvicdairy.com.au>
<b>May 17-20:</b> Lexington, Kentucky Contact:	<b>The 31st Annual Alltech International Symposium</b> A glimpse into the future <www.alltech.com/symposium>
<b>May 20:</b> Mount Gambier, SA Contact:	<b>DairySA South East Dairy Innovation Day</b> Powering Up Your Herd DairySA (08) 8766 0127 or email <kylie@dairysa.com.au>
<b>May 26-28:</b> Penrith, NSW Contact:	<b>Irrigation Australia 2015 Conference</b> Bringing together all the irrigation sectors of Australia Phone (02) 8335 4000, fax (02) 8335 4099, email<info@irrigation.org.au>, website <www.irrigationaustralia.com.au>
<b>June 2-4</b> Toowoomba, Qld Contact:	<b>Farmfest</b> Queensland's premier field days Rural Press Events, phone (02) 6768 5800, email <farmfest@fairfaxmedia.com.au>, website <www.farmonline.com.au/events/farmfest>
<b>June 10-13:</b> Hamilton, NZ Contact:	<b>New Zealand National Agricultural Fieldays</b> Largest agricultural field days in southern hemisphere Website <www.fieldays.co.nz>, phone +64 7 843 4499
<b>June 17-18:</b> Camden, NSW Contact:	<b>Dairy Research Foundation Symposium</b> Latest research findings from Future Dairy and other projects Phone (02) 4655 0631, email <michelle.heward@sydney.edu.au>
<b>June 18-20:</b> Casino, NSW Contact:	<b>Primex</b> Field days for northern NSW and south-east Queensland Phone (02) 6768 5800, email <primex@fairfaxmedia.com.au>, website <www.primex.net.au>
<b>July 22-23:</b> Naracoorte, SA Contact:	<b>Grassland Society of Southern Australia Annual Conference</b> Theme of "learn, adopt and prosper" Phone 1300 137 550, email <office@grasslands.org.au>, website <www.grasslands.org.au>
<b>July 28:</b> Bussellton, WA Contact:	<b>WA Farmers dairy section conference</b> Range of issues to be discussed WA Farmers, phone (08) 9486 2100
<b>August 11-13:</b> Melbourne Contact:	<b>Australian Institute of Food Science and Technology conference</b> Dairy nutrition one of program highlights Website <www.aifst.asn.au/convention>, phone (02) 8399 3996
<b>September 20-24:</b> Vilnius, Lithuania Contact:	<b>International Dairy Federation World Dairy Summit</b> One of the premier events on the international dairy calendar. Website <http://www.idfwds2015.com>
<b>November 16-18:</b> Brisbane Contact:	<b>TropAg2015</b> Tropical agriculture, research, productivity, sustainability phone (07) 3255 1002, website <http://tropagconference.com.au/>
<b>Diary dates</b>	<b>To have dates for a major event included in the diary, send information to Carlene and Alastair Dowie. Phone/fax (03) 5464 1542, email &lt;carlene.dowie@fairfaxmedia.com.au&gt;</b>

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# Resilience and the family farm



- Key points**
- ✓ The right disciplines and protocols
  - ✓ Roles allocation according to talent
  - ✓ Capitalising on owner's strengths



An effective partnership can build a farm business.

I'VE always thought it a privilege that I work so closely with family-owned farming businesses. These operations never fail to impress me with their vision, resilience and ability to win in challenging times.

This current dairy downturn in New Zealand presents another opportunity for farming couples and family businesses to find a way to prosper despite what may lie ahead. While farm performance, cost control and profitability will be important, success will start with fostering and protecting quality teamwork and relationships. This is what will build stamina for a sustainable future.

So what are the ingredients for resilience that will keep these farming operations adaptable and agile?

Their strength usually starts with the commitment of a dedicated farming couple. Those with a clear view on what they want to achieve and the values they want to operate are the engine room of an effective farm enterprise.

This aspect of any enterprise won't manage itself. It will depend on having the right disciplines and protocols in place. So the first priority must be to ensure the balance between personal and business roles is protected.

Learning how to separate these enables both dimensions to flourish. Effective couples and family-staff realise they are more than their work so they establish clear boundaries to protect everyone's work-life balance. A structured approach to time management enables them to concentrate on the business operation without diluting the time available for personal, family and recreational endeavours. Most importantly they manage the tension between "getting it right" and "getting it done".

High-performance farming fami-

lies avoid the trap of life becoming one continuous business event. They eliminate the negative impact of random business conversations. Instead they make time to plan and prepare so business-focused discussions are more productive. Essentially, they understand and agree when to be a family and when to be business colleagues.

***'Their strength usually starts with the commitment of a dedicated farming couple.'***

A second factor is clarity regarding their relative strengths. They learn to view their differences as their strengths and allocate roles according to their training and natural talents. They know who will be most effective at managing relationships and therefore better equipped for roles such as people management, negotiation and networking. They recognise others may have strengths in dealing with detail, ensuring quality control that makes them more capable at forecasting, planning and analysis.

Allowing each family team member to realise their potential creates synergy that yields significant advantage. These operations thrive because everyone delivers 100% rather than adopting a "50-50" mentality. The ability to stand back and let the other get on with the job keeps things simple and time effective.

The family business structure is enhanced by prudent selection of business growth pathways. Sustainable growth is all about choosing strategies

that capitalise on the strengths of the key stakeholders rather than exposing their weaknesses. Sadly, I've seen a few situations where unplanned growth has taken a business into areas that require mindsets and skill sets that were not consistent with the owners' natural talents. It's important to drive growth in the right direction with the right structures rather than just let it happen. Clarity around goals and capabilities is essential to define what represents real opportunity for any business.

Finally, top couples in leadership develop their capacity to mentor and grow the next generation's ability to collaborate. A cohesive multigenerational operation means broader business capability, enhanced opportunity for delegation and positive working relationships that enable business longevity for future generations.

I'm impressed by the many farming visionaries I work with who are focused on growing prospects not just for themselves, but for multiple generations ahead. This long-term drive extends beyond just the next generation and is genuine evidence of dedication to truly leaving a legacy.

Well thought out alignment of personal, business and succession strategies shared with the wider family can create a seriously resilient, satisfying and secure future. That's hardly surprising in an industry that really understands what it is like to "reap what you sow". It's also fundamental to a solid foundation that will ensure farming operations learn and thrive in adversity rather than just "get through". **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>.*

# Score sheet monitors calf pneumonia



By Sherri Jaques\*

- Key points**
- ✓ Score sheet looks at five symptoms
  - ✓ Helps farmers monitor extent and severity of disease
  - ✓ Useful for vets to plan treatment

**L**AST issue we discussed the many signs of calf respiratory disease and the ‘bugs’ causing these infections. The fact that not all calves show all signs can make it hard to work out when they are okay, should be watched or need treatment. Vets will be able to give guidance but this article outlines the approach I take when investigating calf pneumonia.

Undiagnosed respiratory disease can act as a reservoir of infection as well as affect individual calf health. I have recently introduced a different method of monitoring calf respiratory disease, aiding in the identification of those problem calves with milder symptoms. This streamlined approach to pneumonia in calves uses a ‘calf pneumonia score sheet’. The information these scoring sheets provides to both the farmer and their vet is an enormous aid in detection and early-treatment decisions.

Calves are screened twice a week if possible. Although post-weaning death prevention is the aim, this is a problem that is often present as a subtle, widespread, undetected and untreated issue in calves under eight weeks of age. Early detection and treatment of this reservoir of mild infection is thought to decrease the amount of post-weaning pneumonia.

The scoring system and sheets are based on an American Dairy Research Project from the University of Wisconsin in the United States. Dr McGuirk’s research, which used lung flushes and nasal swabs to confirm the ‘bugs’ which are present, can be viewed as a PowerPoint presentation or PDF online at <[www.sheboygan.uwex.edu/files/2010/08/Calfpneumonia.pdf](http://www.sheboygan.uwex.edu/files/2010/08/Calfpneumonia.pdf)>. In this study respiratory disease accounted for about 50% of post-weaning

**Table 1: How to score rectal temperature in calves**

	0	1	2	3
Temperature	37.5 to 38	38.1 to 39	39.1 to 39.5	Above 39.5

**Table 2: How to score coughing in calves.**

	0	1	2	3
Cough	None	Induce single cough	Induced coughing fits or occasional spontaneous coughs	Repeated spontaneous coughs

**Table 3: How to score nasal discharge in calves.**

	0	1	2	3
Nasal discharge	Small amount and clear	One side cloudy, small amount	Both sides cloudy or mucous	Lots, both sides, pus discharge (snot candles)



**Table 4: How to score eye discharge in calves.**

	0	1	2	3
Eye discharge	Normal — none	Tiny bit of matter or discharge	Medium amount or both sides	Lots — eyes glued up



**Table 5: How to score ears and head tilt in calves.**

	0	1	2	3
Ear scores	Both ears up, normal	Ear flick or head shake	Slight droop — one side	Head tilted or both ears drooped



heifer deaths. The original charts and sheets can also be found on the University of Wisconsin site at <[www.vetmed.wisc.edu/dms/fapm/fapmtools/8calf/calf\\_health\\_scoring\\_chart.pdf](http://www.vetmed.wisc.edu/dms/fapm/fapmtools/8calf/calf_health_scoring_chart.pdf)>.

A score based on the severity and number of pneumonia signs present indicates whether calves are “normal”, should be “watched closely” or require treatment. The signs recorded are the presence of a cough, temperature, nasal discharge and/or eye discharge, and droopy ears and head tilt scores. One of either the ear/head tilt score or eye score is used in the final tally — whichever is largest. The sheet has enough room to record both scores. These scores are then simply added together.

Keeping these sheets allows the vet to track how many of the calves and which ages are affected and also

whether one shed has more disease than another. It also highlights individuals that relapse or seem to have recurring symptoms. For all these tables the left box scores a “0”; “1”, “2” and “3” scores follow across to the right. Three is the maximum score.

Taking a rectal temperature requires a thermometer to be placed in the rectum of the calf. The digital ones beep once they have reached a stable temperature. Table 1 shows how to score temperature.

Checking for a cough also requires the handler to touch the calf. “Don’t you just listen?,” I can hear people asking. Listening is necessary for the entire time the handler is in the shed but there is also a test to see if the calf can be induced to cough. If the calf is coughing and the handler has heard it, the cough is called a “spontaneous”

**Figure 1: The final score sheet brings all the information together.**

Calf pneumonia score 4 = watch, 5 or more = needs treatment											
Farm name:						Shed name:					
Date						Person					
Calf ID	Age	Nose	Eye or Ear (highest)			Cough	Rectal Temp	Total	? Scours Y?N	Drug used	Days treated
			Eye	Ear	High						

cough. If the handler hasn't heard any coughing but the calf coughs when the handler pushes upwards on the windpipe (firm but gentle pressure) under the neck, it is called an "induced" cough. The reason it is good to check for induced coughs is that if the calves are coughing intermittently, the handler may not hear them. But if they have irritated throats then pressure on the windpipe will alert the handler to a calf that has been coughing, even if it hasn't been heard. Table 2 shows how to score for coughing.

Nasal discharge scoring is fairly straight forward. A small amount of completely clear discharge from the nose is normal. Any change in the colour and the volume is not normal. The handler needs to check whether one or both nostrils have cloudy discharge or whether there are "snot candles" (lots of thick white or yellow discharge). Table 3 illustrates normal, mild, medium and heavy nasal discharge.

Eye discharge scoring is also relatively straight forward. Normal eyes have no discharge. Mild or medium amounts of sleep that can be black, brown or yellow are scored as "1" and "2" and lots of matter gluing the eyelids shut (usually yellow) is scored as "3". Table 4 shows this with photos.

The presence of droopy ears or a head tilt from ear infections due to respiratory disease is the next one. Happy healthy calves hold both their ears up with the top of the ear about level with the poll. The "mild" sign is flicking the ears or shaking the head. The "medium" sign is one ear drooping but the other ear held up normally. Both ears droopy or the head tilting to one side are the "severe" signs of ear infection. Table 5 shows how to score ears and head tilts.

On the scoring sheet, ears and head tilts and eyes share a column, with a box for each score. Only the higher score of these two is used when the score total is done. The top section of a score sheet is shown in Figure 1. The numbers are totalled — if the score for the calf is three or less, then it is considered normal. Once the score hits four, then that calf should be watched closely. For scores of five or above, treatment is recommended and the handler should contact the vet.

Once treatment begins, it is important to continue to score, as the disease can be tracked through the calves and infected pens or ages can be highlighted. Even if a vet is not using this scoring system, the information recorded on these sheets will

help them to address not just medical treatment but also isolation and biosecurity measures that are just as important in the treatment plan.

If the calf has a score of five or above from the eye, nose and ears/head tilt scoring, it is not necessary to get into the pen and do the cough or temperature testing. This is to prevent the handler being contaminated unnecessarily before they then go on to score other potentially unaffected calves. Limiting the spread between calves must always be considered.

Calves are obviously the future milking herd and I can't stress enough how important it is to work closely with the vet for calf scours and pneumonia prevention, monitoring and treatment programs. The more information they have, the better the health plans they can provide.

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 and may not be suitable for individual herds. Consult veterinarians for herd health advice, protocols and/or treatments that are tailored to a herd's particular needs.

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# Selecting dairy bulls for type

Key points

- ✓ indexes available
- ✓ Type index focuses on overall type and udder traits
- ✓ Plan to improve conformation

**T**ASMANIAN dairyfarmer Matt Radford is looking forward to having a type-specific breeding index to guide his sire selection decisions this year.

He will use the Type Weighted Index, which is one of three new indexes that became available with the April Australian Breeding Value (ABV) release. The indexes are:

- Balanced Performance Index (BPI), which focuses on maximising net profit through production, fertility and type; replaces the Australian Profit Ranking (APR);
- Type Weighted Index (TWI), which focuses on improving overall type, mammary system, udder depth and fore udder attachment; and
- Health Weighted index (HWI), which has the strongest focus on fertility, cell count, feed efficiency and survival.

Matt and his brother, Andrew, own three dairy farms at Riana in north-west Tasmania. One is managed by a sharefarmer while Matt manages the other two and Andrew, a full-time accountant, helps with the financial side of the business.

The herds average about 9000 litres a cow or 600-620 kilograms of milk solids.

In the past, Matt has worked from the bull list based on APR. He generally selected from the top 20-30 bulls on the basis of type traits.

"Not all bulls in the top of the APR suit our situation," Matt said.

"They don't necessarily have the udders we are looking for.

"Our key aim is to breed cows that will have long, productive lives in the herd. In our farming conditions, we've found that type is closely related to a cow's ability to last in the herd."

Matt said he was also keen to improve overall conformation and udders through breeding, and had more recently also included fertility in his selection criteria.

"The new Type Weighted Index matches our breeding priorities, so I will go to that list first when making sire selections in the future," he said.

"We'll probably select from the top 20 or 30 in the list. I'm really pleased



Matthew Radford plans to use the Type Weighted Index to choose bulls to use over his herd.

that it has an allowance for fertility as well as the important type traits."

Matt generally uses about 10 bulls a year, and more than half of them will be selected from the Type Weighted Index list. He also plans to buy a couple of bulls each from the lists for Health Weighted Index and the Balanced Performance Index.

***'The new Type Weighted Index matches our breeding priorities, so I will go to that list first when making sire selections in the future.'***

Well before the joining season, Matt decides on individual matings, drawing on herd recording and classification results.

For cows that are "hard to get in calf", he said he intended to use the bulls that ranked highly in the Health Weighted Index and that had a high ABV for daughter fertility. A synchronisation program will be run for the cows that have a history of being hard to get in calf and cows that haven't cycled.

"We'll use the health bulls over these cows to try to improve the fertility of their progeny," Matt said.

"We'll also use the health bulls over

any high cell count cows that don't get culled."

Matt likes the balance of traits in the Health Weighted Index.

"It's a good index in that it includes traits that are increasingly important but it's not extreme," he said.

He'll also buy a couple of sires from the list based on Balance Performance Index.

"I am pleased the Balanced Performance Index has more allowance for udders, fertility and feed efficiency," he said. "Sires from this list will be good to use over cows with good conformation."

## More choice

Matt said he expected the new breeding indexes to be well-received by dairyfarmers.

"Having three indexes means farmers can choose the index that best matches their breeding priorities," he said. "It will take a lot of the hard work out of comparing sires for the specific traits that are important to their herd.

"I'm looking forward to seeing the new rankings with each ABV release. I wouldn't be surprised if some new 'specific-purpose' bulls emerge." **D**

**Contact: Australian Dairy Herd Improvement Scheme extension and education manager, Michelle Axford, phone 0427 573 330 email <maxford@adhis.com.au> or website <www.adhis.com.au>.**

# Biosecurity planning for calves

- Key points**
- ✓ Calculate the risk of pathogens spreading
  - ✓ Control the risk by identifying actions to take
  - ✓ Communicate the plan to staff and visitors

**N**EWBORN calves are born with a naïve immune system and are vulnerable to infectious disease. That is why biosecurity practices are especially important in the calf-rearing environment. Focusing on the ways to limit contact of calves with disease-causing organisms (pathogens) will greatly reduce the likelihood of calf diseases.

Setting up a biosecurity plan for the calf-rearing environment can be quite simple, using a three-step approach.

**Step 1: Calculate the risk**

Consider how pathogens can be spread to calves from sources within the farm and outside the farm. Patho-

***‘Everyone needs to understand the principles of disease spread to achieve high levels of compliance with the biosecurity plan.’***

gens that spread between animals are mainly transmitted through direct animal contact or contact with infected blood, saliva, mucus or faeces. Stopping the exposure of calves to these sources of infection will greatly reduce disease rates.

Calves may also be exposed to pathogens through poorly cleaned equipment used for feeding and treating. People may also carry pathogens on their clothes, footwear and hands.

**Step 2: Control the risk**

For each risk identified, actions must be implemented that reduce the likelihood of it occurring. Calves should be born into a clean environment, from healthy, vaccinated cows and have minimal contact with faeces. Equipment used during either the calving or rearing periods should be regularly cleaned and disinfected wherever possible.

It is also important to feed and treat calves with clean equipment and washed hands. Identify all things calves come in contact with and keep them clean.

The rearing environment should be kept clean, not just at the start of rearing but throughout the whole period. Maintain dry, well-bedded pens to ensure that calves are exposed to the lowest pathogen load possible. Clean out hutches or pens with a disinfectant after weaned calves leave. ▶

**Table 1: Sample biosecurity plan for a calf rearing environment.**

Calculate the risk	Control the risk	Communicate the plan
Calves can be infected with pathogens prior to birth, during calving or shortly after birth.	Monitor disease in herd with vet. Vaccinate cows for high risk diseases — speak to vet. Avoid overcrowding of calf-rearing and calving environment. Isolate sick calves as soon as identified.	Discuss with vet. Advise staff.
Calves heavily contaminated with faeces will bring pathogens into the calf-rearing environment.	Keep calving environment clean by regular top dressing pad or moving paddocks/areas. Clean transfer trailer or ute of faeces daily with pressure cleaner.	Advise staff. Laminated sign reminding staff to clean calf trailer attached to trailer.
Equipment contaminated with faeces, saliva or blood will transfer pathogens from one calf to another.	Use new clean syringes and needles for each calf. Wash and disinfect calf feeders, stomach tubes and equipment such as calving chains/ropes, dehorners etc between uses.	Advise staff. Laminated sign above sink detailing washing and disinfection process for equipment.
Clothing, boots and hands contaminated with faeces, saliva and blood will transfer pathogens into the calf-rearing environment and from one calf to another.	Avoid people moving from high risk areas such as dairy and calving areas directly to calf-rearing environment. Ensure people dealing with calves have clean, uncontaminated clothing and wash their hands. Control access of high risk people such as veterinarians and stock agents.	“No Entry Without Permission” sign on calf shed. Advise staff, vets and stock agents.
Adult animals can excrete pathogens (ie in faeces) without exhibiting disease	Do not rear calves in areas that allow direct access to adult cattle or that have been used for grazing adult cattle	Advise staff.
Calving and calf-rearing environments that are heavily contaminated with faeces will rapidly allow transfer of pathogens.	Clean and remove faecal material from calf rearing area prior to entry of new calves. Regularly top-up calf bedding during rearing. Keep calving environment clean by regular top dressing pad or moving paddocks.	Advise staff. Discuss with bedding supplier to ensure sufficient stock is available throughout season.

and keep them empty for a few days before new calves enter.

Exposure to pathogens should be limited by monitoring and controlling the interactions of calves with people and adult cattle. Employees that also work with older animals may spread disease to the young calves on their clothing or hands. People outside of the operation, such as veterinarians, calf buyers and other visitors can also present risks. That is why most commercial poultry or pig operations limit access to a small number of people who must wear clean boots and overalls.

Any sick calves should be quickly identified and isolated from healthy calves. These are just a few of the common risks. Each farm will have their own approaches to calf shed biosecurity depending on the specific risks identified and the physical environment.

**Step 3: Communicate the plan**

Once the actions to combat the risks have been planned it is important that everyone involved knows not only what needs to be done but why it is



Setting up a calf biosecurity plan can be quite simple.

being done. Everyone needs to understand the principles of disease spread to achieve high levels of compliance with the biosecurity plan.

Reminders on what needs to be done can take the form of signs, checklists or messages on white boards that are easily visible in the calf-rearing environment.

Cleaning protocols should be posted where liquid feed and treatments are prepared to remind employees of these procedures.

It is also important that people entering the calf-rearing environment are also reminded of the plan by either



Figure 1: The three steps for developing a biosecurity plan.

a clearly visible sign and/or direct advice before entering the area.

A table with this story gives an idea of how a biosecurity plan for a calf-rearing environment might look. Vets can also provide specific advice on suitable biosecurity protocols for individual farms.

**Contact:** <<http://www.dairyaustralia.com.au/Animal-management/Animal-welfare/Calves.aspx>> or talk to the farm's veterinarian.

# Risk from unregistered teat disinfectant

- Key points**
- ✓ Choose a registered product
  - ✓ Mix correctly with high quality water
  - ✓ Ensure complete teat coverage

**P**OST-MILKING teat disinfection is a critical control point in reducing the spread of bacteria at the end of milking. It kills the bacteria spread at milking time by liners, milker's hands, gloves or bacteria-laden droplets of milk that are thrown back at the teat when a sudden rush of air enters the cups during cup slip or rough or too quick cluster removal.

The added emollient also improves

teat condition, which is crucial for keeping the teats healthy and resistant to infection.

A recent study from New Zealand showed that teat sprayed cows had 60% less subclinical mastitis and nearly 50% less clinical mastitis than cows that had not been sprayed.

Average cell counts throughout the lactation of the cows getting teat spray were 181,000 cells per millimetres compared with 306,000 cells/ml for those without teat spray.

Post-milking teat disinfection is a vital practice in reducing mastitis and improving milk quality.

Dairy Australia's Countdown 2020

Project Leader, Dr Mark Humphris, has revealed a worrying issue concerning teat sprays that has recently come to his attention.

"I was contacted by a Victorian dairyfarmer who was concerned about the quality and performance of the teat disinfectant he was using," Dr Humphris said. "It was much lighter in colour than other iodine products and after investigation by his local veterinarian, which included a lab test of the product, and involvement by a Countdown adviser, it was found not only to be unregistered but also not fit-for-purpose in terms of the available iodine.

"The matter is now being handled by the Australian Pesticides and Veterinary Medicines Authority (APVMA), but it is a good reminder of the importance of getting a few things right with your post-milking teat disinfection."

Dr Humphris breaks down this important strategy for mastitis control into three stages: the choosing, mixing and applying of teat disinfection after milking.

**Table 1: Assessing the suitability of water used to mix teat disinfectants**

	Iodine	Chlorhexidine
Alkalinity	No specific recommendations	Should not exceed 500 parts per million calcium carbonate (CaCO <sub>3</sub> )
Hardness	Should not exceed 200ppm CaCO <sub>3</sub> . Decline in effectiveness may begin above 20ppm	No specific recommendations

Source: Countdown Technotes, 2003

## Choosing a teat disinfectant

The key considerations with choosing a teat disinfectant are to:

- ensure the product is registered (check the APVMA approval number);
- make a choice between an iodine-based product or a chlorhexidine product; the effectiveness of these two chemicals is very similar; and
- decide whether to buy a ready-to-use product or a concentrate.

“The choice of whether to buy a ready-to-use product or a concentrate is easy for some farmers if there is a risk of variable or poor water quality or the risk of incorrect mixing is too great,” Dr Humphris said.

***‘The aim is to cover the whole surface of the teat that has been touched by the liner: every teat after every milking.’***

“Mixing on farm with variable water quality can have a large impact on whether the iodine or chlorhexidine maintains its bacteria-killing power.”

Dr Humphris also cautioned against using teat disinfectants contrary to the directions on the label.

“There is only one registered product for pre-milking teat disinfection use and if you put this product on before milking, it has to be wiped off with paper towel, to prevent iodine residues in milk and ensure good cup attachment,” he said.

## Mixing the teat disinfectant

While automated mixing systems are designed to provide a consistent concentration of teat disinfectant when set up on-farm, this has not always the case when the chemicals are tested.

“It is important to get the concentration of the mixed iodine product tested (by the dairy chemical company or your vet) as these systems may not be set up properly,” Dr Humphris said.

“These automated mixing systems still rely upon excellent (and consistent) water quality to achieve the right outcome.

“There should be no colour, sediment, suspended solids or smell to water being used to make up any teat disinfectant. Ensuring consistent quality water and accuracy on some



Teat treatment helps prevent mastitis spread.

farms can be a challenge and the reason many farms choose ready-to-use products.”

## Applying the teat disinfectant

Getting the product correctly applied to the teats is a critical step but it isn't easy.

“The aim is to cover the whole surface of the teat that has been touched by the liner: every teat after every milking,” Dr Humphris said.

“This usually requires around 20ml of teat spray delivered from a gun that provides a good spray pattern.

“Getting a drop at the end of the teat is not a good measure of how well you are teat spraying.

“I cannot emphasise more strongly the importance of using a registered teat disinfectant, mixing it on-farm with good and consistent quality water or buying a ready-to-use product, and aiming to cover the entire surface of the teats.

“These are fundamental practices to limit the spread of mastitis in your herd.”

**For quick guides to teat disinfection go to <[www.dairyaustralia.com.au/shedguides](http://www.dairyaustralia.com.au/shedguides)> or look up the Countdown Mastitis Toolkit App. The Countdown Farm Guidelines for Mastitis Control Guideline 7 has more detailed information on teat disinfection.**

## New guide for mastitis management

**A** NEW easy-to-use visual guide has been created by Dairy Australia's Countdown 2020 team to help farmers minimise mastitis in the dairy.

The new shed guide features key aspects of the Countdown 2020 Farm Guidelines and clearly illustrates how to prevent, monitor and treat mastitis through a pictorial format.

Dairy Australia's program development manager, Erika Oakes, said the guide was tough, durable and was a must-have for the dairy. “The catalyst for this project is that we have had lots of feedback from farmers saying they wanted something they can refer to that is instructional and easy to understand,” she said.

“For example, I often get calls from farmers asking how to mark cows, so now they will be able to hang this up in the shed and refer to it when they need.”

***‘... we have had lots of feedback from farmers saying they wanted something they can refer to that is instructional and easy to understand.’***

While the shed guide would be useful for all staff milking cows it would also be a great document for training new staff, she said.

The new Countdown shed guide pack is available free at all upcoming Cups On Cups Off courses. Packs, limited to two per farm, can also be ordered at <[www.dairyaustralia.com.au/shedguides](http://www.dairyaustralia.com.au/shedguides)>.

# Manage transition for simple calving

- Key points**
- ✓ Planned approach to managing cows
  - ✓ Leads to hassle-free calving
  - ✓ Effective transition program vital

**D**AIRY Australia is developing a Hassle Free Calving discussion module that focuses on a planned approach to managing cows as they transition from late pregnancy to early lactation.

The two-hour facilitated sessions will be piloted by selected discussion groups in Gippsland and Tasmania this autumn before a wider roll out in 2016.

The sessions include practical activities, a farm case study and a guided discussion on managing the risks to cow health around calving time.

Farmers attending these discussion groups will also receive a simple and practical guide to assist them in understanding the value of a structured transition cow management program that suits their goals and feeding system. The discussion sessions will also highlight new resources on how to best manage downer cows.

Dairy Australia's animal health and fertility manager, Kathryn Davis, said the discussion group sessions would complement other Dairy Australia resources on Transition Cow Management to help farmers set up a hassle-free calving period followed by healthy, productive and fertile lactations.

"Calving time is very stressful for the dairy cow's body," Dr Davis said. "From four weeks before calving to four weeks after calving, called the transition period, the cow undergoes a series of dramatic metabolic changes



Selected discussion groups will be piloted in Gippsland.

es that allow her body to adapt to the challenges of calving lactation and re-breeding."

Special feeding was vital as nutrients were required to support growth and maintenance of the foetus and placenta, and low feed intake could result in body condition loss and in some cases lead to ketosis and fatty liver.

Dr Davis said the transition period was therefore a period of the cow's lactation when the cow was at a great risk of health problems that impact on herd productivity and animal welfare.

About 80 % of cow health problems occur within four weeks of calving such as milk fever, ketosis, mastitis and lameness and it's a peak period for involuntary culls and downer cows.

"Calving time is also stressful for herd managers and staff, however it's important that management and decision making is active to stay on top of the situation, which these extension

resources will help them with," she said.

## ***Calving time is very stressful for the dairy cow's body.***

"Research has shown that implementing a successful transition feeding and animal health program for at least three weeks pre-calving allows the transition period to become relatively hassle-free. However, farmer surveys suggest that only about one third of farmers are fully implementing an effective transition cow management program."

Farmers are encouraged to join their local Regional Development Program to participate in a Hassle Free Calving discussion sessions.

**Contact:** <[www.dairyaustralia.com.au/TCM](http://www.dairyaustralia.com.au/TCM)> for details about Transition Cow Management resources.

## Feeding transitions

**B**ENEFITS of managing a successful transition feeding program pre-calving:

- Dramatic reductions in milk fever and other cow health problems around calving.
- Increased milk production.
- Improved fertility.

# Feedbase changes help life balance

## Key points

- ✓ Focusing on feedbase changes
- ✓ Growing 35 tonnes DM/ha under irrigation
- ✓ Lifting home-grown forage to 85% of diet

**B**EING able to spend more time with family is a key motivator for Western Australia dairyfarmer Victor Rodwell.

The Rodwells milk 900 cows at peak and own 470 hectares with a 370ha lease and 170ha irrigated. Six full-time workers are employed.

Mr Rodwell said he was always looking for ways to make the operation at Boyanup more efficient and profitable so he could have more family time.

"I think for us farmers having balance in our life is very challenging, and my family is a big priority for me. We are lucky now we are at the stage that we have good staff working for us so that I can have that time for my family.

"You can work yourself to death, but then if you don't have any family time you've got to ask well what it's all for."

In particular Mr Rodwell has focused on making changes to the feedbase during the last 10 years to reach his lifestyle goals with some great success.

***You can work yourself to death, but then if you don't have any family time you've got to ask well what it's all for.***

Feedbase changes include:

- lifting home-grown forage from 65% to 85% of the diet;
- lifting pasture in diet from 65% to 75%;
- pasture being now planted to match soil type;
- an increase in varieties grown, including maize for silage and fodder beet for grazing; and
- growing 35 tonnes dry matter (DM)/ha using year-round cropping under a small centre pivot irrigator (up from 12 tonnes DM/ha in 2005 growing just pasture).



**Victor Rodwell is always looking for ways to make his farm more efficient and profitable so he can have more family time.**

"My real passions in farming are the feedbase, animal nutrition and soil health — these are all things that are linked together," Mr Rodwell said.

"I'm really interested in research and development in these areas, and I have been involved in most of the Dairy Australia and related studies that have happened here.

"For example, recently we have been involved in a study into variable-rate pivots tackling water efficiency. I'll get involved in any study that can make us more efficient."

However, three fundamental game changers have laid the foundation for success for the Rodwells.

## Game changer one: Discovering the third leaf

"With the third leaf in ryegrass pastures you can get 50% more pasture for free," Mr Rodwell said.

"I learnt that when I was involved in the Greener Pastures program as

a research farm. It's a game changer but it's not rocket science and I'm not sure if all farmers are maximising the third leaf.

"For me that means extra megajoules (MJ) of energy which means extra milk."

## Game changer two: Understanding plant nutrition and the effect of nitrogen is key

"Know when to apply nutrition and when are your best periods for your best return," Mr Rodwell said. "For example for us 10 kilograms DM per 1kg nitrogen in winter but 25kg+ DM per 1kg in spring.

"Late applications are advantageous."

## Game changer three: Knowing your numbers

"I know grass costs me \$90-\$110 tonne/DM on dryland, and my irrigated grass costs me up to \$240 tonne/DM in the last two years which means sometimes I turn my pivot off," Mr Rodwell said.

"Soon you will be able to make the link between feedbase with your financial figures using Dairy Australia's new farm business management tool Dairy-Base and this will make it easier for all farmers to do and I'm very excited about it." D

**Contact: Dairy Australia resources on the feedbase area and visit <[www.dairyaustralia.com.au](http://www.dairyaustralia.com.au)>.**

## Victor Rodwell's feedbase tips

- Take control of the feedbase before the season starts.
- Take the hit early and hold stock off for the period needed to get the rotation to optimise the third leaf.
- Have feed on hand to hold stock off for required days and have feed ahead of the cows for the rest of the season.
- Rotation is everything — set the rotation early and consider how many days are needed for the stocking rate.
- Match fertiliser to feed requirements.

# DairyBase gets thumbs up

**Key points**

- ✓ Comparing farm with others
- ✓ Rich national database
- ✓ Easy to use tools

**D**AIRY Australia gave farmers a sneak preview of the web-based farm business management tool DairyBase at the Australian Dairy Conference at Launceston, Tasmania, in February.

DairyBase is scheduled to be officially launched in late May and is the first of a range of farm business management tools and training Dairy Australia is developing specifically for dairyfarmers.

DairyBase will enable farmers to:

- compare their own farm business across time;
- identify opportunities to drive profit and reduce risk;
- make more informed business decisions;
- generate benchmarks according to farm size, region and production system; and
- create annual reports and forecasts.

Dairy Australia farm business information program manager Helen Quinn said the feedback from the event was positive and practical.

“More than 100 farmers registered for DairyBase at the conference, and some of those who have entered data have already made suggestions for improvements,” she said. “When DairyBase is launched it will provide farmers, service providers and industry with a rich national database of extremely valuable easy-to-access information.”

Bega, NSW, dairyfarmer Ken Kimber said he had been seeking a way to make effective business comparisons for years. “At last there is a format where I can enter data easily and then choose to compare with other farmers,” he said.

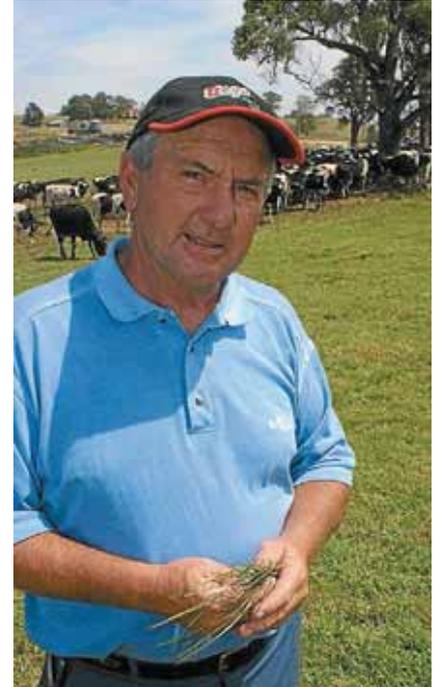
“I think this is going to be great for farmers. I can compare myself when I see publications about other farmers’ cost of production per milk solids and it’s a format I can enter very easily and I know that I’ve got myself organised.”

***‘It will have a use for comparing us with our peers, but more importantly within our business.’***

Tasmanian dairyfarmer Cheryl McCarty said the online nature of the tool made it convenient.

“It will be great to use it at a time that suits ... and as we use it, more people will find having the information handy, and this will improve the use of the tool so we’re looking forward to seeing the finalised version,” she said.

Sustainable Agriculture farm manager Wolfie Wagner said he found the DairyBase clear, easy to follow and logical, and that having year-on-year data would be the real key to its value. “It will have a use for comparing us with our peers, but more importantly within our business,” he said.



**Ken Kimber: DairyBase is going to be great for farmers.**

“Once we get data for two, three and more years and then use that to set our budget in the future that’s when it starts to become really valuable,” he said.

**Contact: Look out for the official DairyBase launch in late May. Information on how to use the new tool will soon be available at <[www.dairybase.com.au](http://www.dairybase.com.au)> or contact the nearest Regional Development Program (see contact details on page 114).**

## Network of Focus Farms developed

**D**AIRY Australia has developed a network of business Focus Farms across Australia’s dairy regions to support farmers with on-farm decision making and improving the bottom line.

Dairy Australia’s extension and change management program manager, Neil Webster, said Focus Farms were an integral part of an overall strategy from Dairy Australia to provide effective extension outcomes to help farmers build farm business management skills.

“This is an exciting program for farm-

ers to be involved in. Focus Farms are real farms, making real decisions under real conditions, and research shows that being involved with a Focus Farm is a proven way to improve your farm management skills and business profitability,” he said.

The Focus Farm process is flexible in approach and is tailored to help achieve the aspirations of the Focus Farm farmers involved by:

- assisting the Focus Farm to set business and family goals;
- planning processes to meet these goals;

- investigating and selecting appropriate farm financial measures;
- complementing this process taking into account seasonal, business, family and environmental needs;
- monitoring the process inputs and activity outputs;
- evaluating progress towards goals; and
- reassessing goals and/or activities towards goals.

There are Focus Farms in six dairy regions. Talk to the local Regional Development Program for more information.

# Focused on debt reduction

Key points

- ✓ Bruce Manintveld and Fiona Baker
- ✓ Mirboo North Focus Farm
- ✓ 148 hectares
- ✓ 85-90% red soils
- ✓ 285 Jersey-mix milkers (63 yearlings, 72 calves)
- ✓ 12-week calving from mid July to early October

**G**IPPSLAND farmers Bruce Manintveld and Fiona Baker are reaching their business goals of reducing debt and increasing profitability as Focus Farmers. The Mirboo North, Vic, couple are among the latest round of Focus Farm participants in the Gippsland region, opening up their farm and finances to public scrutiny.

Focus Farms have been a flagship program for GippsDairy, the Regional Development Program in Gippsland, for more than a decade.

The project is funded by GippsDairy and Dairy Australia and provides farmers with an experienced farm consultant, who acts as a group facilitator, and a support group made up of farmers and service providers.

The Focus Farm model develops business profitability options by closely monitoring farm activities and expenditure on a commercial dairy farm for a two-year period.

Having taken on the farm and a \$1.6 million debt just 20 months ago, the couple were keen to reduce debt as fast as possible.

When the two-year Focus Farm period started last July, they saw it as a great opportunity to refine their farming skills to help increase profitability and shrink their mortgage.

With a strong season behind them, the couple is pleased with what they are getting — and giving — during the Focus Farm.

“We’re learning and they (the support group members) are learning,” Mr Manintveld said during a Focus Farm field day in February, which attracted more than 50 people.

Some of the bigger discussion issues have been the re-sowing of pastures and how hard to push silage production.

As it turns out, the answer to the latter question was: fairly hard. “We went



Bruce Manintveld and Fiona Baker are focused on growing more pasture and increasing silage production.

as hard as we could and we ended up with about 130 tonnes or thereabouts and we have hardly used any yet,” Mr Manintveld said.

With silage in the pit, the couple were able to allocate extra cash to debt reduction.

“It changes how much we can use this season and how much cash we can bank,” Mr Manintveld said.

***‘Bruce and Fiona do a really good job and have the ability to stick to a plan and work to a budget.’***

Focus Farm Facilitator Jeff Urie has been working as a farm consultant with the couple since they were share farming at Shady Creek.

He said they had a simple formula for farming that was centred on profitability.

“Bruce and Fiona do a really good job and have the ability to stick to a plan and work to a budget and, as a result, they get very consistent and good outcomes,” Mr Urie said.

“They only bought the farm 20

months ago and their key goal was to be debt free in 10 years, but the rate they are going I reckon it will be five. The whole project is about debt reduction and consistent profitable farming.”

For Mr Urie, the best advertisement for the effectiveness of the Manintveld/Baker method was the way the farm’s pasture was holding up in the middle of February.

“It’s all about pasture management,” he said. “You look at the place now and it’s green, active and growing.”

“They haven’t had to put nitrogen on for four to six weeks — while other farms I saw on the way here were dead, brown and yellow.”

GippsDairy executive officer Laurie Jeremiah said the strong turn-out for the field day showed that farmers have a thirst for information on how they can improve their own businesses.

“Focus Farms is a great example of how the dairy industry shares information for the benefit of all those involved,” he said.

“The Focus Farm program, which uses dairy levy service funds to improve the profitability of Gippsland dairy farms, shows how this industry helps itself to improve business outcomes for farmers.”



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## OUR HISTORY, YOUR SUCCESS

### An open letter to all Australian dairy producers

**By now, you should have received your copy of Genetics Australia's 2015 Australian Dairy Sire Catalogue. It contains the strongest and most comprehensive range of Australian-bred and proven sires available.**

Whether you're breeding for production, type, health, workability, longevity or overall profit, you'll find many great choices to maximise genetic improvement in your herd.

The strength of this catalogue is testimony to our unwavering commitment to providing Australian dairy farmers with high quality genetics that have been proven to perform under Australian conditions.

Our breeding objectives are exactly the same as yours – highly productive, healthy and long-lasting cows that maximise profitability under the pasture-based conditions we have in Australia.

That's the 'Australian Cow' – and that's exactly the type of cow that the sires contained in this catalogue will deliver in your herd.

As we approach our 60th year, Genetics Australia is justifiably recognised as a world-class breeding

organisation with an unwavering commitment to Australian-bred and proven genetics.

With the strong support and co-operation of our farmer shareholders, we continue to conduct the longest running, largest and most successful progeny testing program in Australia.

Besides our industry-leading range of Australian proven genetics, Genetics Australia is proud to offer a selection of world-class international genetics and artificial breeding merchandise and technology.

Importantly, in an age of mergers, acquisitions and public listings, we remain proudly owned and operated by Australian dairy farmers.

2015 sees the introduction of important changes to the Australian Breeding Value system, which remains the benchmark for the accurate and reliable assessment of genetic merit under Australian conditions.

The Balanced Performance Index, Type Weighted Index and Health Weighted Index are valuable tools that will allow you to identify the best overall sires based on your breeding objectives.

Genetics Australia is delighted with the performance of its sires on these new indices. Of special note, GOLDCREST is the No. 1 HWI Holstein sire, CHRISTMAS

the No. 2 TWI Holstein sire and RACEWAY is the No. 1 Jersey sire on all three indices!

Importantly, the emphasis placed on production, type, health, workability and longevity in each index was determined in consultation with hundreds of Australian dairy farmers to accurately reflect 'real world' breeding objectives.

Genetics Australia has always supported the Australian Breeding Value system and we urge you to learn about these new indices and to utilise them in your breeding program.

On behalf of all at Genetics Australia, I wish you every success with your selections from the Genetics Australia 2015 Australian Dairy Sire Catalogue.

Yours sincerely



**Ross Gordon**  
Farmer, Shareholder & Chairman  
Genetics Australia Co-operative Ltd.

