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The Australian Dairyfarmer

Vol 29, No. 2 March-April 2014

OUR COVER

Mark and Michelle Perry have walked into the dairying game from scratch and not only kept their head above water, but have been able to grow and upgrade their farm. See story page 34.

Picture: SHAN GOODWIN

NEWS

ATTRACTING AND DEVELOPING PEOPLE

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Take time to keep on learning

A FEW stories in this issue really drive home the importance of life-long learning.

A great story on page 117 talks about the Feeding Pasture for Profit courses. The standout point is that the two farmers featured in the article had each completed the course twice.

It may seem an odd thing to repeat a course, but the farmers said repeating the course gave them the opportunity to pick up on the finer details and really improve their pasture performance.

It makes a lot of sense. The first time you learn about anything, particularly a completely different way of approaching something that you have always done, you pick up only the broadest details. It takes time just to get your mind around the concept, so it's difficult to develop a deep understanding that can really fire things along.

Another advantage of repeating a course sometime after you have implemented a new practice is that it gives you an opportunity to ask questions about things that may not be working as you expected or to nut out problems with your approach.

Good pasture management is such a critical part of profitable dairyfarming that the time spent undertaking a course like Feeding Pasture for Profit will be returned to the business many times over.

Another story on page 118 looks at a different kind of learning environment for dairyfarmers — discussion groups. There's been a real resurgence of interest in discussion groups, so much so that Dairy Australia is going to provide funding for up to 90 groups across Australia in the next three years.

One of the features of *The Australian Dairyfarmer* magazine in its early years was the pages from dairy discussion group guru Jack Green. I always enjoyed reading the pages because Jack invariably found something new at the farms he visited when the discussion group met there.

And that's what still makes discussion groups so essential.

As one of the farmers in the story, Paul Ryan, a dairyfarmer of 40 years, says, they are an excellent way to learn about new developments. "It's very rare that you go onto someone else's farm and don't see something you can use," he says. "It might be a new piece of equipment that someone has bought or it might be that you get to see something growing in the ground you haven't seen before, but the difference is that you can see it with your own eyes."

Discussion groups also respond to the local needs — so if there's a sudden dry spell or an unexpected disease outbreak in the area, farmers can get together to talk about it and learn how to respond.

Kerry Ryan in his column on page 115 talks about another kind of learning — mentoring. He says this is particularly valuable in family farm businesses. It becomes part of the succession process where a younger member of the farm business can learn from and be inspired by someone outside the business.

This creates the opportunity for the younger person to think about new ideas and to be challenged about their own thinking and approach without risking the personal relationships within the family.

It makes a lot of sense. How many farming fathers and sons butt heads when talking about the farm business because discussion is clouded by the long-standing personal relationship — perhaps a son's view that the father doesn't trust him, or a father's view that the son thinks he is past it? With the right mentor, the younger generation can be challenged without being threatened and the older generation can ease out without feeling the responsibility for having to develop the son or daughter to the next level of capability in the business.

Three different approaches to learning but one underlying message: you should never stop learning.

Associate editor

Carlene Dowie

The Australian Dairyfarmer

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Getting our priorities right: family, farm, factory

By NOEL CAMPBELL*

AS the festivities of the new year pass and we move into autumn, it is heartening to feel that after several years of challenging circumstances, conditions in some parts of Australia are shaping up to be better than they have been in that time.

However, having been in this business for much of my life, I know only too well that a positive outlook is too often interrupted by those factors that fit under the catch-all word "volatility".

Whether it be a climate event (such as the floods farmers in Queensland were facing at the start of 2013 or the drought they're facing now), fluctuations in the Australian dollar affecting milk price or unexpected game-changers like the $1-a-litre retail milk price discounting from which many farmers and companies continue to feel the impact, what may initially be shaping up as a great season can suddenly turn on its head, causing much stress and anxiety and demanding much of our focus.

None of this is new to us, as farmers are resilient. For as long as there have been farmers there have been adverse circumstances that have challenged us and tested our resolve. Coping through uncertainty is our forte and we do our best to manage the conditions presented to us.

However, I recently had a discussion with Shirley Harlock that made me reflect on these challenges in a different way.

For those of you who may not know Shirley, she and her husband, John, have been in dairy all their lives and farm at Warrnambool in western Victoria, as well as managing mixed properties in Victoria and South Australia. Shirley and I have met many times over the years as we've both held various industry positions throughout our time in dairy.

Shirley said something that struck me as profoundly important when she said our priorities needed to be family and farm before factory. By "factory" she was grouping together all of the industry representative and community positions at any level.

"You need to look after yourself first. It's all about seeing the bigger picture of where individual farms and farmers want to go. You have to keep your focus on the important things for your business," she said.

Noel Campbell: Knowing when to say no is also about recognising the level of commitment you're able to give.

"To me, when I say 'family first' I am talking about your relationships, which I think are critical. Keeping track of your relationships and keeping them alive and healthy is vital, and then, of course, your farm business.

"If you're running out the gate every five minutes on an industry committee something has to give. That is why timing is so important."

Shirley's message was a compelling one: if our family relationships aren't strong and our farm businesses aren't thriving, it is okay to take a step back from our other commitments until our family and farm are back on track. Spending time with your family away from the business (time in the milking shed doesn't count) and getting away from the farm when you need a break, even if it's for only an hour or two, can be enough to re-energise us to better withstand the challenging times.

Focusing on the farm means focusing on the areas we can change rather than worrying about the things we can't. We may not be able to change the milk price or the weather but we can manage our margins and land and water use to prepare us for the lean times, with the support of fantastic services provided by the Rural Financial Counselling Service and Dairy Australia programs such as Taking Stock and Tactics for Tight Times.

We farmers are renowned for our generosity — it's why we are consistently recognised as one of the most hard-working, trustworthy and reliable professions — and we often place the needs of others ahead of our own. When your processor, your industry or even your community asks for a favour, it can be difficult to say "no" for fear of letting others down. It's about knowing when to say no and when you have time to commit to the causes about which you are passionate.

Knowing when to say no is also about recognising the level of commitment you're able to give. Too often we take on more balls than we can juggle trying to keep everyone happy but forget about the most important people: ourselves.

Only when all our ducks are in a row at home and on the farm can we then focus on the factory: getting involved in industry representative roles through our processor, our local Regional Development Program (RDP) or state dairyfarming organisation, or our national body Australian Dairy Farmers (ADF).

Contributing to our industry and our community can take many forms — there are different levels of engagement that can accommodate each farmer's ability to commit. This commitment could be as little as investing one day of your time to participate in an event such as ADF's National Dairy Farmers' Summit — all levels of engagement are vital for a vibrant and well-represented dairy industry. By getting involved we can help shape the future of the dairy industry and work together on developing solutions to the challenges we all face.

I hope the good conditions for those of us experiencing a positive start to the year continue, and for an upturn in conditions for those of us still managing the challenges of recent years.

Information on the benefits of becoming a member of ADF can be found on the website <www.australiandairyfarmers.com.au/membership-application>. D

**Noel Campbell is president of the Australian Dairy Farmers.*

ADF works with NFF on drought assistance

THE hot arid summer Australia has endured is a reminder of the unpredictability of the Australian climate. Just a year after floods in Queensland, from which many farmers are still recovering, some dairyfarmers in Northern New South Wales, South Australia and Queensland are affected by the severe drought.

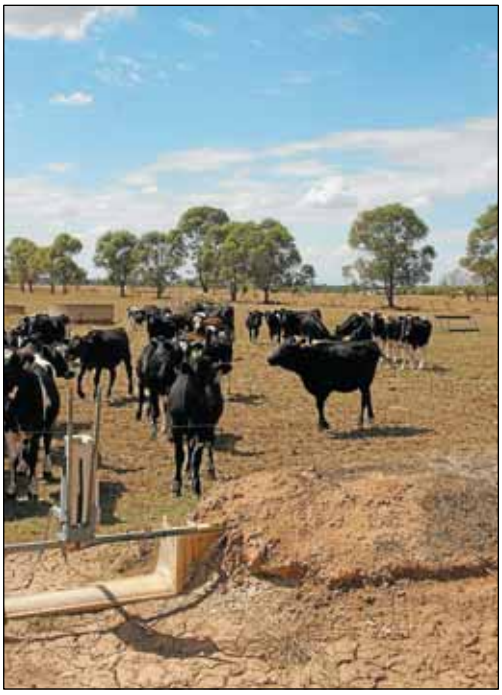
The drought highlights the urgent need for greater preparedness and in-event assistance. In recent months, Australian Dairy Farmers (ADF) has worked with the National Farmers' Federation (NFF) to develop a package to help farmers address some of the more immediate problems caused by the drought.

ADF is also exploring more long-term policies that will increase preparedness for droughts and is strongly committed to building up public awareness of the issue as well as advocating for greater governmental support.

This drought has been developing for several years and while the only real solution is rain, the Australian Government can help ease the burden for farmers by making improvements to current drought policy.

At the moment, there exist some concessional loans and farm household support, but many of these measures do not extend to those in need due to reasons such as inappropriate eligibility criteria.

In addition, the National Drought Policy is still in the 'developmental' phase and although it is scheduled to take effect on July 1, there is still little information about the policy's five key elements, which seek to increase drought preparedness.



ADF is also exploring more long-term policies that will increase preparedness for droughts.

ADF and the NFF believe that farmers need a policy that will target their needs rather than inundate them with more red tape, which is why the NFF's package prioritises enhanced in-drought support and drought preparedness.

It addresses the need for improved access to farm household income support as well as greater farm finance and low-interest loans for greater interest-cost relief.

The package also recommends expanded water infrastructure grants, updated Farm Management Deposits, improved co-ordination of social services and better communication of available assistance.

ADF and the NFF are also proposing new measures such as provision of farm-labour wage assistance, development of a forward work program for the National Rural Advisory Council (NRAC), implementation of an advisory grant to help farms obtain professional advice and improved measures for pest animal and weed management.

Considering the severity of the drought, particularly across Northern Australia, it is important that affected farmers are able to access these measures as soon as possible.

Agriculture is a key pillar of Australia's economy. Despite the dairy industry receiving little taxpayer funding in comparison to international competitors, we are a $13 billion farm, manufacturing and export industry.

Therefore, improving drought policy is not only in the best interest of dairy but of the future of the Australian economy. Recognising that environmental conditions play a larger part in the health of the agricultural industry than in many other sectors is essential, particularly in regard to business debt and equity levels.

While ADF will seek to obtain greater certainty and clarity in drought policy for farmers in the coming months, it understands the serious challenges farmers currently face and will push for stronger in-event drought support. ADF will continue working closely with the NFF and other member organisations to make sure that all farmers have access to drought assistance and will continue to advocate on behalf of all dairyfarmers.

National Dairy Farmers' Summit to be held

THE inaugural Australian Dairy Farmers (ADF) National Dairy Farmers' Summit will take place on Thursday, March 13, at the Grand Hotel Rendezvous in Melbourne.

The summit, to be hosted by ADF in conjunction with the Australian Dairy Industry Council (ADIC) and Dairy Australia (DA), is sponsored by Coles and will bring together 150 dairyfarmers, processors, state dairyfarming and national farming organisation representatives, government and business leaders.

The response to the summit has been overwhelming, with all available places now filled and a keen sense of anticipation building within the industry.

The event aims to unite the industry as a whole, from the paddock to the processing plant and beyond, as part of an exercise to look hard at industry actions and determine a positive future vision for Australian dairy.

Dairyfarmers, processors and industry representatives are in charge of their collective destiny and must be prepared to take an active role in shaping the industry's future direction and goals.

The summit represents a significant step forward in realising this ambition.

ADF looks forward to reporting on the summit and the issues and outcomes it generates in future editions of Milk Matters.

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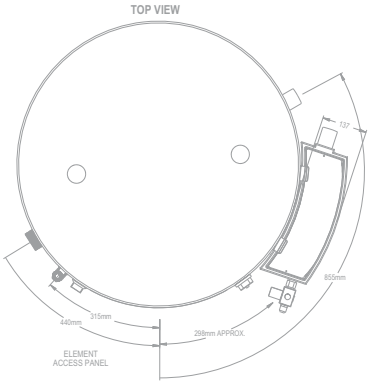

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No margin, no profit hobble growth

DEAR editors,
SOMETHING seems not to be computing with the post-farmgate dairy industry at the moment. As one of my dairyfarmer friends, Charles Wallis, keeps telling me, if we have no margin we have no profit and therefore the industry will have no growth. It's a pretty simple statement, but after a run of challenging seasons before this year, some people still can't work out why more milk isn't flowing.

It was interesting to read a previous letter to *The Australian Dairyfarmer* headed 'Farm economists missing in action'. This article highlighted the lack of critical information among farmers — information many farmers either did not have access to or did not understand. Many of us would be making far better decisions if the fog generated by milk buyers and others with vested interests was removed, allowing us to make critical business decisions based on realistic industry prospects.

Like most farmers who started out in the 1990s we were as guilty as most of having borrowed too much money. We gained knowledge to rapidly increase production per cow and on our farm. Increased productivity was going to lead to increased profitability: that's what those servicing the industry had been telling us for years. Milk factories at the time loved this idea of everyone growing production on the back of borrowed money and farmers feeling wealthier as land and water values across most dairy regions grew.

Our business was fortunate enough to be involved with the Red Sky Dairy Business of the Year and had the opportunity to listen to Professor Bill Malcolm. Sitting through one of his discussions brought home the frightening reality that an aggressive growth and output strategy was exposing our business to a greater level of risk than we had recognised. It's easy to get in this position but takes a lot of time to deleverage a business to a better position.

Post Global Financial Crisis (GFC) and with the collapse of many Managed Investment Scheme (MIS) projects in dairy regions, capital values of many dairies have fallen dramatically, with many dairy properties being difficult to sell in many areas. Profitability and return on assets are what counts. With little or no capital growth this is the only way the industry can grow.

In recent correspondence, Dairy Australia (DA) has indicated profitability is a focus for the organisation. I am hoping this is backed with action from DA and all its employees. Dairy processors also seem to have the ability to do a lot of talking about farmgate returns but not always delivering.

The reality at the farm level is that we need access to accurate data on input costs and trends and the global dairy market. We know that with no margin or a margin that's insufficient to generate a suitable return on our investment there will be not be enough profit for us to reinvest in the industry to grow.

One phrase I believe needs to be reinforced in a high-milk-price year with reasonable input costs like this year is this: "It's not how much you make in a good year that counts but how much you do not lose in a bad year". This season will provide the opportunity for many farmers to review their businesses and make wise, well-informed decisions. Make the right decision for your long-term profitability and beware of those without a direct financial connection to the industry telling you of the rosy dairy future ahead. In a volatile unregulated dairy market, supply will always get ahead of demand and we will hit another bump in the road. Just be ready for the next one.

James Stacey
Langhorne Creek, SA

FutureDairy announces partner farm

WESTERN Victorian dairyfarmers John and Clare Cotton's farm — Retreat Creek — will become a partner farm for the FutureDairy project when the family installs Australia's second robotic rotary automatic milking system (AMS). The robotic rotary was developed for the automatic milking of larger, grazing herds by dairy equipment company DeLaval in collaboration with the FutureDairy team.

The Cottons who currently milk in a 50-unit rotary dairy, expect to be milking in their robotic rotary towards the end of this year or early next year. Once they have adapted their farming system to automatic milking, they plan to expand the year-round calving herd from 550 cows to 600-800 cows.

As a partner farm, the Cottons will co-operate with the FutureDairy team to monitor the system performance, especially when the technology is operating towards its technical capacity (600-800 cows). The research partnership has been generated to enable FutureDairy to conduct research within a commercial farm setting, so that specific findings are applicable to a large scale pasture-based operation with cows milking themselves voluntarily.

FutureDairy project leader, Associate Professor Kendra Kerrisk, said that the robotic rotary had been proven under commercial conditions at Gala Farm in Tasmania but the ability of the system to perform with larger herds — up to 800 cows — remained uncharted territory.

"The robotic technology for milking cows is well proven," Assoc Prof Kerrisk said. "But its success in grazing herds depends very much on adapting farm management practices to encourage cows to move on their own from the paddock to the dairy and around the farm."

The FutureDairy team has developed guidelines for AMS based on research and experience with commercial farmers using AMS box units.

"Our work with the Cottons, and also our experiences with the Dornaufs at Gala Farm, will enable us to develop guidelines for achieving the optimum performance from the robotic rotary under Australian conditions," she said.

The Cottons were selected as FutureDairy's robotic partner farm through a process that saw 30 applicants respond to an invitation to express interest.

"When we visited the six short-listed farms we were extremely inspired by the farmers and their businesses," she said._We are delighted to be working with the Cottons. The family has a history of trying new things and being involved in industry initiatives."

Retreat Creek is well-suited to the robotic rotary and an expanded herd size. The existing infrastructure, including feedpad, laneways and farm layout can be easily adapted for voluntary cow movement.

Once operating smoothly, the Cottons will host field days to share their experiences. The FutureDairy team will report on findings to industry. Retreat Creek will be closed to the public during the construction and adjustment period.

FutureDairy's major sponsors for the research partnership with Retreat Creek are Dairy Australia, DeLaval and the University of Sydney.

Contact: Kendra Kerrisk, phone 0428 101 372, email <kendra.kerrisk@sydney.edu.au> or <www.futuredairy.com.au>.

Kim and Brent Mitchell are keen to help shape the Australian national breeding objective.

Talk where you'll be heard

NORTHERN Victorian dairyfarmer Brent Mitchell said he has spent plenty of time talking with his mates about ways to improve the national breeding objective, which is currently expressed as the Australian Profit Ranking (APR).

Now he is encouraging fellow dairyfarmers to talk where their views will be heard — at local activities being run for the review of the national breeding objective.

"There's no shortage of opinions out there," he said. "I've heard them at the pub, at field days and at shows. And I've certainly got some strong views myself. What is different is that this year there are activities designed specifically to hear farmers' views so that they can have a real influence on the evolution of the national breeding objective."

Mr Mitchell and his wife, Kim, milk 250 cows near Echuca in northern Victoria. They are strong supporters of the concept of a national breeding objective that represents the collective needs of Australian dairyfarmers.

"One of the key reasons for having a national breeding objective is so our breeding indexes reflect the way daughters are likely to perform under Australia's farming conditions and milk pricing structure," he said.

While the national breeding objective is currently focused on profit (the APR), Mr Mitchell would like to see it also account for the type of traits he considers important such as feet and legs and muzzle.

"Compared with overseas countries, where many of our sires come from, Australian cows have to walk long distances, eat a lot of grass and endure very hot summers," he said. "Overseas breeding values don't account for these so it makes sense to have an index that reflects our own breeding objective and that accounts for our farming conditions."

Mr Mitchell said he planned to make sure his views were heard by attending Australia's longest farm walk when it came to his area in March, and also by filling in the National Breeding Objective survey.

Touring all dairying regions in March, Australia's longest farm walk involves visiting one or more dairy farms with facilitated discussions about individual farmers' breeding objectives and the type of cow that best meets the needs of Australian dairyfarmers into the future.

Michelle Axford from the Australian Dairy Herd Improvement Scheme (ADHIS) said the survey had been designed to capture the value that farmers placed on traits that until now have been difficult to measure or put an economic value on; for example, fertility. While fertility is currently incorporated in the APR, it has not accounted for the frustration and inconvenience of managing empty cows.

"The survey uses a novel approach to enable dairyfarmers to place a value on issues that have been intangible in the past," she said.

"The survey will give us powerful information about the traits that are important to farmers. It will enable us to better align the national breeding objective to the real needs of farmers."

Mrs Axford acknowledged that not all farmers would have the same breeding objectives.

"Individual farmers will prioritise traits slightly differently. The review is about developing an objective that most are comfortable with; getting the big ticket items right," she said.

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

More data, better breeding values

THE amount of fertility-related data contributed by dairyfarmers to the Australian Dairy Herd Improvement Scheme (ADHIS), supported by Dairy Australia, has increased significantly.

Between October and December 2013, dairyfarmers submitted 858,110 mating records, of which 123,325 were records that had not previously been part of Australian Breeding Values (ABV) calculations. This was more than double the average increase for the past three years. The increase followed a recent upgrade of one of the key herd-management software packages used on dairy farms, Easy Dairy.

ADHIS extension and education manager Michelle Axford encouraged farmers to ensure their data was included in Australian Breeding Value (ABV) calculations.

"We know there is a lot more quality data on farms that could be used to bring about faster genetic gain within herds and we are asking farmers who use herd management software to check they are using the most recent version," Ms Axford said.

The research is being conducted by ADHIS, the Department of Environment and Primary Industries, Victoria, and the Dairy Futures CRC.

Farmers missing opportunities

Many herds are not taking full advantage of artificial insemination even though the benefits of the technology have been proven for many years, according to the latest Herd Improvement Report.

French dairy advocate Mireille Guiliano appears in one of the Legendairy TV commercials airing in March.

Mrs Axford said the latest herd-recording data showed AI-bred cows produced 12% more protein and 10% more fat than their naturally bred contemporaries.

"On average this benefit is worth an extra $97.96 in fat per cow and $206.50 in protein per cow each year, demonstrating a clear return on investment in AI," Mrs Axford said. Despite this, almost 40% of herds had less than 50% AI replacements. And only 30% of herd-recorded herds had more than 80% AI replacements.

"The beauty of genetic gain is that it is permanent and the benefits compound every year. Research has shown that genetics contributes about one third of dairy productivity improvements," she said.

The Herd Improvement Report is published by ADHIS and the National Herd Improvement Association. It can be downloaded from <www.adhis.com.au>.

2014: International Year of the Family Farm

According to the United Nations Food and Agriculture Organisation (FAO), family ▶

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farmers make up almost a third of the planet — nearly two billion people — and they are absolutely key to providing food security and nutrition, improved livelihoods, protection of the environment and sustainable development for the rest of mankind.

In Australia, more than 95% of Australia's 6400 dairy farms are family-owned and run enterprises contributing the bulk of $13 billion and 50,000 jobs to the nation's farm, manufacturing and export industries. Australia also provides 7% of the world trade in dairy.

In December, the UN officially launched 2014 as the International Year of the Family Farm with a set of laudable goals, perhaps the most important focused on making the general public more aware of just who puts food on their plate three times a day.

While seemingly replete with spin, awareness-raising is also expected to yield dividends such as recognition of the growing importance of food security and more investment by government in essential rural infrastructure.

To find out more about the campaign visit <www.familyfarmingcampaign.net/campana/resultados.asp?id=en>.

Innovation grant to improve fertiliser usage

The Department of Agriculture, through the National Landcare Innovation Grants Program, has awarded Dairy Australia (DA) $341,000 to develop a soil and fertiliser mobile app to help dairyfarmers make better decisions about the quantity of fertiliser needed to meet their optimal feed requirements.

DA program manager Amy Fay said the grant was an exciting opportunity to work with the Federal Government, local service providers and farmers to "get ahead of the game in fertiliser and soil data management and develop a tool that will assist farmers in their everyday farming operations".

"The implementation of precise fertiliser management not only demonstrates best practice but is also an industry sustainability target contributing to increased security of international market access for Australian dairy products," Ms Fay said.

The development of this new app follows the introduction to two highly successful DA apps to tackle mastitis and assist in the monitoring of herd body condition.

Minister for Agriculture Barnaby Joyce said: "I know this is a big cost for the dairy industry and research in this area will be appreciated.

"I look forward to seeing the results of these projects and practical tools and research to help farmers."

Farmer confidence on the rise

Dairyfarmer confidence in the future of the Australian dairy industry has increased since May 2013, according to Dairy Australia's latest round of tracking, completed in late 2013. The study surveyed 492 farmers in all eight dairy regions and compared results with the mid-year survey. On a national level, the percentage of farmers who were positive about the industry's future rose from 42% to 67%. All eight regions also showed an increase in the number of farmers positive about the future.

One of the many programs aimed at supporting the industry's positive future is Legendairy, and there's a lot more in store for 2014.

Extensive consultation in 2013 helped to lay the groundwork for targeted promotion opportunities in dairyfarming communities, and many are already under way. From sponsorship of regional agricultural shows and festivals to more road and truck signage to stories in the local media and collaboration with councils and shires, there's plenty of activity in the works.

On a national level, two Legendairy TV commercials return to the airwaves in March, targeting shoppers with positive messages about dairy's benefits as a nutritional and healthy food for all Australians. The commercials will continue to run on YouTube as well, and are again being paired with national radio coverage in regional and urban areas through *Hamish and Andy's 3pm driver's seat.*

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Foreign ownership — does it matter?

THE sale of dairy companies to foreign interests has ignited debate over which processor ownership model is best for farmers. LOUISE PREECE reports.

THREE Australian-owned dairy companies have been sold to foreign interests in the past two months.

The biggest was Canadian dairy giant Saputo's buy-up of 87.9% of Australia's oldest dairy company, Warrnambool Cheese & Butter (WCB), after a heated three-way bidding battle between Saputo, Australian co-operative Murray Goulburn and Australian company Bega Cheese.

One of the country's largest independent milk companies, United Dairy Power (UDP), announced it was selling up to a Hong Kong buyer. It was reported the company changed ownership for about $70 million to businessman William Hui, the chairman and major shareholder of CD, DVD and video cassette manufacturer Swing Media Technology. The company, established in 1999, processes 500 million litres of milk every year.

It generates annual sales of more than $200 million and profits of more than $15 million and was solely owned by chief executive and founder Tony Esposito. He had been on the hunt for a buyer for UDP for a couple of years.

Chinese State-owned conglomerate Bright Food Group's announced in January that it had agreed to buy West Australian company Mundella, self-described as WA's "premier dairy company".

Some analysts say the latest acquisitions, particularly by Asian interests, will offer Australian dairy products exposure to an expanding market. They say the rising demand for products such as infant formula will be a boon for the industry and foreign ownership of manufacturers will open doors.

But others industry leaders argue farmers should be keeping a close eye on the growing trend of dairy manufacturers being sold to foreign interests — and what impact that will have down the track.

President of the United Dairy Farmers of Victoria (UDV) Kerry Callow, a dairyfarmer at Macarthur, Vic, argues it is important the industry retains a strong Australian-owned manufacturing sector, owned by producers.

"This is a trend farmers need to really start thinking about," Ms Callow said. "You only have to look at other agricultural industries that did not keep their eye on who was taking control of their manufacturing.

"They are not in a good position now. The glaringly obvious one is SPC Ardmona (SPCA)."

SPCA was refused Federal Government funding in the form of $25 million in February, which it said was required to overhaul the business and pull it out of dire straits. It was sold offshore to multinational company Coca Cola Amatil in 2005.

And while foreign ownership has been happening to a wide range of industries for a long time, Ms Callow said the dairy industry in particular needed to think long-term about the implications of the issue.

Roma Britnell: The only way is to own part of the supply chain.

Steve Spencer: The most important thing is that Australia needs a dairy co-operative performing efficiently.

Kerry Callow: This is a trend farmers need to really start thinking about.

"The dairy industry is in a unique position," she said. "We can not sell one drop of milk unless it goes through a manufacturing plant. It is important we have some strength in that area where farmers have an influence over the companies."

During the lengthy tussle for WCB, the UDV took a stance that the long-term interests of Victorian farmers would be better served if the company remained in Australian hands.

Ms Callow said Australian-owned dairy processors, such as Murray Goulburn (MG) and Bega, were getting "thin on the ground".

"Farmers will leave themselves exposed if this trend continues," she said. "Yes, they have control over their milk and where they supply it, but keep in mind the profit goes back to companies and to shareholders."

The short supply curve at the moment could soon shift, she said, which could lead to a situation where factories were not chasing supply.

"Farmers need to understand what the industry environment might look like then and ask themselves how important is it to keep dairy companies in Australian hands," she said. "It does worry me that people are only looking short-term."

Woolsthorpe, Vic, dairyfarmer and UDV policy councillor Roma Britnell agreed.

"We have never had a problem as a nation with the fact that international companies are purchasing in Australia," she said.

"Parmalat is owned by the Italians, Lion by the Japanese. But we have not had a conversation in the farmer ranks about what is good for farmers."

The MG supplier said dairy producers should be thinking about how to retain an influence over the market.

"The only way is to own part of the supply chain," she said.

It's a discussion she's instigated in the industry in the past, most recently just before WCB fell into foreign ownership.

"The WCB debate got tied up in names and personalities and it wasn't about the principle," she said. "And that is: how do you extract the most you possibly can from the marketplace as a farmer?"

Mrs Britnell said "the ball" was in farmers' courts. "The war is only just beginning," she said.

"If we keep giving away our ammunition — our milk — we will lose the battle. This is more serious than any other issue facing the dairy industry."

But dairy industry analyst Steve Spencer, a director at Fresh Agenda, said it did not matter who owned Australian dairy companies as long as a strong-performing co-operative continued to operate in the marketplace.

He said the recent change in ownership to foreign interests at WCB and UDP would not affect farmers.

"If MG operates more effectively and efficiently, every Australian dairyfarmer is going to benefit," Mr Spencer said. "MG sets the price and companies such as WCB and Fonterra follow its lead." ▶

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He said foreign ownership should not be perceived as a bad thing for Australian agribusiness or farmers.

"We need capital to achieve more effective entry to export markets — and we need international backing," he said.

Mr Spencer said Saputo had the scope to achieve that for WCB. "We need to be better connected to these countries," he said.

Whether dairy companies were owned privately or offshore, he said, would not affect producers at the farm-gate.

"A company's obligation is always to its shareholders," Mr Spencer said.

"The most important thing is that Australia needs a dairy co-operative performing efficiently. If that changes, there will be less power to leverage the milk price." D

Dairy deals to keep happening

THE banker who led Canadian giant Saputo to victory in the $530 million battle for Warrnambool Cheese & Butter, says the deals will keep coming in dairy.

Rothschild managing director Sam Prentice said he hoped Rothschild would help Saputo build its Australian position.

Mr Prentice, who heads up Rothschild's Melbourne office, said he was confident about deal flow and expected the dairy, grains and animal protein sectors would see more corporate activity.

"There's a trend of bringing global companies like Saputo to the Australian market and helping them build out their position," he told *The Australian Financial Review*.

Mr Prentice said that Saputo's rivals in the WCB battle, ASX-listed Bega Cheese and Victorian farmer co-operative Murray Goulburn, were both well-capitalised and likely on the hunt for acquisitions having banked about $100 million apiece from selling their WCB shares to Saputo.

But he said he was focused on consolidating the $C10 billion ($10.06 billion) Montreal-based giant's footprint in Australia now that the dust had settled on the WCB deal.

"There's a few smaller privately owned milk processors out there and there are still some opportunities for consolidation," he said.

Since listing in 1997, Saputo has made more than 20 acquisitions worth in excess of $US4.2 billion ($4.65 billion), and the company has made no secret of its ambitions in Australia.

Saputo chief executive Lino Saputo jnr told analysts at the company's third quarter earnings update that the "runway still is very, very long" on global takeover opportunities.

Murray Goulburn, which is Australia's biggest dairy exporter, is pursuing its own partial public listing this year with its advisers Lazard and Macquarie.

This year Mr Prentice also advised Hong-Kong-based businessman William Hui on his $70 million acquisition of the nation's biggest privately-owned dairy processor United Dairy Power.

"There's a lot of demand from wealthy individuals to invest in agriculture in Australia not just from Asia but also the Middle East and other acquirers," he said. "There is a lot of money flowing in."

Last year Fonterra snapped up Tasmanian yoghurt group Tamar Valley while China's Bright Foods snared West Australian cheese and yoghurt producer Mundella Foods in January.

But it was the hotly contested takeover battle for WCB between Saputo, Bega Cheese and Murray Goulburn that threw the sector into the spotlight.

Alongside the 10 separate offers from the bidding parties, the contest also drew international powerhouses into the consolidation play as the world's biggest dairy exporter, New Zealand's Fonterra, snared a 10% stake in Bega Cheese while Lion, a subsidiary of Japanese behemoth Kirin, seized 10% of WCB.

Both Lion and Fonterra moved to shore up their Australian operations and protect supply arrangements.

Saputo's offer closed in mid February, leaving the Canadians with 87.9% after Lion decided not to sell its stake in the hope it could leverage negotiating power with WCB's new owners.

"I've never seen a contested takeover like this," Mr Prentice said.

"Something happened almost every day; it was just extraordinary. Going into work you'd expect something, but you didn't know what it was going to be. There was so much pressure and at times we didn't know where it was heading."

The WCB bidding war for Australia's oldest dairy attracted international media attention and underscored the value industry players see in soaring demand for dairy commodities such as milk powders, cheese and infant nutritionals in Asia, and China in particular.

According to government forecaster, the Australian Bureau of Agricultural and Resource Economics and Science (ABARES), the Asian region now accounts for 57% of global trade in milk powders and 20% of global cheese imports.

Chinese imports of whole milk powder increased more than six-fold to 325,000 tonnes in the three years to 2011, while imports of skim milk powder more than doubled to 130,000 tonnes over the same period.

—TIM BINSTED

Article courtesy of Australian Financial Review

NATIONAL HERD IMPROVEMENT ASSOCIATION OF AUSTRALIA INC.
NHIA NEWS ROUNDUP
www.nhia.org.au

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Aus semen market survey released

THE National Herd Improvement Association (NHIA) recently released the results of the 2013 semen market survey. Based on results submitted by 11 bovine semen suppliers, it gives the best indication of the state of this market for the financial year July 2012 through to June 2013.

Holstein breed dominant

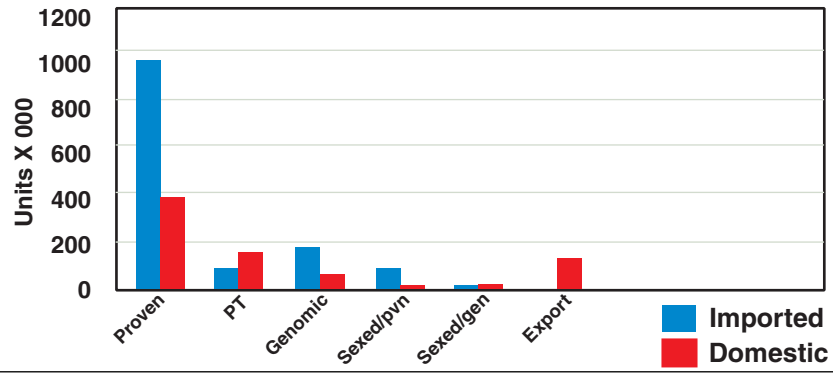
Once again, Holstein was the most dominant breed in Australia and in fact increased its market share from 78% in 2012 to almost 80% in 2013 (see Table 1).

Imported semen dominates

Substantially more imported dairy semen was sold than semen produced domestically within Australia (see Figure 1). This trend has remained stable for the past three years.

This begs the question why don't Australian dairyfarmers favour bulls bred in Australia? Why don't Australian farmers seek bulls that are proven performers in local conditions?

Figure 1: Sales of imported and domestically produced semen in Australia in 2013.



In addition, when compared with a number of overseas countries, the Australian semen market appears to remain somewhat conservative. For example, in Germany about 60% of the semen sold in that market comes from young, genomic sires. This figure is similar in the United States. However, in Australia only 14.5% of semen sold in 2013 was from genomically tested sires.

Genomic evaluations on young sires represent the cutting edge of dairy genetics. Farmers in other countries appear to be more willing to adapt their buying decisions to accommodate the scientific advances that genomics has brought to cattle breeding in recent years.

Table 1: Sales of dairy semen by breed in Australia in 2013

Breed	2013	2012	2011	2010
Holstein	1,470,581	1,525,776	1,530,057	1,334,892
Jersey	235,391	277,744	278,307	250,873
ARB	61,083	55,487	51,897	54,809
Illawarra	12,738	30,738	57,584	11,578
Brown Swiss	18,552	17,581	15,292	12,897
Kiwi Friesian	20,560	14,105	14,794	10,826
Ayrshire	8530	8692	11,734	8841
Montbeliarde	7563	8106	8556	4322
Guernsey	3058	5759	5431	4164
Other	3068	1977	12,053	2605
Total	**1,841,124**	**1,945,965**	**1,985,705**	**1,695,807**

Congratulations

The NHIA meritorious service awards were presented at a function during International Dairy Week recognising the efforts of two individuals who have made an enormous contribution over many years to the herd improvement industry in Australia.

Graeme Cowan, of Genetics Australia at Bacchus Marsh, Vic, and Frank Treasure, of FarmWest at Bunbury, WA, were honoured by their peers at the NHIA dinner.

AI course dates

Anyone in Victoria looking to enrol in an artificial insemination training course can find details on the NHIA website <www.nhia.org.au>.

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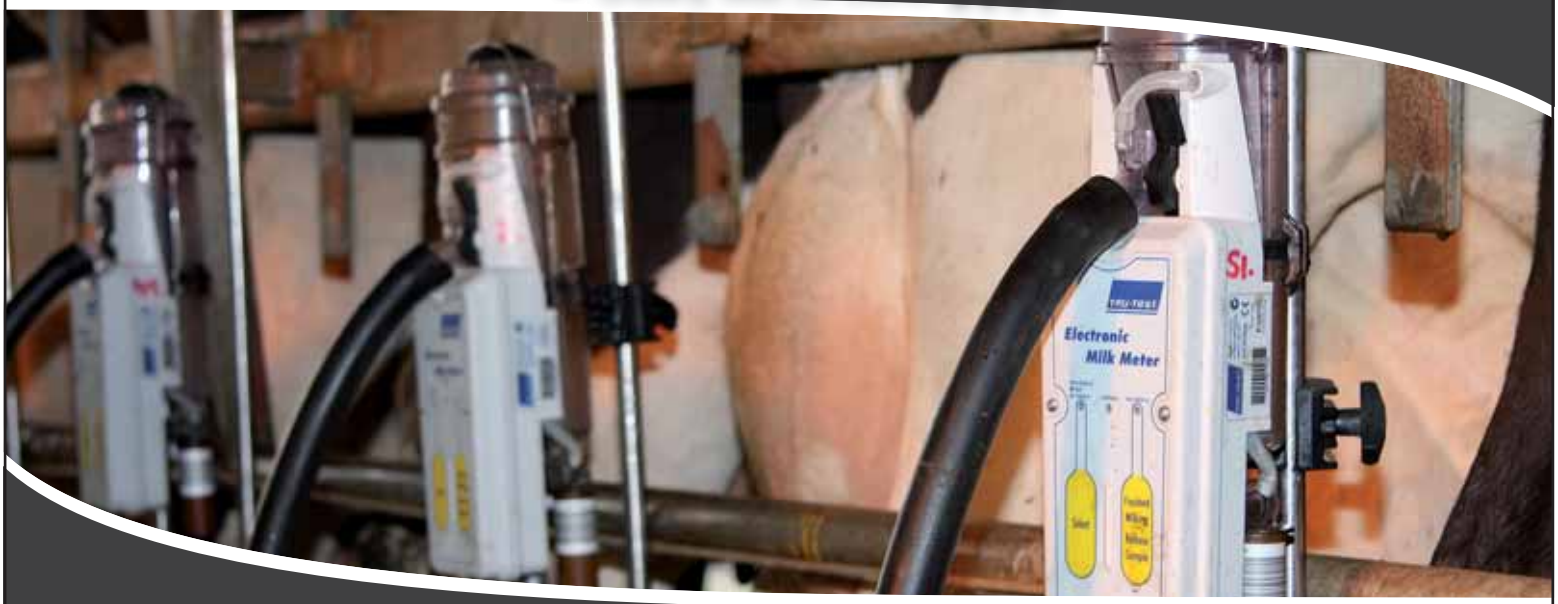

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Pilot delivers employment kit

RESEARCH shows one of the key issues in attracting and retaining people on dairy farms are the employment practices being used. In response, Dairy Australia (DA) has launched the Employment Starter Kit initiative or ESKi — an easy-to-use kit that helps dairy farm employers with the human resource side of their business.

ESKi details all of the mandatory requirements for dairy businesses that employ staff and was built from The People in Dairy website, which has industry-specific people management information and resources.

A draft of ESKi was piloted by more than 30 dairyfarmers and it was then trialled at WestVic Dairy and DairyTas before being launched nationally.

Dairy Plains contract milker Penny Domeney received ESKi after the DairyTas launch and said the kit was a practical resource with user-friendly information. "If you have human resource questions, you can find the answer in ESKi," she said.

"It's not written in legislative jargon; it's written in a language that is clear."

Ms Domeney and her partner Mick Buckley currently employ seven staff members and milk 940 cows, and she said that when employers were clear with staff, staff were happier at work. "ESKi has helped us immensely to do our job," she said.

"I find it easy to use and it has many good reminders — it's a fantastic resource.

Flavio Traviglia is an employee of Penny Domeney and Mick Buckley.

"There are a couple of habits we had that needed improvement. At the moment, the payroll section is what we've been using and we've updated our timesheets.

"The next chapter we will be focusing on is individual flexibility agreements."

DA people development council project manager Bill Youl said ESKi had received a positive response from dairy farm employers across Australia.

"We've received great feedback since launching ESKi," Mr Youl said. "Currently there are more than 500 ESKis already distributed to dairy farm employers across the nation."

Workforce planning and action steering committees were formed at WestVic Dairy and DairyTas, with a primary focus on developing actions and supporting the dairy industry to attract and retain the skilled people it requires. ESKi is the first action delivered by the committees.

ESKi is now available to dairy farm employers through Dairy Australia's Regional Development Programs nationally.

To access DA's online people management resources visit <www.thepeopleindairy.org.au>.

Graduates provide HR support

THE Diploma of Human Resource Management (Dairy) is an industry qualification for people who advise on or implement human resource decisions on a dairy farm.

Since the diploma's pilot in 2008, 119 people (22 farmers and 97 professionals) from across Australia have participated in the course, with 88% of participants graduating with a diploma — including 17 new graduates in 2013.

The large majority of graduates are farm consultants and dairy company staff who have all gone on to use their skills and knowledge within their businesses, with some now offering people-related services to farmers.

"Past research showed that few dairy service providers could confidently advise farmers about people matters on farm," industry people and capability group manager Shane Hellwege said.

"In response to these findings, the diploma was developed for people who advise dairyfarmers so that farmers could have access to high-quality, industry-specific advice on the 'people' side of their business."

All farm consultants who have completed the diploma use their learning in interactions with dairy farm clients. Several human resource management trainers from the National Centre for Dairy Education Australia (NCDEA) have also completed the course, as well as farmers with large numbers of staff.

The diploma was run in conjunction with the NCDEA by course coordinator Leanne Bunn and was facilitated by Chris Hibburt. The diploma provided a theoretical and practical foundation in dairy-specific human resources. Workshops were delivered by local and international guest presenters and included a wide variety of dairy-specific human resource topics.

To find an adviser who has completed the diploma visit <www.thepeopleindairy.com.au/find-an-adviser/diploma-graduates>.

To learn more about dairy industry courses visit <www.ncdea.edu.au>.

Dairy Australia
Your Levy at Work

Understanding what's needed in employee pay slips

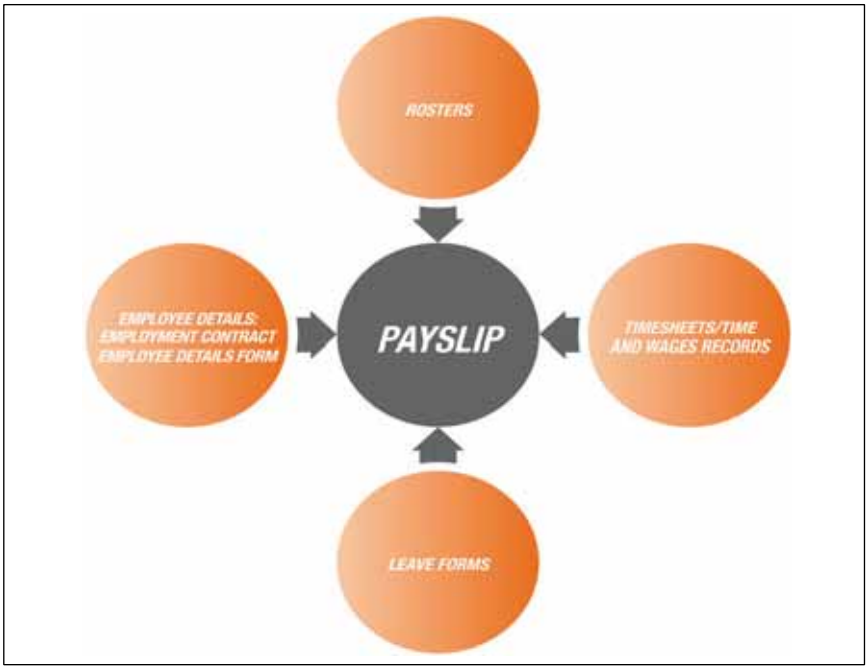
PROVIDING pay slips can be a daunting task, especially when employing staff for the first time. However, if time and wage records are managed properly and kept up to date, producing an employee pay slip can become a fairly simple process.

By law, an employer must provide an employee with an electronic or paper pay slip within 24 hours of paying wages, even if the employee is on leave.

Meeting legal obligations when managing payroll records is vital, as Fair Work inspectors can give employers a fine (infringement notice) for not providing employees with a proper pay slip or for failing to meet record-keeping obligations.

Therefore, it is essential for employers to maintain up-to-date time, leave and wage records. This may be through a payroll spreadsheet or through paper records such as a time-and-wages book.

There are a number of computerised payroll packages available such as Xero, MYOB and Quickbooks. Farmers who use an electronic payroll say the time saved in keeping employee pay and leave records outweighs the cost tenfold — talk to an accountant or bookkeeper about the record-keeping options that best suit the farm business. D



To meet legal obligations, payroll information must be accurately managed for each employee.

What information must be included on a pay slip?

- Employer's name
- Employer's Australian Business Number
- Employee's name
- Date of payment
- The pay period (the period the payment is for — for example, 24/3/14 to 30/3/14)
- The gross and net pay
- Loadings, allowances, bonuses, incentive-based payments, penalty rates or other paid entitlements that can be singled out
- If the employee is paid an hourly rate: the ordinary hourly rate, the number of hours worked at that rate and the amount of pay at that rate
- If the employee is paid an annual rate (salary), the rate as at the last day in the pay period
- Any deductions from the employee's pay, including amount and details of each deduction and name and number of the fund/account into which the deduction was paid
- Any superannuation contributions paid for the employee's benefit, including the amount of contributions made during the pay period (or the amount of contributions that need to be made) and the name and number of the superannuation fund the contributions were made to

Note: While it is best practice to show an employee's leave balance on their pay slip, it is not a requirement by law, although employers must inform employees of their leave balance if asked.

Pay slip checklist

UNDER the Fair Work Act employers must keep employee payroll records for seven years in a form that is readily accessible to a Fair Work inspector.

- Do you have a process for issuing employee pay slips?

A 'Model Pay Slip' template is available from <www.thepeopleindairy.com.au/eski/payroll.htm>, or refer to the 'Payroll' section in the ESKi folder.

- Do you have a record of employee rosters and wage records?

Templates are available from <www.thepeopleindairy.com.au/eski/payroll.htm> or refer to the 'Payroll' section in the ESKi folder.

- Do you maintain records of employee leave and leave balances?

Application leave forms and leave record templates are available from <www.thepeopleindairy.com.au/eski/leave.htm> or refer to the 'Leave' section in the ESKi folder.

Building industry skills

IN 2013 Dairy Australia (DA) and the Gardiner Foundation (GF) offered 20 $2500 dairy industry scholarships with the aim of supporting continued learning and recognising people working in the Australian dairy industry.

Through the scholarship fund, five dairy farm owners and share farmers and 13 dairy farm managers and farmhands have gone on to advance their skills through development activities.

Gippsland, Vic, dairyfarmer Shane Boyle used his scholarship to complete a Certificate IV in Agriculture as well as artificial insemination (AI) training.

"The scholarship has allowed me to complete courses and certificates to give me the knowledge and ability to move into future opportunities," Mr Boyle said. "With the scholarship assistance I could achieve goals sooner and it relieved financial pressure on my family."

With the arrival of their third son last June, 2013 was an especially busy year for Mr Boyle and his partner. "Three boys under three and a half keeps us well and truly busy," he said. "The financial assistance of the scholarship has helped me to progress further and at a faster rate. I can achieve better results in the workplace and I can put what I've learnt into practice right now.

"I'd like to thank the GF and DA for their assistance and ongoing support."

Mr Boyle's employer, dairy farm business owner Simon Finger, said his development had benefited the business as a whole.

"The scholarship has definitely improved Shane's work on-farm," Mr Finger said. "The National Centre for Dairy Education Australia (NCDEA) courses fast-tracked his knowledge and he could bring those skills back to the farm. He has now got himself up to the stage of a management role — he helps to run the team, trains staff and understands the purpose of procedures. It's fast-tracked the process of getting him to a higher level."

Throughout the program, scholars were in regular contact with DA's industry capability program manager, Tracy Lloyd, and were required to report on their progress.

Sixteen scholars enrolled with the NCDEA to undertake accredited training ranging from Certificates III and IV in Agriculture to an Advanced Diploma of Agriculture. One scholar used the funds to attend the 2013 Australian Dairy Conference while another attended a cheese-making course at the NCDEA.

Gippsland, Vic, dairyfarmer Shane Boyle achieved goals sooner with the aid of a scholarship.

"It has been great to see how each scholar has developed and how they have implemented what they have learnt on farm," Ms Lloyd said. "It has been a real privilege to support people who are working in the dairy industry and who want to develop their skills further."

For further information on dairy industry courses visit <www.ncdea.edu.au>.

Free webinars to help up-skill manufacturing

EACH year Dairy Australia, in partnership with the National Centre for Dairy Education Australia (NCDEA), organises about 25-35 webinars presented by global experts to help upskill the Australian dairy manufacturing workforce.

The webinars are arranged so dairy manufacturers — especially small and medium-sized ones in regional areas — can interact with global experts who can help them to up-skill, innovate, improve productivity and grow their businesses.

"Up-skilling the workforce can pose major challenges for a country like Australia with dairy manufacturing scattered across the nation," Dairy Australia program manager Dr Mani Iyer said.

"It is important that the dairy manufacturing workforce is continuously informed of global developments and advised on opportunities to improve in order to ensure the Australian industry stays competitive, sustainable and innovative. Dairy Australia (DA) will continue to invite experts to deliver educational opportunities in 2014." During the past few years Professor Eric Spinnler from France, Dr Mark Johnson from the United States and Oriol Urgell from Spain have all presented and the feedback from participants has been positive.

Past topics have included the practical application of stabilisers, controlling moisture in cheese, rennet types and uses, and the manufacture of Manchego cheese.

While traditional methods of workforce training remain a priority, a webinar can include participants from factories across Australia — a concept that offers exciting prospects for up-skilling the dairy manufacturing workforce with significant savings in costs and time.

Webinars and global expert visits form part of DA's 'Up-skilling Manufacturing Workforce Using Global Networking' initiative.

For further information contact program manager Dr Mani Iyer, <miyer@dairyaustralia.com.au> or <www.dairyaustralia.com.au/Education-and-Careers/Upskilling-manufacturing-workforce>.

Want to participate in a webinar?

WEBINARS are offered free of cost to the Australian dairy industry and cover a wide range of dairy manufacturing topics.

Interested participants can contact Jenny Penfold at the National Centre for Dairy Education Australia, email <jpenfold@gotafe.vic.edu.au>.

Cameron claims youth camp scholarship

NEW South Wales dairyfarmer Cameron Yarnold claimed a $2000 scholarship at the National All Dairy Breeds Youth Camp at the Melbourne Showgrounds in January.

It was the first time the 20-year-old from Wingham, NSW, had attended the camp, but Mr Yarnold managed to win the Genetics Australia scholarship recognising the camp's most outstanding participant.

For five days, 48 participants aged 16-20 years developed their confidence in handling dairy heifers and improved their skills in judging, showing and clipping.

They took part in dairy industry exercises such as mock-auctions and dairy farm visits and learnt how to promote themselves to industry through a resume.

Each participant had the duty of caring for their own heifer throughout the week. The pinnacle event of the camp was to prepare and train their heifer to lead for the final show day.

Dairy Australia industry capability program manager Tracy Lloyd congratulates Cameron Yarnold on his scholarship.

National All Dairy Breeds Youth Camp committee co-ordinator Sue Bird said that the camp encouraged young people to look at opportunities within the dairy industry.

"It's an innovative program that encourages young people," Ms Bird said. "The camp is a fantastic opportunity for young people who want to investigate opportunities in the dairy industry and meet new people with similar interests."

The camp is sponsored by a number of organisations including Dairy Australia and the National Centre for Dairy Education Australia (NCDEA), which has conducted the camp since 2006. Twenty participants were also assisted with a partial sponsorship from the Gardner Foundation.

On completion of the camp, participants achieve units of competency towards a Certificate III in Agriculture with the NCDEA.

For more information on the NCDEA visit <www.ncdea.edu.au>.

See more pictures from and information about the camp on page 26.

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Insights for young milking enthusiasts

By ANNABELLE BEALE

KEY POINTS

YOUTH CAMPS

- ✔ 48 participants 16-20 years of age
- ✔ Taught show preparation and general skills
- ✔ Intended to foster interest in dairy careers

YOUNG dairy enthusiasts discovered the tips and tricks of life in the industry at this year's Dairy Youth Camp, held in Melbourne recently.

From farm visits to the showring, the 48 attendees learnt about all aspects of the industry, which Bega, NSW, dairyfarmer and camp leader Tom Pearce said could be the hook for some of the industry's next generation.

"If we can foster their interest, then hopefully they pursue a career path in the industry or as a service provider," Mr Pearce said.

"The knowledge participants receive can lead into other jobs and help them with their career paths by encouraging them to pursue their interest in dairy."

Participants aged 16 to 20 years were given a mildly broken heifer and were taught how to prepare cattle for the showring, ranging from clipping, leading and judging to feeding. They also took part in farm visits to learn about structural correctness.

Team Semex Australia's George Miller, Michaela Jeffery, Sophie Louden, team leader from Quebec, Canada, Roxanne Montplaisir, Emma Jonkers, Sammie Smith and Cameron Yarnold.

Guest speakers included World Holstein Friesian Federation president Matt Shaffer, who spoke about career options, and renowned fitter Matt Templeton, who shared his knowledge of preparing cattle and performed a mock auction.

Next year marks the 20th anniversary of the National Centre for Dairy Education Australia-run event.

Dairy Youth Camp Team Jersey Australia participants Hayden Williamson, Keeley Warren, Claudia Megaw, Tracey Millet, Sarah Nesbit, Scott Essom and team leader Pat Buckley.

"There were quite experienced people participating and then there were novices who haven't had a lot to do with cows," Mr Pearce said.

"A number of the participants were sponsored by schools, training centres and breed associations to attend to encourage them to foster their interest."

This year the event organisers ramped up their social media publicity, which may have been behind the significantly increased attendance.

The standouts were:

- $2000 Genetics Australia Scholarship winner: Cameron Yarnold;
- Package of four embryos from Murribrook Holsteins: Marty Hore;
- Package of four embryos from Jugiong Jerseys: Kate Forbes;
- Top Clipper Award: Cameron Yarnold; runner-up: Marty Hore;
- Aesculap Clipping Encouragement Awards: Clare Martin and Matt Reeves;
- Top Judge: Alexz Crawford;
- Novice Showmanship winner: Scott Essom;
- Experienced Showmanship winner: Cameron Yarnold;
- 2015 Youth Camp Scholarships: Sarah Nesbit and Scott Essom; and
- Champion Team: Jersey Australia.

Switch to crossbreeding improves herd health

By BRENT LANGLEY

KEY POINTS

CROSSBREEDING

- ✔ Three-way crossbreeding
- ✔ Swedish Reds introduced for health traits
- ✔ Smaller size but more robust animals

A MOVE to Swedish Reds five years ago has seen an overall improvement in efficiency and health of their herd, according to northern Victorian dairyfarmers Martin and Sharon Van Tilborg. The couple who farm 510 hectares at Katunga, also say their herd is more "consistent".

Viking Genetics representative Erik Thompson suggested the Van Tilborgs trial Swedish Red semen in their then 800-cow Holstein herd five years ago. About 120 Swedish Red-cross calves were born in the first year with a large percentage of those being heifers.

The Van Tilborgs said they noticed a considerable difference in these calves compared with their Holstein counterparts. Most notable was their behaviour and that they were quicker to respond and adapt to conditions.

"Straight away as calves they were already behaving different, they were real feisty," Mr Van Tilborg said. "As they were growing up, they had to be the first out of the gate. Even once they started calving and (became) part of the milking herd, they were definitely smaller (than the Holstein), they'd push the other cows out of the way to get milked."

Martin and Sharon Van Tilborg say a switch to three-way crossbreeding has made for an easy-care herd.

Mrs Tilborg said their adaptability from the weaning stage to out in the paddock impressed her along with the calves' ability to cope with Australian conditions.

"You could certainly see the difference in the calves," she said.

"The Swedish Red crosses could cope with the heat. They were fat and stayed (in good condition).

"With the Holstein calves they seem to struggle, they were always skinnier and grew so much taller. The Swedish Red seem to be heavier in condition. They also mature quicker."

When they told Mr Thompson two years ago that they were impressed with the Swedish Red-cross cows, he suggested the Van Tilborgs try a three-way cross.

"Two years ago we actually decided that any (remaining) Holstein cow would go to Jersey because they were big cows, to get the crossbreed and to get the size down," Mr Tilborg said.

Those animals then go to Swedish Red ▶

The Tilborgs use irrigation to grow as much feed as possible on their northern Victorian farm.

for the three-way cross. The progeny of those cows are crossed back to the original breed.

However, the faith that the Van Tilborgs have in Viking Genetics means they will now join those cows with Swedish Holsteins.

"In theory you should go back to the Holstein. But we have actually gone to the Swedish Holstein," Mr Van Tilborg said.

The reason was the health benefits that had been proven in the Swedish Reds bloodlines.

"They (Swedish Holsteins) have all the health traits and the fertility traits the same as Swedish Reds," he said

"These crossbreeds they come in, get milked and they go. Even now if we get cows with mastitis it's hardly ever a crossbred cow.

"We still get some of the first-cross with the Jersey and the Holstein, but the ones with Swedish Red or Swedish Holstein in them; we just don't get it (mastitis).

"They don't get sore feet.

"To us if a cow can walk onto the platform and people can look at (condition) and she walks out and goes to the paddock to eat and comes back the next day and she does that for 365 days of the year, then that is what we want.

"And we can see it it's definitely happening."

Milk production has remained around the same with the change from the Holsteins to the Swedish Reds and Swedish Red/Swedish Holstein cows.

The Tilborgs moved to Australia nine years ago from New Zealand to buy the farm at Katunga. Mr Tilborg was born and raised in Holland where he worked on his friend's dairy property before moving to New Zealand at the age of 18.

In New Zealand he met his now wife Sharon, whose parents owned a dairy farm.

It would seem hard work has paid off for the Van Tilborgs who experienced drought and low water allocations like so many farmers in northern Victoria in the mid to late 2000s and also contended with high grain and hay prices.

With improved water allocation in the past few years, the Van Tilborgs take advantage of their water right to produce as much feed as possible on the 510-hectare property while also watering permanent pasture.

The property has an allocation of 1250 megalitres of high security water and 1300 megalitres of ground water.

Feed consists of around 60% pasture and 40% grain and hay/silage split.

The Tilborgs milk their 800-cow herd through a 50-unit rotary dairy. Today only about 150 straight Holstein cows remain in the herd.

The Tilborgs' admiration for their herd is evident in the way they talk about their cows — they have pride in every one of them. Their switch to the Swedish Reds has been mainly from an animal health point of view, but they say what works for them might not work for others.

They say the improved efficiency and consistency throughout the herd has given them more time to grow feed and manage crop/pasture rotations as well as improve business practices overall.

The Van Tilborgs use electronic identification tags to identify each cow with herd records stored on their office computer. This also helps manage the crossbreeding programs.

"It gets a little bit more tricky because we got first-cross and second-cross and we got to make sure we breed those animals back to the right breed," Mr Van Tilborg said. "The first couple of times it's easy because the first-cross goes to one breed but once you go to the third or more you go back you have to go back to the right breed."

Out in the paddock it's difficult to distinguish the Swedish Reds from the Holstein. The vast majority of the Van Tilborgs' herd has the characteristic black-and-white markings of a Holstein, however there is a considerable difference in the size of the animals. The Swedish Reds can weigh about 200 kilograms less than the Holstein. D

The Swedish Red cross cows in the Van Tilborg herd have fewer cases of mastitis.

The crossbred herd still looks like a Holstein herd though the animals are smaller.

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Ag antibiotic use questioned

By LOUISE PREECE

KEY POINTS

SUPERBUGS

- ✔ Rise of antibiotic-resistant superbugs
- ✔ Ag must reassess use of antibiotics
- ✔ Safe food will be export advantage

IF AUSTRALIAN farmers want to play an increasing role in supplying high-quality, safe food to the world, they must reassess the use of antibiotics in agricultural production.

Infectious diseases expert Professor Lindsay Grayson told a dairy leaders' event — hosted by the Gardiner Foundation — in Melbourne recently that other countries (such as China) had not paid attention to antibiotic use in the food chain.

That situation had led to the contamination of stock, soils and waterways and eventually resulted in a situation in which people had become infested with antibiotic-resistant superbugs.

"Currently, Australia has a huge advantage in producing high-quality, safe foods," Professor Grayson said. "We have relatively limited use of antibiotics."

He said Australia was not perfect, but it should become perfect.

"Most of our seafood is not farmed," he said.

"Most of our beef is grass-fed, not grain-fed — not that there is anything wrong with grain-fed, except if you put them all in a small area they (cattle) will get an infection so in some parts of Australia they are routinely fed antibiotics to treat chest infections.

"So it's a case of using antibiotics to bypass good farming practices."

The big concern was the rise of antibiotic-resistant superbugs in humans and animals.

He said in New Delhi, minimal investment had been put into separating sewerage and clean drinking water.

It is now estimated that a third of the population carries an extreme form of superbug that is resistant to almost all antibiotics.

Mr Grayson said the other huge problem was that in Australia there was no legislation requiring food to be free of superbugs, which meant humans could be consuming them without being aware of the situation.

Professor Linday Grayson says eradicating antibiotic use from mastitis treatment should be a key issue for dairy.

This also meant that until legislation was put in place, Australia was unable to test imports.

He said Vietnamese prawn farmers routinely used the fluoroquinolone class of antibiotic.

In order to write a script for this antibiotic in Australia, a doctor would need to call Canberra to seek permission.

But Mr Grayson said customs routinely tested only a small percentage (about 6%) of imported seafood for drug residues each year.

Even with this small testing program, the Senate Inquiry last year noted that more than 600 tonnes of contaminated prawns were rejected annually due to excessive antibiotic levels, suggesting Australians were likely to be consuming a lot of antibiotics in imported seafood.

"Contaminated imports could completely undo the hard work done on local produce," Mr Grayson said.

"Imports may be cheaper, even though they are a health risk.

"And it's not about being racist or protectionist; it's a healthcare issue.

"We need legislation that requires food to be clear of superbugs."

He said Australian farmers should be thinking about how to eliminate antibiotic use so they could prove their "clean and safe" status into the future.

"In many ways, dairyfarmers are protected because the pasteurisation process limits bacteria contamination," he said.

"Drug residues are not so noticeable. Dairy is riding high, but can it be sustained?"

Mr Grayson said that consumers would pay more for a quality, safe product.

"Do you need to improve infection control with better farm design or vaccination strategies?" he said.

"Maybe we need to change farming practices.

"Do we really need grain-fed beef?

"Or should we do it in a way where we don't need antibiotics in production?"

In regard to the dairy industry, he said eradicating antibiotic use from mastitis treatment should be a key issue.

"What about improved shed design, not just for efficiency but for disease reduction?" he said.

He also outlined why a "one health" approach connecting antibiotic use in humans, animals, food production and the environment could reduce the superbug risk.

"Agriculture and medicine naturally converge around quality and safety," he said.

"Pressure to get product out at any price in overseas markets has encouraged the misuse of antibiotics."

He said the growing focus on quality and safety would disadvantage those cheaper products across time.

He also recommended two practical pathways to follow in implementing a "one health" approach: reducing the use of antibiotics in Australian farming systems and lowering drug residues and superbugs in overseas food imports. D

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Dairy Australia group manager trade and industry strategy Charlie McElhone; chair of GippsDairy Matt Gleeson; Gardiner Foundation director Tyran Jones; Gardiner Foundation-funded Nuffield Scholar 2014 Aubrey Pellett and United Dairyfarmers of Victoria president Kerry Callow at the leadership alumni launch.

Ron Paynter, Ellinbank, Vic, dairyfarmer, United Dairyfarmers of Victoria policy councillor West Gippsland and chair of the Dairy Moving Forward reproduction and fertility steering group (Nuffield), Corrie Goodwin, Murray Goulburn farm quality and sustainability manager (ARLP) and Rick Cross, Toolamba, Vic, dairyfarmer and director of Bega Cheese (Horizon 2020).

New boost to Australian dairy leadership

By ALEXANDRA DE BLAS

A NEW approach to developing leadership in the dairy industry was launched in Melbourne in December with the creation of a dairy leadership alumni. The first summit of the Australian Dairy Leadership Alumni (ADLA) brought together 50 people with an active industry connection who were graduates of one of four executive leadership programs: the Australian Rural Leadership Program (ARLP), Nuffield Scholarships, Rabobank Executive Leadership Program, and Horizon 2020.

"ADLA gives the industry a way to build on its significant investment in these rural leadership programs," Gardiner Foundation chief executive Mary Harney said. "For the first time we can link graduates across four programs spanning more than 20 years and harness their potential for the Australian dairy industry."

Many of the alumni hold leadership positions within industry, agriculture, politics or the community while others are on a clear path to take on those types of roles. A higher proportion of members are drawn from the farming community, which counters the limited access many farmers have to networking at the executive level. ADLA creates a unique opportunity for participants to meet as a group once a year to be inspired, build networks and strengthen their entrepreneurial and leadership spirits.

ADLA is an initiative of the Gardiner Foundation, Dairy Australia and the Department of Environment and Primary Industries (DEPI). The secretariat will be housed at the Gardiner Foundation, providing a central point to facilitate connection between alumni across the years.

Farm quality and sustainability manager with Murray Goulburn Corrie Goodwin (ARLP) sees it as a "fantastic initiative". "For two years now there has been a continuing dialogue about the need to do something in the dairy leadership space," Ms Goodwin said.

"A group like this — who have all put up their hands for leadership programs — want to be part of a vibrant industry so you have a huge reserve of energy to drive positive discussion, support people stepping into leadership roles and create opportunities to instigate change at many levels."

The summit

The one-and-a-half day summit began with an official launch at Government House hosted by the Governor of Victoria, Alex Chernov AC QC.

The Victorian Minister for Agriculture and Food Security and ARLP graduate, Peter Walsh, in a breakfast question-and-answer session stressed the importance of presenting a positive view of the industry to build confidence and in turn drive growth.

Tough decisions were often required "to take us to a better place in the long-term", Mr Walsh said. This can make leadership a lonely business at times.

"An alumni provides a great opportunity to share, network and find mentors and confidants," he said, acknowledging the value of mentors on his own journey.

The group received presentations from industry leaders, analysed key industry issues and built personal relationships as they toured the historic agricultural sites of Melbourne.

In a series of thought-provoking talks from leaders outside the industry, Professor

Department of Environment and Primary Industries — State Government Victoria

Dairy Australia — Your Levy at Work

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Dairy Australia — Your Levy at Work

GARDINER FOUNDATION

Nuffield Australia chief executive officer Jim Geltch; Australian Rural Leadership Program chief executive Dr Leslie Fitzpatrick; the Governor of Victoria Alex Chernov, AC QC; Elizabeth Chernov; Todd Charteris, from Rabobank, and Dairy Australia group manager trade and industry strategy Charlie McElhone at the launch.

INSET: Members of the Australian Dairy Leadership Alumni: John White, Tinamba West, Vic, dairyfarmer and co-sponsor of the Macalister Demonstration Farm Travel and Learning Scholarship (Nuffield), Graeme Nicoll, Fish Creek dairyfarmer and deputy chair of GippsDairy (Nuffield) and Chris Griffin, Westbury, Vic, dairyfarmer and director of Australian Dairy Farmers (ARLP).

Lindsay Grayson, director of infectious diseases at Melbourne's Austin Health, showcased the natural convergence of farming and medicine. He urged both fields to work together as the focus on "quality and safety" grew over the next decade.

"We know antibiotic resistance is a tsunami on the horizon" due to the over use of antimicrobials in protein production — in particular, chicken, pork and beef, he said. "While Australia is blessed with a relatively safe food supply, we can't be complacent," he said.

In 2007 the World Health Organisation produced a list of drugs so valuable to human health that their use in agriculture should be avoided wherever possible. "Australia does not adhere to that list," he said.

Feedback indicated that the speakers from defence, engineering and medicine were summit highlights. While the dairy industry is often guilty of having an inward focus, group members said they appreciated having a view beyond the farmgate to see the lessons gleaned from other sectors.

Leadership blueprint

In 2011 the Australian Dairy Industry Council developed an industry blueprint that identified the need for leaders to be developed in three tiers across the dairy value chain. It identified about 200 leadership roles across the industry, with 40 new people required to fill those roles each year.

ADLA fits the three-tier model by fostering the highest level of executive leadership but it also broadens the notion of what leadership means to the industry.

Changing times

"If dairy is going to reverse its declining production and capitalise on the opportunities the world market presents, we need to be actively growing, supporting and developing our leaders, particularly our primary producers," Ms Harney said.

"Not all leaders choose to be on committees so we have to tap into those who are actively exhibiting or aspiring to leadership in a multitude of ways. They could affect trade, be good mentors or be success stories in themselves as profitable farmers. Entrepreneurship can help break through the status quo and generate new structures to carry us forward."

At a time when Australian dairy processing is in the midst of structural adjustment with ramifications for the industry as a whole, Nuffield Scholar, dairyfarmer and GippsDairy deputy chairman Graeme Nicoll said strong leadership was required to guide it through this period.

"It's a difficult conversation. People need to converse with a level of vision at a scale where outcomes can be achieved," Mr Nicoll said.

"The alumni has real potential because it provides a forum free of the usual constraints of the industry structure.

"Uninhibited discussion" is how Ron Paynter, another ARLP graduate and a producer from Ellinbank in West Gippsland, Vic, put it. The challenge, as he saw it, was to turn "a very good meeting and connecting activity into future action".

"We need to be astute in using the strength within this group to clarify thinking while supporting existing organisations to take the steps on the ground," Mr Paynter said.

Fellow ARLP graduate Lisa Dwyer, a dairyfarmer from Hawkesdale in southwest Victoria and chair of WestVic Dairy, expressed the views of many when she said "full credit to Mary and the Gardiner team for realising the opportunity and making it happen.

"Harnessing the intellectual capacity that exists within the alumni as well as the enthusiasm and determination is something no amount of money can buy."

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

Value adding helps build farm business

By SHAN GOODWIN

KEY POINTS

VALUE ADDING

- ✔ A2 milk fetches premium
- ✔ Waygu-cross calves sold to feedlot
- ✔ Excess heifers sold for export

AGAINST a backdrop of floods and drought, the $1-a-litre milk supermarket price war and skyrocketing grain prices, New South Wales Mid North Coast couple Mark and Michelle Perry have walked into the dairying game from scratch and not only kept their head above water, but have been able to grow and upgrade their farm.

The secret has been continually "thinking outside the square" by adding value to all commodities the farm turns off, capitalising on all resources, targeting niche markets and innovative management.

The Perrys have done this by supplying A2 milk, rearing Wagyu calves, selling export heifers, leasing cows to build numbers and combining farm infrastructure improvements with natural resource management.

The couple run two Holstein herds at Perry View, Bellingen, NSW, and a second neighbouring farm, both under a pasture-based system, operating a total of 110 hectares.

Their herd of 150 A2 Holsteins produces 1.2 million litres of milk a year and the 140-head A1 herd produces 1.1 million litres, all sent to Lismore, NSW, dairy co-operative Norco. Norco has six suppliers for its labelled A2 product.

A2 milk contains the A2 type of beta-casein protein and does not contain the A1 form. Some people say A2 milk causes fewer digestive problems for them than A1 milk.

The Perrys, who bought into dairying just after the industry was deregulated in 2000, moved into A2 supply three years ago, chasing the four to five cents a litre premium. "Because we had the two farms, the opportunity was there to run two herds alongside each other and is a big advantage because it means you have an outlet for your A1 cows as you build A2 numbers," Mr Perry said.

The A2 herd, which averages 30 litres a day milk production in peak times, is managed exactly the same way, primarily off pasture with conserved ryegrass supplementation in winter and grain rations given in the dairy.

The hardest part, Mr Perry said, had been sourcing quality A2 cows. "We'd DNA test other herds and buy from other producers where we could," he said.

All the couple's heifers under two years-of-age are now A2, with 30% of total cow numbers still leased, paid for with home-reared Wagyu-cross vealers.

Both a Wagyu and an A2 Holstein bull are run with the A1 herd, and the A2 herd is artificially inseminated.

All the Perrys' calves are reared on farm, with A2 heifers going as replacements with the longer-term aim being to turn both herds over to A2 supply.

A1 heifers not required are sold to the lucrative export market, and Wagyu-cross calves, grown to 100 kilograms, are sold direct to a Northern Tablelands feedlot.

The Perrys set up 25 purpose-built calf hutches last July, where calves are kept for their first three weeks and hand fed surplus milk from the dairy.

They then go onto a mobile feeder until they are 10 weeks-of-age and are shifted onto grain and pasture.

"It allows us control of our replacement milkers and to value-add our cell count milk," Mr Perry said. "We are using a resource we already have, to add value to our calves."

The hutches are designed to be quickly and easily moved to neighbouring high country in floods, which in recent years have been one of the biggest challenges.

This time last year, the Perrys were hit with two floods where their farms went completely under water.

"Floods are not new but the force behind last season's did enormous damage, washing away an nearly half a hectare of land and wiping out all our pastures, plus

Mark Perry and son Josh feed a calf in one of the farm's calf hutches.

destroying plenty of fencing," Mr Perry said.

They had to feed their herds for three months, and ongoing rain, until the middle of July, forced replanting of winter ryegrass.

Combined with grain prices that have risen 25% in the past year and the downward trend of farmgate prices on the back of $1-a-litre supermarket milk, the tough seasons have put coastal milk production under enormous pressure.

"We're high-debt, having entirely bought into dairying," Mr Perry said. "If it weren't for value-adding we wouldn't be here.

"The A2 premium has given us a buffer zone, and our move into A2 is being funded by value-adding calves and selling heifers into the solid export market."

The additional funds have allowed for improvements and upgrades that boost productivity and improve the environment.

Last year, the Perrys upgraded their dairy from a six-cow walk-through operation to a 12-cow swing over.

With the assistance of Landcare funding, they also put water troughs in all paddocks, concreted one kilometre of laneway between the river and the dairy and concreted the dairy.

The result, along with reducing labour, improving animal health and allowing for cows to be moved easier in flood time, has contributed to improved water quality in the Bellinger River.

"Out west they buy centre pivots, here we buy concrete," Mr Perry said.

Dairy Australia
Your Levy at Work

Aussie cheese a hit in SE Asia

AUSTRALIAN cheese took centre stage in Thailand, Singapore and Vietnam recently as part of Dairy Australia's (DA) international market development program.

Hundreds of people representing government, dairy importers, distributors, retailers, airline caterers, hotels, restaurants, catering companies and hospitality schools were updated and further educated on the variety, availability and uses of Australian cheese and how it is made.

DA international trade development manager Peter Myers said the annual program included industry seminars, hospitality schools presentations and demonstrations and promotional events. He said the aim was to promote Australian dairy products and build awareness of and relationships between key customers across South East Asia.

"It is a very important region for us, being a major destination of Australian dairy products, which continues to grow as the Asian palate becomes more accustomed to dairy," Mr Myers said.

Seminar participants were keen to learn about Australian dairy.

"A key objective is to ensure our customers in these key markets recognise Australia as a supplier of high-quality cheese and dairy products.

"We make sure they understand that Australian cheese is the safest cheese in the world and that the milk it is made from comes from pasture-based farming systems. We also ensure they are aware Australia boasts a diverse range of cheese and a flexible variety of brands for all applications and occasions."

Industry seminars in Bangkok and Singapore attracted more than 80 attendees in each city, while more than 600 people were treated to a cheese-sampling display at a function held by the Australian Embassy in Vietnam to mark 40 years of government-to-government relationships between Australia and Vietnam. Hospitality school presentations and demonstrations in Hanoi and Singapore were also held.

Mr Myers said the seminars were well received, with participants keen to learn more about Australian cheese and dairy products.

"Feedback showed that participants in each of the countries found the seminars interesting and useful and wanted to learn more about cheese processing, manufacturing, how cheese can be adopted to Asian cooking and what types are suitable for manufacturing applications," he said.

Participants attending the industry seminars and hospitality school presentations all took away a package of information on Australian dairy, including the recently updated DA Australian Cheese Please booklet.

Dairy Australia
Your Levy at Work

Energy assessments help farmers cut power bills

HUNDREDS of dairyfarmers across Australia have been able to save money on electricity bills after completing Dairy Australia's (DA) on-farm energy efficiency assessments.

The assessments are part of the 'Smarter energy use on Australian dairy farms' project, which has been running for more than a year, and funding is still available for free assessments across all regions for farmers who haven't yet had one.

In 2012 DA acquired $1 million in Australian Government funding as part of the Department of Industry's Energy Efficiency Information Grants Program to deliver the project on 900 dairy farms.

The on-farm energy assessments, conducted by industry-approved assessors, identify opportunities for farm businesses to save on energy bills providing a personalised plan for each farm with recommendations to use energy in the smartest, most efficient and cost-effective way.

As a result of the rapid uptake of the assessments, DA recently received a second round of funding to deliver the project to a further 500 farmers.

So far, the on-farm assessments have revealed focusing on reducing energy consumption for milk cooling, milk harvesting and hot water production has provided the greatest gain for improving energy efficiency.

DA's natural resource management program development manager Amy Fay said looking at these areas in the dairy could enable farmers to make useful energy savings without the outlay of significant funds.

"Farmers who have completed the assessment are more confident in understanding how to manage their energy use in the future," she said.

"The easiest and biggest win for many farmers has been to make sure their hot water system is working most efficiently.

"Other small but effective changes we have found is to check that plate coolers, vats and compressors are maintained properly and are working efficiently."

For more information visit website <http://frds.dairyaustralia.com.au/events/smarter-energy-use/>.

Boosting plate cooler efficiency

COOLING milk to 4°C can account for 30-60% of total dairy energy costs and in the past six to nine months Swan Marsh, Vic, farmers Fred and Kimberley Veenstra have saved a significant amount off their power bills by improving their milk cooling system.

The couple had an on-farm energy assessment that looked at all aspects of the dairy from cooling to the motors. The temperature of their recycled plate cooler water was discussed at length and as a result it was found it wasn't running efficiently.

"I put an extra water tank in for the plate cooler to lower the temperature of the source water, which helps the cooler operate more effectively and means the vat isn't doing the majority of the work draining a lot of energy at the peak rate," Mr Veenstra said.

"There was 2-3°C difference in cooling, which has saved a lot on the power bill. I've compared my bill with my neighbour who has a similar operation and dairy and we have saved $200-$250 so over time I am confident we will see a big difference."

The Veenstras milk 240 cows in a 20-unit swingover dairy with cup removers, a feed system and stall gates. The dairy is set up with a 5400-litre vat and a 4800-litre vat.

Mr Veenstra said the tank wasn't a huge investment to make for such a cost saving on their electricity. The dairy now has two 27,000-litre water tanks.

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Heat recovery unit cuts costs

TIMBOON, Vic, dairyfarmers Mike and Kim Jamieson are looking at cutting their hot water costs in the dairy by 40-50% by installing a heat recovery unit.

The saving has been a direct result of their on-farm energy efficiency assessment. One aspect of the assessments reveals the average energy use of farmers in the region, and once Mr Jamieson saw he was 5% higher than the average for plate cooling costs, he immediately questioned why and started looking at what he could change.

His first job was cleaning the weeds out of the water trough that feeds into the cooling tower. Then he installed the heat recovery unit to capture heat from the chiller unit on the vat and use it to heat the water to clean the vat and machines.

The system, which has a 450-litre capacity, sits between the compressor on the milk vat and the air-cooled condenser to extract the heat during milk cooling. The hot refrigerant gases with high pressure from the compressor are transported to the heat recovery system, where the heat is released into the cycling water in the system. This pre-heated water (to about 55-60 degrees Celsius) can then feed into the hot water system to heat it to about 85-90°C overnight when the off-peak electricity charges kick in.

Kim and Mike Jamieson are more than happy they completed an energy assessment, which revealed where they could cut energy costs. Picture by Steve Hynes

"On the day of pick-up both cylinders are connected and the night water from the plant is right for the next day," Mr Jamieson said.

"The upshot is that two thirds of our power is used for heating water so this will save us at least 40% on hot water costs, which is great.

"We will also have an additional saving on the chiller unit where we used two fans. Now we only need one fan because using water to remove heat from it is more efficient than using air."

The Jamiesons milk 250 cows in a 22-unit swingover dairy equipped with a 14,000-litre vat. The couple say the recovery unit will pay for itself within three to five years.

"In my opinion it's better than solar panels because the panels get dusty and you have to keep them clean to work efficiently, whereas this system is protected in the dairy," Mr Jamieson said.

The couple are more than happy they completed the energy assessment, which also revealed their plate cooler was not working as efficiently as it could have been.

"It made me aware of things I didn't realise weren't running efficiently so I could fix them immediately and the assessment looked at things I wouldn't have thought to, to help improve our running costs," he said.

"I highly recommend it — there's no point being charged for something you don't need to be."

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People: the long-term future of dairy

AFTER nearly 50 years of dairy-farming, Maffra, Victoria, farmer John Vardy is quick to identify the most important investment in the industry's long-term future: people. Which is why he's formed partnerships with three young farmers on his three Gippsland, Vic, properties: two in the Macalister Irrigation District at Maffra and the other at Meerlieu, between Stratford and Bairnsdale.

"The industry definitely needs young people in it," Mr Vardy said. "It's just a matter of trying to get good people to manage our farms and share the load."

The lifelong Gippslander was raised on a dairy farm nearby and, with his wife, Julie, has run Mewburn Park farm for the past 33 years. Mewburn Park began as a beef farm in 1842 but the Vardys are the first to run it as a dairy. They've built the business up to 2200 cows spread across the three properties, all of which supply Murray Goulburn Co-Operative. Mr Vardy is passionate about the co-operative's work to return profits to its farmers.

Son Ryan runs one property while locals Craig Fletcher and Glenn Warren manage the other two. Each has a 50-50 split partnership with Mr Vardy.

"I've backed off a bit with the hours I do and I've discovered I need help," Mr Vardy said. "Getting the partnerships going with the three guys is probably the best thing I've ever done."

Maffra's John Vardy (second from left) with sharefarmers (from left) son Ryan, Craig Fletcher and Glenn Warren.

Mr Warren said: "John is someone I've always looked up to. He tucked me under his arm and has been very good to me. He's very keen on keeping me in the industry."

"I think dairying chose me."

Mr Warren is a third-generation dairyfarmer who did a carpentry apprenticeship before the call of the land drew him back into dairying 15 years ago. "It's not just work to me," he said. "It seems more natural to be a farmer. If you're dedicated to it, you'll get a lot out of it and be well-rewarded."

Mr Vardy said financial assistance programs were also critical to help young people get a foot in the door. He's been particularly impressed by Murray Goulburn's Next Generation financial assistance initiative and Cowbank, a leasing program that enables young farmers to borrow money on cows alone and gradually build up their equity in the herd.

"Glenn's bought half the cows — about 300 — and he pays them off," Mr Vardy said.

"Hopefully he wants to buy the other 300 and then either lease or buy the farm. I think it's probably the only way for young people to get ahead today."

Mr Vardy said part of attracting young people was having good facilities and technology, such as installing his second 60-stand rotary dairy. This rotary will replace the existing swing-over system on Mr Warren's share property.

"It's been a great exercise," Mr Vardy said. "It'll give Glenn a lot more opportunity to employ better people. It's better for our cows too.

"It's just benefit after benefit. We couldn't see ourselves dairying here in 20 years with the shed we had. Sooner or later we had to make that decision.

"I would have loved to be a doctor or a dentist where they charge a lot more.

"But it's about the challenge, the rural life, the people and just achieving. There are some tough times but it's about the long term. It's not just about five years or 10 years. It's probably about 30 or 40 years, and if people hang in there, there's a reward at the end.

"Long-term, we're hoping for them to be farmers for their whole lives."

Dairy Australia
Your Levy at Work

The science of dairy

AUSTRALIA'S influence in the dairying world will be underscored this March when Melbourne hosts the first International Dairy Federation (IDF) Symposia to be held in the country. Sponsored by Dairy Australia (DA), the symposia bring together the finest experts from all over the world to talk about the science of dairy. Two symposia are taking place: the Second IDF Symposium on Microstructure of Dairy Products on March 3-4 and the Fifth IDF Symposium on Science and Technology of Fermented Milk on March 6-7.

The IDF Symposia are probably the most prestigious dairy science conferences in the world. "It is a real coup to have these meetings here in Melbourne as they really are the Olympics of dairy science," DA program manager and symposia co-ordinating committee chairperson Neil Van Buuren said.

"We have more than 150 delegates from over 15 countries registered and our keynote speakers include Dr Jeremy Hill, chief technology officer for Fonterra and president and chair of the board of the International Dairy Federation, and Dr Wang Jun, executive director of the Beijing Genomics Institute.

"Dr Wang is one of the world's most important scientists working in the area of genetics and his focus is on the analysis of complex diseases and agricultural crops. In 2012 *Nature* magazine described Dr Wang as one of the 'Ten People who Matter' in science so it will be fascinating to hear what he has to say."

Both symposia have attracted a large number of presentations and posters representing the incredible diversity and depth of today's dairy science.

The Symposium on the Microstructure of Dairy Products presents topics including 'Microstructure of Australian cheddar cheese', focusing on the impact of variables in production such as temperature, pH, calcium and protein concentration. There are also papers examining the impact of dairy food composition and structure on the digestion process, the rate of protein degradation and nutrient release.

"Every year, biology, food science and research is teaching us how valuable and versatile a food source dairy is," Mr Van Buuren said.

"The recently revised Australian Government guidelines recommending more consumption show science, nutrition and agriculture locked in step for the benefit of everyone who wants a healthy diet.

"Through symposia such as these, farmers and processors can also get a snapshot of the state of contemporary dairy science and gain insight into what will be the dairy foods of the future."

The Symposium on Science and Technology of Fermented Milk embraces the underlying science, manufacture, product development challenges, texture, flavour, shelf-life, safety and health benefits of fermented dairy products.

"Presentations and posters from all over the world reveal the continued nutritional importance of fermented milk in cultures as diverse as Scandinavia, Sub-Saharan Africa and Central Asia," Mr Van Buuren said.

"There are presentations on novel techniques to enhance the health benefits as well extend shelf-life."

For more about the IDF Symposia, follow the links on the DA website <www.dairyaustralia.com.au>.

Crunching numbers, words

HAVING spent eight years in Australia's key dairy market, Japan, combined with numerous years in the auditing and communication fields, Glen Fisher has added a new dimension to Dairy Australia's (DA) industry analysis team.

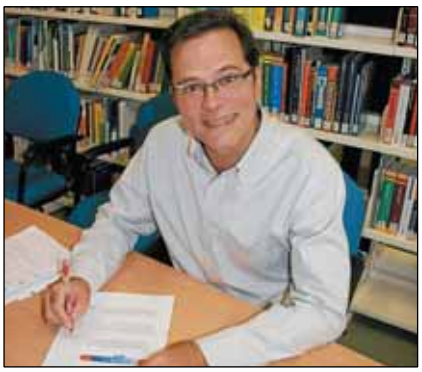
Mr Fisher, who has been at DA for almost two years, holds postgraduate degrees in accounting and Japanese and an undergraduate degree in social science majoring in qualitative and quantitative research methods.

Before joining DA he worked for an audit firm in Melbourne, working on the audits of financial services and agribusiness companies. And in previous lives in Japan he worked as an editor, language teacher and translator. During his time as an editor, he worked for a company that provided translation and public relations services to the Japanese Government.

Mr Fisher's translation work included producing English-language versions of financial reports for Japanese companies and working at a financial services company in Tokyo. It was a combination of a couple of things that attracted him to the world of dairy, aside from having a dairy factory engineer ancestor.

"I was an end-user of the *Situation and Outlook* report and thought it was a really valuable document so the chance to be involved in producing it was attractive to me," he said.

"I was also attracted to the story of dairy. The biological systems and assets of farmers made the industry particularly interesting for me as an accountant; dairy has a lot of valuation issues around land and cows, and then there are the challenges around how farmers manage their farming systems and control their costs.



Dairy Australia's Glen Fisher.

"Looking at the whole supply chain, from the farm to factory through to international markets, there is a lot of complexity, which always keeps it interesting."

Mr Fisher's role sees him constantly keeping track of data and information rolling out of the industry, from milk production and seasonal conditions to retail sales and consumer trends. He then uses this information to paint a picture of what it all means to the Australian dairy industry and its key players.

"The variety of work at DA has proved very interesting," Mr Fisher said.

"There is a lot of research and writing, which is a nice break from the auditing world. We also spend a fair bit of time helping people and companies in the industry with information and analysis that supports their business activity. For example, we get a lot of the smaller dairy companies, as well as people working for the larger companies, asking for numbers, market information or analysis that informs their planning.

"Most of the time the information they are after is to help them frame and make business decisions, used in benchmarking, budgeting or business plans."

Since starting with DA, Mr Fisher, who is married with a three-year-old son, has noticed the industry is facing challenges in realising value across the whole supply chain.

"We would all like to see more value built into the industry and more value realised," he said.

"Having lived in Japan, I think Australians underestimate the impact of food security concerns in some of our key markets, resource-constrained countries like Japan and China, and the scale of demand for dairy, particularly Australian dairy products. We certainly have some advantages, because of our natural resources, systems and the reputation of the quality dairy produced here.

"For the industry to make the most of the opportunities ahead, the right things need to be in place: prices, farming systems and continual investment and improvements in manufacturing, product and brand development, and securing markets."

Dairy leader's vision to develop industry

KEY POINTS

DAIRY VISION

- ✔ Build profitability at farm level
- ✔ Promote Gippsland as top region
- ✔ Respond to needs of farmers

DAIRYFARMING history runs deep in Matt Gleeson's family but it's the future of the industry that he's trying to develop as the new GippsDairy chair.

The Boolarra, Vic, farmer, who replaced outgoing chair John Versteden at the annual general meeting in October, can trace his family origins at the Ennisvale farm back to the 1800s.

As the 21st-century custodian of the farm, Mr Gleeson said he wanted to play a direct role in helping to maintain Gippsland as one of the great dairyfarming regions of the world.

"It is great to be involved in the direction of an industry which is such a huge part of my life," he said.

"Dairying is what I do; it is my core business; it is where I live — so I have a selfish interest in making sure it's a successful industry."

Having joined the board four years ago, Mr Gleeson has had plenty of time to see the impact that GippsDairy can have on both its directors and the industry.

Now at the head of the boardroom table, he said he would build on GippsDairy's reputation for using the dairy services levy to respond to the short-term needs of farmers as well as develop strategies to deal with long-term industry issues.

"GippsDairy will keep listening and responding to the concerns of Gippsland farmers — and farmers within the different regions of Gippsland — and building on GippsDairy's work in making itself a resource to fit those needs," he said.

"A good example of this is the Dairy Workforce Project and 'jobs classified' section.

"GippsDairy has identified labour as a key issue and has translated that need into a resource for dairyfarmers who can now go online and make connections with potential staff. It's a great asset to the Gippsland dairy industry."

Mr Gleeson and his wife, Nadine, share-farm with his parents Mick and Margaret on a 600-cow, split-calving property comprising 242 effective milking hetares.

With two-year-old Isabelle also keeping his hands full, Mr Gleeson had to decide where to best invest his limited spare time.

GippsDairy's reputation as an effective dairy industry leader led him to nominate for the board and eventually become its chair.

"Most of my time is spent being involved with the animals and business but also I want to be involved with and aware of what is happening outside my farmgate," he said.

"GippsDairy has a good reputation and is a good environment for developing the

GippsDairy chair Matt Gleeson sees a bright future for the region's dairy industry.

individual. It was a trusted place to put my time and effort.

"I believe it is a place where you can be involved in the industry and you can have an impact on its future direction."

Mr Gleeson sees Gippsland's natural advantages of good soil, plentiful rain and reliable irrigation areas as assets that can be complemented by support and education for dairyfarmers.

The GippsDairy chair said offering farmers opportunities to improve their dairy business skills was a key to making Gippsland a more profitable and productive region. "We're about supporting farmers so they can farm smarter and progress their business goals faster," he said.

"GippsDairy's aim is for farms to be making people wealthy, providing a good lifestyle and using land and inputs efficiently.

"The projects and activities we put on are about professional development for farmers — we want people to know the opportunities in their business and we want them to manage risk well too.

"Challenges of climate, milk price or input costs are here to stay so building resilience against volatility is essential for Gippsland dairyfarmers.

"It's about making the right decision and then acting on it."

Ultimately, Mr Gleeson sees Gippsland as a wonderful place to create a career based around dairyfarming and wants GippsDairy to help develop even greater opportunities for the future.

"Dairying is a great industry and is a great lifestyle where the more you put in to it, the more you will get out of it," he said.

Building youth appeal of dairy

By JESSICA HAYES

KEY POINTS

YOUTH APPEAL

- ✔ Potential for 'good living' from dairy
- ✔ Difficult to compete with 'lifestyle' land prices
- ✔ Leasing, share-farming and part-ownership alternatives

DAIRYFARMING in Western Australia is anything but child's play but there are still opportunities within the industry.

Having endured a decade characterised by challenge and change, Harvey, WA, producers Dale Hanks and Stuart Maughan remain cautiously optimistic about the future of dairy in their state.

With a dwindling milk supply, a desperate need for investment and declining farmer sentiment, questions continue to linger around the sustainability of dairy production in WA.

But with the emergence of new technology and innovation comes opportunity, and the passion still burns for dairy in the South West region.

Opportunities

As the WA dairy sector continues to grapple with a negative industry image, former Western Dairy chairman Mr Hanks says there is still potential to make decent returns in the industry.

"The positive aspect of dairy in WA is that if you do things well, grow grass well, feed your cows well and understand your margins, you can make a good living," Mr Hanks said.

"If one of those things isn't working right, it won't work.

"There are quiet achievers who are making good money and growing their net worth fast by making the right decisions at the right time and by being good operators."

In an industry struggling to attract enthusiastic new entrants who will help steer the industry forward, Mr Hanks said there were good prospects for young people who were looking to pursue a career in dairy.

"There are opportunities to grow wealth within dairy but the margin is just smaller than it used to be," he said.

"There are going to be more opportunities as we go forward because more innovative models will come out of the woodwork without involving so much capital up front.

"We will just end up doing business differently."

Mr Hanks said there was no reason why a young person couldn't enter the industry and grow a net worth of $50,000-$100,000 a year by breeding cattle.

"There are opportunities if you approach the future with innovation," he said.

"As we get ageing farmers, those innovative ways will have to be the way for those farmers to exit out of dairy.

"It won't be farms for sale; it will be leasing, share-farming or buying portions of farms."

Mr Maughan said a positive perception would encourage enthusiastic people back into the dairy industry.

"At the moment you would be hard-pressed to find someone who would choose dairy as a career," Mr Maughan said. "It has a lot to offer but it is challenging."

Another positive highlighted by Mr Hanks was the well-resourced industry body Dairy Australia, which provided extensive tools and information to producers.

"From an industry point of view I think we do pretty well. It's just a matter of getting people engaged," Mr Hanks said.

"It doesn't matter what sector it is, getting people engaged with extension and research is always pretty hard.

"The take-up of innovation is lagging but the information is there. It's about the willingness to adapt and take up information to grab it and run with it."

Both farmers acknowledged the potential for export markets to deliver returns to WA producers.

"We are going to see the world double by 2050. Asia is there and they want good-quality milk products," Mr Hanks said.

"We can probably tap into the small markets and maybe into a seasonal market that the Northern Hemisphere can't fill. When we get a spring flush we can supply those markets the Northern Hemisphere can't."

Challenges

For Mr Maughan the key to ensuring a sustainable dairy industry in WA is a fair milk price.

He said prices were moving in the right direction following an increase in the farmgate price earlier this year, but producers required a sustained price increase of 2-2.5% each year to remain viable.

"We are not sure if prices are going to continue to increase but that is what has to happen," he said.

West Australian dairyfarmers Dale Hanks and Stuart Maughan say they are "cautiously optimistic" about dairy's prospects in their state.

"We haven't seen strong competition among processors. They are not tied to price, they are tied to supply, so price goes as the market goes.

"The milk price is starting to increase but it is not ramping up out of the marketplace."

Mr Hanks said he was a bit annoyed there had not been "an all out price war between processors chasing milk supply".

"They have run around and tied everyone up on long-term contracts to secure their milk supply and haven't let the market forces play out," he said.

But Mr Hanks said processors margins were also being squeezed and running a processing plant wasn't cheap.

"The cost of plastic has gone up, the cost of power has gone up, so their costs have continued to rise too," Mr Hanks said.

"As farmers, we need to focus more on margin than just price. Too many farmers in this state focus on price alone, but if you ask them what margin they are making they can't tell you."

Both producers agreed there was very little investment at the on-farm level.

Mr Hanks said farms had to be strong and profitable to encourage people to reinvest in their bottom line.

"Our good operators might be making an 8% return but they need to be making 20%," he said.

"Under my model here we are probably near capacity but we are happy to run it as is — continue to make a good profit and not reinvest."

Mr Maughan said until the industry saw sustained increases in farmgate price, the required investment would not come. "We need that investment for the milk volumes to come," he said.

"There is still a lot of potential in the South West but there needs to be good profit driving what people are doing." ▶

Mr Maughan said the average return on investment was discouraging.

"We can control what happens on farm but we have been guilty of watching the tanker pick up the milk and not caring about what is done with it, and I think that is something that has to change," he said.

"We need to take more notice of where the milk is going and whether it is creating value for the producers in the state or not."

Mr Hanks said there was no real estate market for dairy farms so producers had to make money out of their farms while still working and that wasn't easy.

"Around here people have sold parts of their farm because there is a lifestyle market that has kept prices higher than their productive value," Mr Hanks said.

"That has made it difficult for us to buy the farms next door because price doesn't reflect earning potential.

"People aren't buying dairy farms.

"We will see more innovative models surrounding how people do business.

"It just becomes hard for those who think they are done milking cows, who want to hang up the boots and sell the farm because it will be a long time waiting."

Mr Hanks said technology and innovation would remove the mundane aspects from dairyfarming, but any new developments would require significant investment.

"You want long-term security and a future in what you are doing in order to invest," he said.

"The state is getting down to a critical mass of milk and we are losing the intellectual property of people who know what they are doing."

Mr Maughan said some farmers had been hurt so badly in the past decade that they were starting to burn out.

"There are a lot of jaded dairyfarmers and I am not sure what is going to push them through," he said.

"Their on-farm production has been dropping off too. And if you lose on-farm productivity, as soon as you take your eye off it it gets away from you."

With WA milk production reaching critical mass, both Mr Hanks and Mr Maughan said processors would be concerned about from where they would source milk volume.

"The processors haven't had a spring flush and that translates through summer so they have to produce increased volume. I'm certain they are worrying about it, and they'll have to pay more to get it," Mr Maughan said.

"They have to encourage us to pick up grain feeding to get the milk production up in the short term so we can all see an increase in price, keep heifers and maybe push numbers up on farm."

Mr Maughan said the WA processing sector had capitalised on a lack of unity between producers during recent contract negotiations.

"Milk producers are their own worst enemy because we have never had any unity," he said.

"I really believe if we all banded together and came from the same place we would have much more power through collective bargaining."

Mr Maughan commended Brownes Dairy on its efforts in pushing up the farmgate price and said indications were that prices would continue to increase.

"If Brownes keeps pushing up the farmgate price Harvey Fresh will follow suit because that's what they do," Mr Maughan said.

Having recently switched processor to Brownes from Harvey Fresh, Mr Maughan said he appreciated Brownes' marketing strategy which encouraged WA consumers to buy locally.

"The strategy resonates with the public. If everyone else got on board with that message we would be better off," he said.

Mr Maughan said he was critical of Harvey Fresh because it discounted its milk.

"They always seem to have the cheapest milk in the shop," he said. "How are they going to pass on increases to farmgate price when they are discounting the life out of their products?"

Both farmers agreed the $1-a-litre milk campaign instigated by the major supermarkets had negative implications for the industry.

"The $1/litre campaign has had a demoralising effect on farmers," Mr Maughan said. "It looks like there is a cap on the milk price.

"I know that wholesale price and retail are a different thing but it sends the wrong signal to farmers and that hasn't helped.

"Every litre that is sold retail for $1 or less is like a pin prick, and eventually enough pin pricks will kill the industry."

Rising input costs were also cited as a significant concern for both farmers, including increased power, feed and water costs.

"Power affects everyone and it has gone through the roof; grain hurt everybody last year but it has come back this year," Mr Maughan said.

"We have more water allocation this year but we are going to pay more for that water going forward.

"As people stop irrigating, the price per megalitre will go up.

"Initially the biggest issue was the availability of water; now it is the price — so we need to get more bang for our buck with water.

"That means the whole pasture renovation renewal programs all cost more money.

"The days of producing cheap milk are long gone."

Dairy future is black and white

By JODIE RINTOUL

KEY POINTS

DAIRY CONVERTS

- ✔ Lammie family, Boyanup, WA
- ✔ Running 100 cows on 283ha of leased land
- ✔ Leasing financially better than buying

IN RECENT years the dairy industry has been one not many people have been keen to enter due to its challenging nature.

But someone forgot to tell 25-year-old Wesley Lammie, who has just set up a new dairy with his family at Boyanup, WA, on 283 hectares of leased land.

To many people, it may seem a strange move and an undertaking that's very different to the past seven years of his life, which saw him playing for Swan Districts in the WA Football League.

But sitting down with Mr Lammie to discuss why he made this change brings quick reassurance that he's in it for the long haul and understands the challenges.

"Everyone says it is a tough lifestyle and you will never get rich in dairying," he said.

"I know over the years, there have been plenty of hard times for dairyfarmers, especially with deregulation, but we were not involved then so it is hard to understand.

"But I believe if you put the effort in and do it right there is money to be made.

"People also say it is a repetitious job, day-in and day-out, morning and night, but I believe there is repetition involved in whatever you do so it doesn't bother me. There is plenty of variety in it.

Wesley Lammie in the dairy the family renovated on leased land.

"The industry at the moment is as positive as it has been in a long time and I think this is great."

So now, instead of running around in a black-and-white jumper getting a kick, he is moving black-and-white cows into the dairy, morning and night, for milking.

But it is not only Mr Lammie who is heavily invested in making the dairy work; so too are his family — including parents Robin and Betty, brothers Fraser and Connor, sister Laura and grandfather Robert — who have helped set up the new dairy and will be involved with milking when needed.

And it is this family set-up which Mr Lammie said would ensure the operation was successful. ▶

"Some of the best dairies are family operations running between 180 and 300 cows," he said.

"It is because they know exactly what is going on and do it well."

Mr Lammie milked the operation's first cows in the new set-up on November 15 after deciding only in September it was what he wanted to do.

And six weeks after starting the milking program in which 50 Friesian cows and 50 Jersey-Friesian cross cows are milked, he certainly had no regrets.

While the current herd is just on 100 head, the family are already aiming to increase their numbers and be milking 200 head in the next 12 months.

Even though Mr Lammie maybe new to the industry, his grandfather Robert and father Robin are no strangers to the dairy game as they ran a dairy operation at Northcliffe until 1994, before moving into the transport business and starting to run Bunbury Freight Services for 18 years.

Mr Lammie said the tie with milking cows went back even further than Northcliffe to Scotland, where his grandfather was a dairyfarmer before migrating to Australia.

"So I will be a third-generation dairyfarmer," he said.

"Grandad has been giving plenty of advice but the equipment these days is a bit flash compared to what he used to milk with."

Growing up as a kid on the family's Northcliffe property, where they milked 150 cows, Mr Lammie had his passion for agriculture and the dairy industry ignited.

He said he had always had an interest in the industry — something that was further enhanced when he completed Years 11 and 12 at the WA College of Agriculture at Harvey.

"As a kid I really enjoyed the opportunities the farm provided, including the freedom," he said. "But with that freedom came plenty of responsibilities like looking after the calves and other jobs.

"I remember at ag school in Year 11 they asked what we wanted to do and out of 60 students I was the only one who was interested in going into the dairy industry.

"At the time there was a lot of negativity in the industry and there were a lot of people who couldn't understand why I wanted to do it.

"But I think it is a great industry to be involved in."

When he left school the family wasn't involved in the agricultural industry but he still had a passion for agriculture as well as the skills required to make it in football at a top level.

At the the time, he decided to give football a crack as he knew the "two Fs" — footy and farming — wouldn't fit together as both demanded full-time commitment.

"When I was in Perth playing for Swan Districts I managed the Perth end of our transport business," he said.

"But I knew this type of work wasn't what I wanted to do after my football career because agriculture and the dairy industry was in my heart."

So at the end of last year's football season he decided to quit football and make farming his priority.

"Many people said to me I still had plenty of good years of footy left in me but I think the time was right for me to give the dairy industry a go while I still have the enthusiasm," he said.

"Not only was it the right time to get into the industry for me but it was also the right time for the rest of the family.

"We got out of the transport company earlier in the year and we were looking for something to invest in.

"We have been leasing this land for three years and running beef turnover stock on it and managing them like a dairy program but there has been no money in it.

"So we decided, since we were managing the grass like a dairy operation, we might as well go down the dairy line all the way and start milking."

One of the main reasons the Lammies decided take a punt on the industry was because of the consistency of income it provided.

Mr Lammie said they really liked that

Wesley Lammie is positive about the opportunities the West Australian dairy industry offers.

consistency of the dairy industry made budgeting much easier.

"You know you are going to get an income on a regular basis — unlike the beef industry where you just get a cheque when you sell some cattle," he said. "This means you always know what you can spend and it makes it easy to do monthly budgets as you are selling a commodity regularly."

Since making the decision to invest in the dairy industry in September, it has been a short turnaround time for the family.

Not only did they have to find land and cows, they also had to secure a supply contract.

Mr Lammie said they signed a contract with Harvey Fresh and it was keen to get the supply, and the cows were bought from local dairies.

But when it came to land, it wasn't as easy.

Initially they looked at buying a farm but then decided it was probably best to lease first and give it a go without investing a huge amount of capital.

"Basing the business plan around a lease also was much easier to take to the bank," Mr Lammie said.

"After doing the sums, buying land just wasn't going to make the operation viable.

"But if we can get cattle numbers behind us we may look at buying land down the track as we would own the cows, which would make paying off the land easier."

Luckily for the family, when they decided to lease, there was already a dairy on the property they were leasing from the Green family.

While the basic structure was there it still required being gutted and having new equipment installed as it hadn't been used since 1997.

"It was last renovated by the Greens in 1994 so it needed a lot of work but the basic structure was good," Mr Lammie said.

"It had plenty of open space and a good high pit, which made the task a bit easier."

When they started fitting out of the dairy at the start of October they knew they had only a short turnaround time of six weeks as they were taking possession of the cows on November 15.

But they got there, despite the schedule falling behind during hay and silage season.

A new De Laval 11-a-side herringbone milking machine is the centrepiece of the renovated dairy.

When designing the set-up for the dairy, Mr Lammie said their main goals were to keep it as cost-effective and as user-friendly as possible.

"We wanted to make it basically a one-person operation that anyone could operate," he said.

"The better the systems you have, the easier and more profitable it is.

"But we also work on the criteria that if it doesn't pay for itself on paper, you don't have it."

The new fit-out included the installation of both the herringbone dairy and a computerised cleaning system.

Apart from the new De Laval machine, the majority of the equipment for the fit-out was sourced second-hand from dairies that had shut down and been left dormant.

Mr Lammie said for the size dairy they had decided to operate, there was plenty of second-hand equipment around and it was in good condition as farmers had either grown bigger or gone out of dairying altogether.

Also, to keep costs down, the family did all the welding and pipe work while De Laval fitted the dairy.

Going forward the Lammies are intending to use predominantly AI in the herd, backed up with Friesian bulls.

In their AI programs they will look at using sexed semen.

The Lammies are also still running 40 beef cows and calves and 60 purebred Angus heifers to manage the grass, which they will slowly replace with dairy cows in the future.

Production lags but some positive signs

By GLEN FISHER*

Dairy Australia
Your Levy at Work

AT the halfway point in season 2013-14, Australian milk production for the six months (July-December 2013) stands at 5.2 billion litres — 3.0% behind that for the same period last season. Overhanging issues from the challenging previous season have held production back. Nevertheless, higher farmgate prices and more favourable seasonal conditions in November and December have supported some overall improvement against the trend.

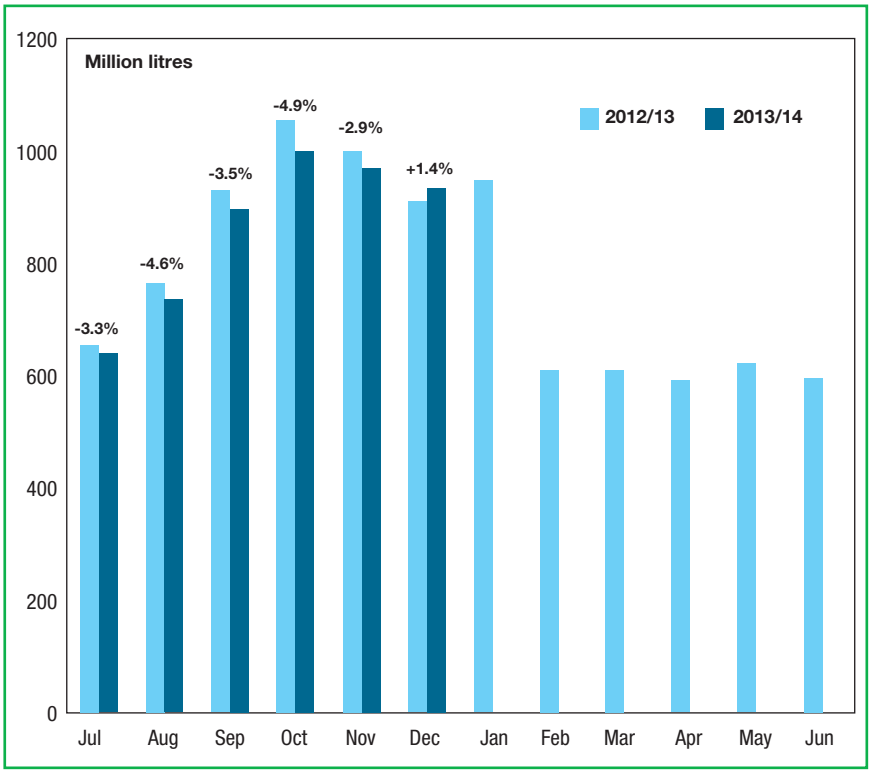
National milk production in December registered the first month of positive growth for the 2013-14 season and the second consecutive month of diminished monthly falls on last year's production levels. Northern Victoria has outperformed other regions in achieving overall production growth (+0.2 for July-December 2013 compared with July-December 2012).

Tasmania (+5.2%) and all three key export-focused Victorian regions — west (3.1%), east (2.6%) and north (+1.0%) — demonstrated year-on-year growth in December 2013 (against December 2012). Consequently, at the time of writing there are renewed expectations of further recovery in production and the total national milk output for 2013-14 finishing at levels similar to, or slightly below those, of 2012-13 (see Figure 1: Australian milk production by month).

As in the previous season, "traditional" hot and dry conditions have affected most dairying regions at the outset of the second half of season 2013-14. Dairyfarmers across most dairying regions experienced extreme heat and saw average to very-much-below-average rainfall at the start of the year and several days of heatwaves through both January and February. Fires also returned to pockets of Australia's south-eastern seaboard, although there has been no widespread material impact on either dairying production or manufacturing operations.

Despite the return of extreme heat across much of the country in early February, pasture growth is reportedly holding up in some dryland regions, including parts of western Victoria, Gippsland and northern Tasmania.

Figure 1: Australian milk production by month



Yet dairyfarmers across much of New South Wales and Queensland continue to experience intensely dry conditions and face higher fodder and grain prices and challenges maintaining herd health. Although southern NSW, Victorian and South Australian hay stocks are good, strong demand from the north is putting pressure on supplies.

Traditional challenges notwithstanding, the improvements in the production figures indicate farmers are bouncing back. Faced with increased debt and other carryover issues from last year, as well as drier conditions with relatively higher feed input costs, adapting farming systems and optimising feeding regimes and stocking rates are key.

Especially in northern regions, strong competition for milk is expected to continue, with milk required to fill new processing infrastructure. In southern, export-focused regions, similarly strong competition for milk is likely to emerge, given production might be reduced more than would have otherwise been expected due to the hot, dry conditions through the first two months of the year.

With less milk available to convert into manufactured product, total export volumes are down year-to-date (July-December 2013) by 11.8%, but still-elevated international dairy commodity prices and a weaker Australian dollar have delivered a 15.8% increase in total export value. High international dairy prices have also triggered greater interest in dairy globally, and Canada's Saputo acquisition of Warrnambool Cheese & Butter has put some of the spotlight on Australian dairy.

More broadly across other dairying regions, ongoing industry change is expected to result from further competition to secure supply for local and international markets.

Looking to the remainder of the season, if more favourable seasonal conditions prevail, production growth could be supported by ongoing improvements to farmgate pricing, boosting confidence and spurring greater production as the season progresses. Hence, Dairy Australia is forecasting milk production of 9.0-9.2 billion litres for the 2013-14 season, which implies a full year contraction of 0-2%. D

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Price stability feature of global markets

By JOHN DROPPERT*

Dairy Australia
Your Levy at Work

PRICE stability remains the order of the day on international dairy markets. Recent increases for butter and cheese reflect the impact of manufacturers prioritising better returning product streams, while limited short-term availability of most products allows sellers to negotiate hard on uncommitted stocks.

Looking to the future, the focus is shifting north, due to increasing certainty around the upper bounds of 2013/14 southern hemisphere milk flows.

In other words, although the weather could still curtail production in Australia and/or New Zealand, a significant overshoot is comparatively unlikely.

New Zealand looks likely to enjoy an extended season as farmers cash in on record farmgate pricing, but the market appears to be pricing this in with little dampening effect.

The northern hemisphere is the likely source of any surprise strength in milk production.

Full year official estimates are relatively modest: 2% growth for the US and 1% for the European Union.

Given the size of the dairy industry in those countries, these expectations represent around four billion extra litres of milk — just under half of Australia's annual total production.

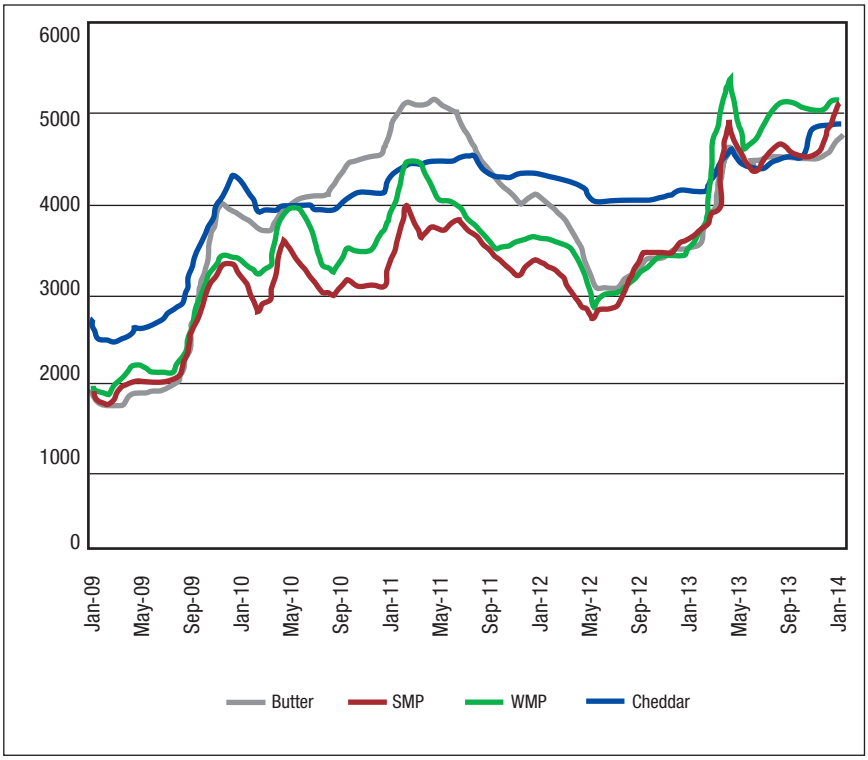
As things stand, much of it will be soaked up by recovering domestic consumption, while continuing supply gaps in China and Russia have left other markets short of product.

Those looking for a supply-induced price correction will be watching not only the magnitude of production against expectations, but the seasonal timing as well.

A strong spring flush (coinciding with an extended season in New Zealand) would have an earlier and bigger impact than late season strength.

Higher than expected early season milk flows would likely raise full year forecasts, further dampening buyers' willingness to secure product early, at a premium.

Figure 1: Global dairy commodity prices



To date, the US has been slow off the mark — the expected supply response driven by cheap grain and high milk prices hasn't occurred.

Shortages of cows, quality feed and confidence have kept production in check — and harsh winter conditions haven't helped.

New heifers are now beginning to augment the herd, and with spring around the corner and margins high, the drought in California poses the only threat to a recovery in 2014.

In the Netherlands and Ireland an appetite for post-quota growth is readily apparent, with some farmers willing to pay superlevy fines for exceeding quotas, rather than suppress production.

With a medium-term expansion agenda backed by favourable returns this year, the upside potential in north-west Europe is worth noting.

The other side of the equation is, of course, demand.

China's extraordinary level of buying has kept prices high long after the end of the New Zealand drought.

The ability of China's dairyfarmers to recover milk volumes through the coming spring will dictate how long this activity can be expected continue.

The potential for recovery itself depends on the relative weighting of causal factors behind the current decline — how much is due to per-cow production issues and how much is due to a lack of cows.

Reports suggest that 1-2 million dairy cows have been lost to the industry in the past year; productive capacity that will take time to rebuild.

Other markets have suffered in 2013 as prices spiralled upwards. Importers searched far and wide for substitute products, while any price dips were exploited early, preventing them from becoming full corrections.

Similar behaviour given empty supply pipelines and unwillingness to risk being caught short again may provide the checks and balances needed to slow any downturn as supplies build through 2014.

Supply surprises and buyer behaviour remain key to the international dairy outlook looking ahead to season 2014/15. D

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Make autumn sowing count

By FRANK MICKAN*

KEY POINTS

SOWING FOR SUCCESS

- ✔ Seed-soil contact vital
- ✔ Important to spray out weed populations
- ✔ Vigilance needed to ward off pests

THE bottom line for autumn sowing is that seeds need to be "snug as a bug in a rug" at sowing, the bug must be fed well when born and it must not be smothered by the rug after birth.

In other words, all seeds need good soil-to-seed contact at sowing, after germination the seedling roots require ready access to nutrients, and when the seedling reaches above the soil surface level, weeds and pests must be well controlled if required.

Actions needed to ensure a successful autumn sowing are described below.

Figure 1: Spray missed at pre-sowing in annual ryegrass and leafy turnip crop.

When to sow

Unfortunately, there have been many years in which early heavy rains have germinated pasture seeds and/or broken ryegrass dormancy only to have it followed by a four-to-six-week dry and quite warm spell. Luckily, most plants seem to survive, so it is probably still worth sowing early in Gippsland, Vic.

This did not work in many areas of South West Victoria last autumn as the ryegrass plants just could not survive the extremely long, hot dry period (5-6 months) and many areas had to be resown. Farmers must be guided (somewhat) by the long-term forecasts.

Get rid of weeds

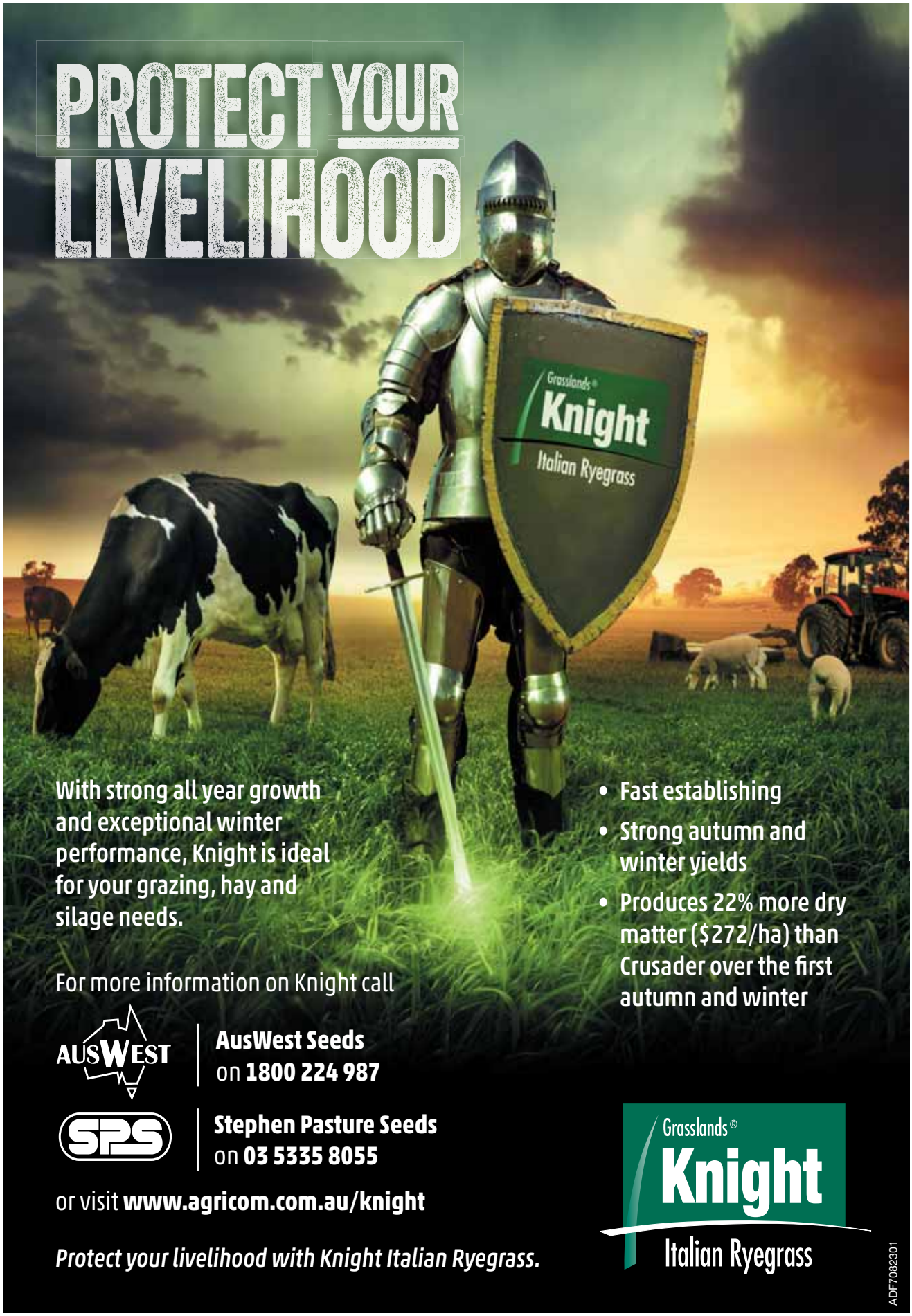
The best weed kills occur when weeds are actively growing so spraying in late spring-early summer before sowing a summer crop and a follow-up spray in autumn when the pasture is sown is the most effective approach. This bit of information is of no use to farmeres now if faced with renovating poorly performing pastures this coming autumn without the benefits of spraying and a summer crop.

Single-spraying in autumn is usually far from successful unless it occurs well after the break, and by the time new pastures are sown, the temperatures are becoming cool, causing slow germination and subsequent growth. Not spraying can be disastrous (see Figure 1).

Preparing the seedbed

After a summer crop, if the seedbed for that crop was relatively weed-free at sowing and if the summer crop was good enough to keep summer weed growth down and there is little carryover growth or trash, farmers may get away without using a knockdown spray and direct-drill straight in. This is an unlikely scenario, however.

More likely there will be carryover crop and/or summer weeds such a fat hen, couch grass, carry-over bent grass etc. This will ▶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require a knockdown spray, the problem being the question of when to apply that. If farmers wait too long to spray, the summer grasses will be slowing down substantially and spraying will be much less effective, the result being a carryover of live, albeit dormant plants ready for next summer. Similarly, the summer weeds will have fertile seed heads so spraying will have minimal effect on these at this stage.

Revamping poor pastures

It is good management to get seeds into the ground just before the autumn break. These will, at least initially, outgrow those seeds sown after the break. This means sowing into a seedbed without using pre-sowing weed control, which then necessitates having to control weeds germinating along with the sown species. However, these weeds (usually broadleaved weeds) tend to grow faster and cover more ground so it is important to control these while they are still small.

If some bent grass is still present after the spray and summer crop, the autumn follow-up spray will be have some effect, but less so as the plants will be growing slowly and the chemical take-up will be much reduced. This is why bent grass is usually best controlled over at least two years with sprays and crops.

Rehabilitating pugged ground

Pugged areas will need spraying out and working to knock off the hillocks. Don't smudge or roterra only (as some farmers do) and hope for a dense pasture without drilling or at least dropping on some seed. Depending on the soil type and severity of pugging, a full cultivation with discing and roterra or one to two passes with a roterra only will be necessary to eradicate most pugging damage and create a level seedbed.

Cultivate, direct-drill or oversow?

Some paddocks will need to be fully cultivated — and sooner rather than later.

This is so the plants germinate and can have at least the first grazing by the end of April/early May before growth slows too much. Farmers know too well the consequences of a first grazing and even a second grazing on uncompacted cultivated ground in early winter. It is usually worth rolling after cultivation to provide a more even and partly compacted soil to allow the drill to place the seed consistently at a depth of one to two centimetres. Don't under-estimate the importance of dragging a carpet, light weld mesh, upturned pasture harrows or light roller post-sowing to improve soil-seed contact — that is, to ensure it is as "snug as a bug in a rug".

Figure 2: Pea and oats seeds in smeared slot.

Direct-drilling into hard uncultivated soil or cultivated summer crop areas means that grazing can occur, within reason, whenever the plants have passed the "twist and pluck" test. Ideally the seedbed should have had a knockdown spray applied to eradicate weed competition until well after germination, at which time a follow-up spray may be needed.

Direct-drilling into moist soils with high clay content (for example, clay loams) may lead to smearing (Figure 2) or glazing of the slot, and this is okay if conditions remain moist. However, if smearing of slots is followed by a hot dry period, the smeared slots can be baked hard and can often prevent the new seedling being able to send roots through the hardened slot into the soil.

If over-sowing to thicken up pasture density without using a knockdown spray, graze the remnant pastures as hard as possible then direct-drill the seed with some DAP or MAP. When the new plants are at such a height as to be unaffected by a second grazing (2-4cm) regraze hard again to minimise competition from the old established pastures. Not doing so will result in many new plants not surviving due to shading.

Single or double pass

New Zealand research has shown there is no advantage of a double pass over a single pass (160 millimetres). A double pass (cross-drilling) involves halving the sowing and fertiliser rates and diamond-drilling at a 30-45-degree angle or square-drilling at 90 degrees. Depending on ground disturbance by the particular drilled used, this may not be possible anyway. The extra time and wear and tear is better spent on seedbed preparation or fertiliser. Many pasture drills now have a 100mm spacing, negating any thought of or need for cross-drilling.

Pests

Too important to gloss over and the cause of many so-called crop failures, red-legged earth mite, lucerne flea and slugs (particularly in drilled rows) have a bad habit of moving along the drill slots, out of the sun, in moist conditions and with a ready supply of food. The farmer comes along much later, sees stuff-all plants and often then accuses the seed retailer of selling bodgy seed. This can happen, but not as commonly as many people like to think.

Most companies offer a seed treatment to provide protection against insect pests for several weeks after germination. This is great, but it is still important to start inspecting seed rows within a week or so after sowing and monitor plants soon after germination, which might mean having dirty fingernails initially. When the seedlings start to stick their heads out of the ground it is even more important to regularly inspect for the above pests in the slots or at the base of the pasture when the seedlings are more mature. D

**Frank Mickan is a pasture and fodder conservation specialist with the Victorian Department of Environment and Primary Industries, Ellinbank Centre.*

Guy Gallatly milks twice a day, seven days a week, all year round in the 44-stand rotary dairy. Being in the dairy every day allows him to identify when a cow is ready for joining.

Guy and Leanne Gallatly, dairyfarmers in the Maffra irrigation district, Vic, with one of their calves.

Pasture focus key to farm development

By JEANETTE SEVERS

KEY POINTS

PASTURE FOCUS

- ✔ 196ha in Maffra Irrigation District, Victoria
- ✔ Leased farm in 2012
- ✔ Focus on pasture renovation and management

MAFFRA, Victoria, dairyfarmer Guy Gallatly said he wanted to be driven when he started a new dairyfarming venture 15 months ago, and the challenge of developing the farm has provided that drive. "I wanted to be driven and, believe me, I'm driven here," he said.

Mr Gallatly and his wife, Leanne, leased the 104-hectare dairy farm in October 2012 and have since worked to improve pastures and implement a plan to grow and conserve enough pasture to always have a good supply of feed ahead of their growing herd.

Murray Goulburn senior agronomist, Rachael Smith, herself a local dairyfarmer, helps guide the Gallatlys. The move to the leased farm from a 76ha farm they owned at Nordens Lane, Maffra, has allowed the Gallatlys to expand their herd from 175 cows to 280 cows, with the aim of bringing that to 300 cows this season.

The Nordens Lane property, which they bought eight years ago, is now used to grow out heifers and to provide hay and silage. It is expected to produce 560 rolls of fodder this year.

A 16ha block at Boisdale, Vic, which they bought in 2000 when sharefarming at Tinamba, Vic, is used to grow fodder. It was sown to lucerne in 2001 and resown with a winter-dormant lucerne variety in February. The block has been consistently cropped for silage and hay.

This year Mr Gallatly expects to irrigate the lucerne twice and cut 150 rolls off it in spring.

The farms are on irrigation country and, as well as water rights and bore licences, Mr Gallatly uses a recycled water supply from Murray Goulburn.

"Half the farm is under lateral sprays, with a centre pivot and flood irrigation on the remaining paddocks," Mr Gallatly said.

"We struggle to keep the water going. We water every night."

A 190 megalitre water right from Southern Rural Water and a 320 megalitre bore licence is supplemented by reclaimed water from the nearby Murray Goulburn factory.

"We have a 170 megalitre reclaimed water right, but we wouldn't get that much from MG," Mr Gallatly said.

"The water from the factory is treated, put in a holding pond and eventually distributed to us. We shandy it with bore water and Southern Rural water.

"The nutrients in that water from the factory benefit the pasture. But we have to be careful of nutrient runoff into the catchment.

"The Environment Protection Agency regularly tests our water table and soil to monitor the nutrient level.

"I also have to be vigilant about any visual changes I see about the farm on a day-by-day basis. So far it's been all right."

The focus of the pasture renovation pro- ▶

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Guy and Leanne Gallatly milk a herd of predominantly Friesian cows — this year they expect to milk 300 head. An arrangement with the nearby Murray Goulburn factory enables them to access a 170Ml reclaimed water right

gram has been to identify and improve areas that were not performing.

To this end, Mr Gallatly mapped the property, with the assistance of Ms Smith, who visits on a weekly basis as part of an extension program offered by MG to customers and suppliers.

"We identified 9ha to flog out and graze heavily, which we've since sown to ryegrass," Mr Gallatly said.

"We've also sown millet into poor paddocks to graze, then sprayed out and sown to annual ryegrass for grazing.

"The farm grows really good ryegrass and clover with the centre pivot; although it's been a bit of a learning curve with the pivot.

"Rachael is good — she's always planning ahead.

"She asks how many cows you'll be milking and therefore works on how many bales you'll need.

"Because of her, we begin autumn with the required [560 bales] for winter, to take us through to spring.

"And I find we've always got feed ahead of us. It's about being organised — feeding your cows better to get more milk."

Rather than topping pasture, Mr Gallatly uses the cows to improve the pasture, instigating a rotational grazing system.

Ms Smith said every decision was about being viable. "There has to be an economical return for doing it," Ms Smith said.

"Last year Guy sowed down One50AR1 diploid and tetraploid ryegrass, which, with the addition of white and sub clovers and irrigation, is ideal for high quality silage or hay.

"He also sowed Bealey ryegrass, a tetraploid perennial ryegrass that boosts animal performance — it's a high quality feed, has high yield and demonstrates more even seasonal growth.

"He sowed a mix of clovers with those ryegrasses. They've also got a major weed issue so we've discussed how he's going to control weeds — he's done an awesome job.

"Because he doesn't use a pasture topper, they rely on the cows to do the job. Testing the pasture, the quality in the feed is definitely there. The bulk of the pasture has been high.

"Rotational grazing at the right stage and population level has paid off for Guy. And if the pasture does get away, he puts dry cows in to graze it and they clean it up."

Mr Gallatly uses a 21-day to 45-day-plus seasonal rotation strategy.

"We work on 45-plus days in winter — we can get it out to 60 days in winter if necessary," he said.

The predominantly Friesian herd's production figures for last season, based on a supplementary feeding of one kilogram per animal per day, were 5500 litres per cow, with 184kg protein and 200kg butterfat.

"But this year, on Rachael's advice, we are feeding 3kg per day to each animal — to improve animal health and therefore production quality," Mr Gallatly said.

Their focus is animal health and relying on pasture for production.

Mr Gallatly milks all year round and rosters himself on seven days a week. His sister, Robyn Walker, milks five days and Mrs Gallatly milks on weekends. Mrs Gallatly also manages the farm finances and has the responsibility for raising the young heifers on the main farm and the Nordens Lane farm.

"We milk all year round," Mr Gallatly said. "We use extended lactation — we milk through the cows that don't get in calf.

"I believe Friesians are not bred to be in calf each year."

They split-calve, with 20% of the herd calving from February 25 and 80% from August 10.

Mr Gallatly uses Jersey semen for the heifers and Friesian semen for the cows. The herd is mopped up with Freisian bulls.

"I do all the AI myself," he said. "I do the cow straight after she finishes milking, it's quick and over with and I don't have to worry about getting the herd up from the paddock at some other time."

Heifers are bred as replacements for the herd and "to cash in on extra heifers for the export market". Steers go to the chopper market.

Ms Smith said she did not tell her farmers how many cows to milk. "I try to help them to do their way of farming the best way they can," she said.

"It's their business.

"I'll only change that tactic if I feel the system is way too stressed.

"But Guy doesn't let his farm get that way — he's very conscientious about keeping the animals healthy and the pasture ahead of the herd." D

A mix of high yielding, high nutrition ryegrasses and clovers enables Guy Gallatly to manage a rotational grazing strategy that sees his pasture growth remain ahead of his herd's needs.

Murray Goulburn senior agronomist, Rachael Smith, visits Guy and Leanne Gallatly on a weekly basis to discuss pasture and farm management strategies.

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Economic Merit ranking	$512 – $659	$311 – $421	$222 – $345	$198 – $284
Winter DM	4	4	4	4
Early Spring DM	5	3	3	3
Late Spring DM	5	4	4	4
Summer DM	5	5	4	5
Autumn DM	5	4	4	4

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Irrigation a tool for growing grass

By JAMIE-LEE OLDFIELD

KEY POINTS

MAXIMISING IRRIGATION

- ✔ Important to target irrigation carefully
- ✔ Must pay attention to farm and weather
- ✔ Buying-in feed an alternative

A MODERN philosophy has seen irrigation play an important role in milk production at the Newton family farm near Whorouly, Vic.

Third-generation farmer Rodney Newton and brother Wayne now milk 600 Friesian cows on 650 hectares and have to make good use of their resources.

In 2000, they updated the farm's irrigation to a centre-pivot system and K-Line bike-shift irrigation.

"We only started irrigating from the river (Ovens) in 2002 and combined that with our underground water to supplement rainfall," Mr Newton said.

"But it has become a bit more than that — it's a real tool for growing grass."

Mr Newton selected the centre-pivot system because of its water application efficiency and rarity of breakdowns.

This was supplemented by K-Line irrigation because tree growth on-farm meant a centre pivot system wasn't viable across all paddocks.

With 60ha of permanent pasture and 60ha of autumn start pastures, Mr Newton had already began irrigating by the end of October.

He said for the sake of efficiency, it was better to start early.

"Part of irrigation is to be efficient, so you don't want to compromise plant growth, meaning you want to start before you think you need to," he said.

"And your intervals have to be optimum — you don't want to put too much on, but you have to make sure the plant is growing to its maximum potential."

Improvements in technology were now taking a lot of the guesswork out of when irrigators should turn on the taps, he said.

Mr Newton said while this meant not having to rely on his "gut-feeling" as much, knowing the correct start-up time did come down to experience.

"You know if you haven't had rain for a few weeks and you've had windy weather, or it's been hot, so you know you need to be watering," he said.

Improvements in technology are taking a lot of the guesswork out of when irrigators should turn on the taps, according to Rodney Newton, Whorouly, Vic.

"You also have to know your farm and how your paddocks are — for instance, we have two different soil types, with the riverside holding a lot more moisture than the clay soils so we have to water the clay soils earlier.

"Each year is different and no one likes irrigating, but the longer you've done it, the more second-nature it becomes."

An increase in electricity prices and therefore irrigation pumping costs meant it was more important than ever to irrigate at the right time.

"It's very important to put on what is required at the right time — monetary efficiency is key," Mr Newton said.

"If you can't irrigate efficiently you are probably better off buying in feed. We need to be a lot more skilled and precise than we used to be."

With pastures made up of ryegrass, white clover and sub-clover, a majority of the Newtons' cattle were sustained on feed grown on-farm, with lucerne hay purchased when needed.

"We buy in quality feed for milking cows and have enough standing feed for all the others. Because we rear every calf, there are a lot of beef cattle on the property at any given time," Mr Newton said.

"We bring those other cattle in to eat out our milking area when it gets too rank for milk production, which allows our other paddocks to get a good cover of feed so we need to feed less."

Four calvings take place every year and each calf is reared on-farm, meaning cattle numbers are too high at times to maintain feeding silage in individual bales, increasing the need to produce good pastures.

Strict water restrictions and diminishing underground water during recent dry years has affected the ability to irrigate at Whorouly, making timing and quantity even more important.

"We still have to make sure what we do water, we water properly, not just keeping it green but getting growth," Mr Newton said.

Soil and feed testing has become a way to measure efficiency and effectiveness of both irrigation and fertilisation.

Having recently bought a liquid fertiliser application unit, Mr Newton said they were hoping to use it after every grazing.

"It will apply little amounts of minerals that are required to keep the plant healthy and give it the best chance to use the nutrients in the soil and grow the best it can," he said.

"Liquid spray application means plants will take it up quicker and we can do it more consistently. It will be interesting to see the plant tissue analysis after application and be able to monitor over a period of time how healthy our pastures are and how much extra milk or growth we get."

Accidental pasture boost

By ANDREW NORRIS

KEY POINTS

SOIL BIOLOGY

- ✔ Using manure to boost soil health
- ✔ Unlocking phosphorus for plants to use
- ✔ Trialling café waste on paddocks

SOMETIMES good things can happen by accident — and that's exactly what happened on John and Sally Fairley's Country Valley dairy operation at Picton, NSW.

In 2006-07, during the millennium drought, they simply couldn't afford to continue with the regular high input of conventional fertiliser on which the farm had relied for decades.

In the first few years of the establishment of their branded milk label Country Valley (their processing plant having opened in 2004), the building-up process of that side of the business was sucking up any spare funds.

But then, after a few years without being able to apply fertiliser, something happened that completely surprised them.

"All of a sudden the farm took off," Mr Fairley said. "I thought 'What the hell's happening here?'

"It was just an accident. I fell into it — I cut out all chemical fertiliser, basically.

"We used to put on a couple of bags every time we grazed it and therefore all the soil life, the biota, was always getting stunted by chemicals."

Soil tests in 2009 (and again more recently) uncovered what Mr Fairley says is at least part of the key: the soil carbon levels have increased since regular fertilising had been stopped.

In some parts of the farm the increase was as high as 25% in four years.

There was also a variance in soil carbon levels in different paddocks. These higher-carbon-level paddocks, which measured about 4%, had healthier pastures and held on to their moisture better.

"I have a lot of phosphorous tied up in my soil — we used to just keep putting it on and on and on," Mr Fairley said.

"Our levels kept getting higher and higher but our plants weren't using it because they couldn't access it."

However, he said the greater root development he was seeing — particularly in the high-soil-carbon paddock — suggested his pasture was now better equipped to access this phosphorus.

Standing in one low-carbon paddock (about 2.6% soil carbon) looking across to what he refers to as his "good paddock" (with about 4% carbon), the difference in the health of the pasture is obvious: the higher-carbon paddock is a darker green with more robust growth.

When he compared a shovelful of plants and dirt from each paddock, it quickly highlighted the better root penetration in the higher-carbon soil.

Mr Fairley said the high soil carbon was closer to the dairy and, even during the years they were supplying the paddocks with regular applications of superphosphate, it also regularly received manure.

He said it was simply due to the convenience of not having to

drive far before unloading the manure, but it now highlighted what impact he could have on production across the farm by changing how he managed his inputs.

"I have earthworms (that have) come back in that paddock up there, in my best one," Mr Fairley said.

"We did a bit of a dig the other day and there were all these bugs — it's a really different realm now of learning."

The Fairleys' dairy currently has a herd of 90 cows, with plans to increase to 110.

He said this appeared to be the threshold for his system, including his capacity to provide food for the cows, plus the environment's ability to absorb the pressure of carrying the herd.

"As soon as I get to 120 head and it rains I just feel it's not good for the creek and there's mud everywhere," he said.

Grazing and rest cycles across the farm are determined by what the grass is doing, with rest periods through winter being longer than in spring and summer.

He lets the pasture grow to about 25 centimetres high and then grazes it to 5-7cm.

"At the moment, because it's early December, we're really trying hard to get around it and keep it grazed so it'll get through its flowering stage and maybe if we get the right weather it will grow into January as well," he said.

"But what I'm finding with the higher-carbon soils is it's hanging on a lot better."

Mr Fairley was a finalist in the 2013 NSW Farmer of the Year competition, a joint initiative of the NSW Department of Primary Industries and NSW Farmers supported by the NSW Royal Agricultural Society, Workcover NSW and *The Land* newspaper.

He runs Country Valley milk with his wife, Sally, and their son and daughter, Thomas and Ellen.

John Fairley demonstrates the reduced root development in poorer soil (left) compared to better development in higher-carbon soil (right).

To take his commitment to sustainability further, he is working with a handful of cafés in Bondi in Sydney to help them manage their waste.

He said he had been highly aware of the amount of nutrients shipped from his farm into the city as milk.

Among the cafés Mr Fairley supplies is Bondi Icebergs Club with which he is kicking off a project on a small paddock to be divided into two one-hectare blocks.

One will be untreated; the other treated with composted café waste.

One of the main challenges will be to get the cafés to remove plastic waste from the biodegradable waste before it's shipped to the farm.

If the project works, the Fairleys will expand their compost production and return the café waste as compost to their farm, ultimately creating a closed-loop nutrient cycle with the aim of also lifting their soil carbon content. D

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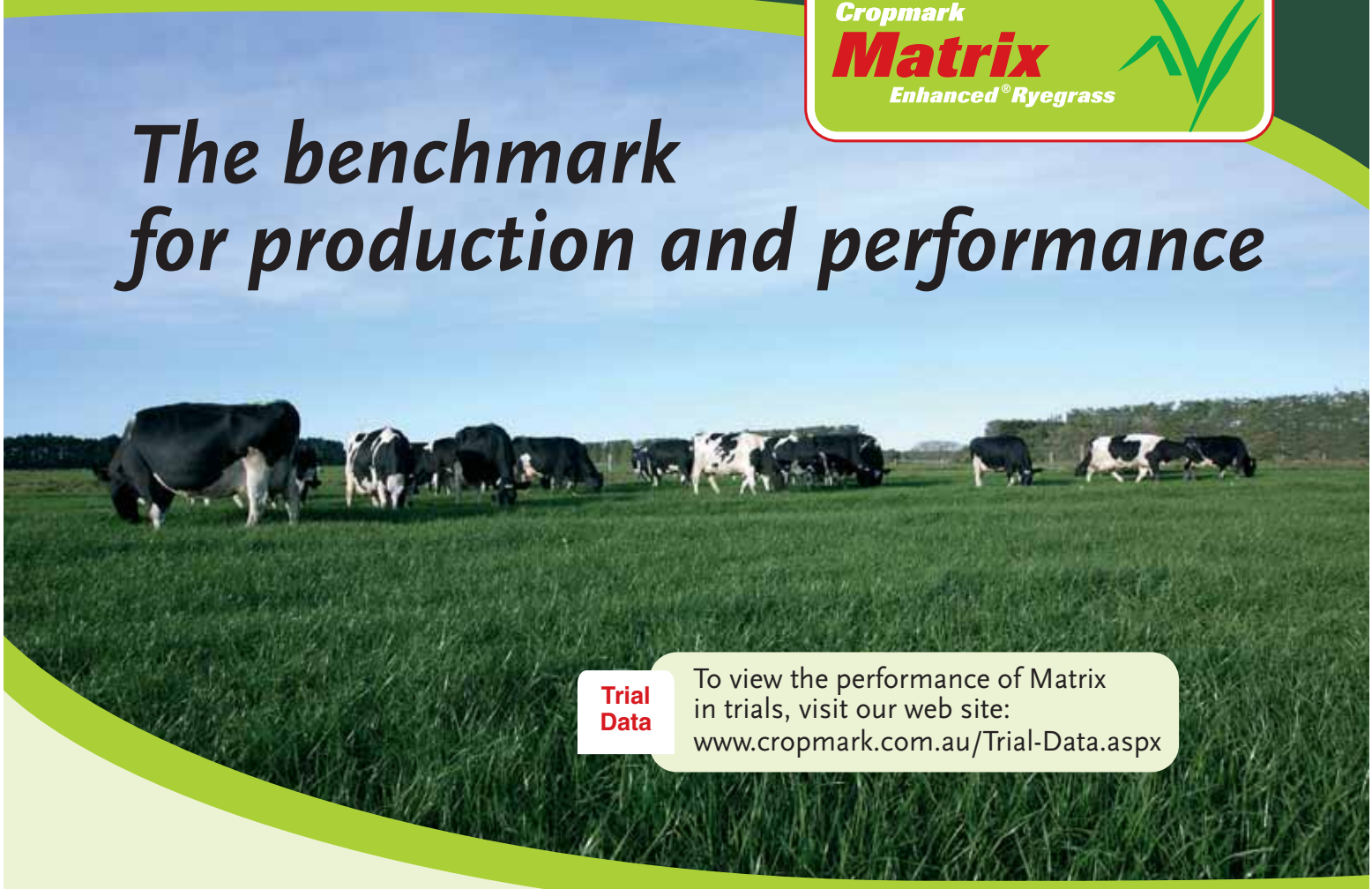

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Solar fencing saves the day at Forbes

By KAREN BAILEY

KEY POINTS

SOLAR SOLUTION

- ✔ Mains-powered fences not reliable
- ✔ Uses solar boxes for flexibility
- ✔ Slashing returns organic matter to soil

BACK in 1997, the fencing on Clayton Alley's dairy farm near Forbes, NSW, was totally electric, but Mr Alley found there were too many problems with that system.

"We used to have it shorting out in one section and it would mean the rest of the fence would be dead and the cattle walking straight through it," he said. "It also meant we could spend half a day working out where the problem was and fixing it."

As a result, he pulled out all the electric fencing on his 130-hectare block, known as Moo Moo Dairy, and replaced it with barbed wire.

This left him with a number of big paddocks of about 40ha which he divided into strips using fencing powered by a solar box. "The solar power works much better and I can move it around to where I need it," he said.

Mr Alley has three solar boxes that he uses at a range of sites across the property to manage his pastures. Some of the wires powered by the solar system run for up to two kilometres.

Mr Alley pays a great deal of attention to his pastures and grazing management to ensure he gets the best out of them. He doesn't grain-feed or use mineral supplements so the pastures need to be in top condition, providing all the nutrients the cows need to produce milk.

Strip-grazing gives his pastures time to recover after each grazing.

The system works on a three-stage cycle across 21 days of grazing, resting and slashing.

He slashes the paddock to enable the green matter to break down, resulting in a higher moisture-holding capacity for the soils. "It's all about building up the biological activity in the soils so it's a healthy system without the need for fertilisers," he said.

The slashing offers similar benefits to mulching by supplying extra organic matter to feed and potentially breed beneficial soil organisms for soil fertility and health.

Clayton Alley adjusts one of the solar-powered electric fences on his farm.

The effluent and waste water from the dairy are also spread across the pastures to put back some of the nutrients the cows take away while grazing.

Mr Alley's pastures are a mix of both winter-active and summer-active grasses and legumes.

Some of these include millet, soft and young cat-head, lucerne, ryegrasses, red and white clovers, paspalum, chicory and the native and natural grasses.

Having access to irrigation also helps keep the pastures in good shape during drier times.

"We use a K-Line pod sprinkler irrigation system and we are producing three times more feed with a lot less water," Mr Alley said.

Mr Alley runs a crossbred herd using predominantly Jerseys, Aussie Reds and Normandes.

"We used to run Holsteins but since Dad's semi-retirement I made the switch to the crossbreds," he said.

Mr Alley said his aim was to produce smaller to medium-sized cows rather than the very large typical Holstein-sized cow.

"The smaller cows don't need as much feed to maintain them," he said.

The crossbreds also handled the hot Forbes weather better and held up better in muddy situations.

On the other hand, the crossbred cows don't produce as much milk as an average dairy cow.

"My average is about 17 litres per cow but I make up for the shortfall with much higher butter fat and protein levels," he said.

The Moo Moo herd averages about 4.6% butter fat and 3.6% protein.

"I guess my dairy is the exception to the rule as I'm not producing a huge volume of milk but the milk I do produce gets a premium price," he said.

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Agronomic Selection Criteria			Market Information			Intellectual Property Status		Background Information
Type Species	Flowering, Activity or Characteristics	Ploidy	Brand Name	Variety *	Australian Marketer	PBR**	TM***	Plant Breeder
ANNUAL RYEGRASS								
Annual Italian (*Lolium multiflorium* ssp. *wester woldicum*)	Early	Diploid	Grassmax®		Heritage Seeds		Y	Oregro (USA)
	Early	Diploid	SF Flyer®	✓	Seed Force		Y	Oregro (USA)
	Early	Diploid	Diploid Tetila		Valley Seeds		Y	Valley Seeds
	Early	Diploid	Thunder		Many			
	Early	Tetraploid	Betta Tetila		Parkseeds Pty Ltd			Parkseeds Pty Ltd
	Early	Tetraploid	Phantom		Upper Murray Seeds			Sheldon Agri
	Early	Tetraploid	New Tetila		Vicseeds			Vicseeds
	Early	Tetraploid	Sungrazer® T		PGG Wrightson Seeds		Y	Oregro (USA)
	Early	Tetraploid	Diamond T		PGG Wrightson Seeds			Oregro (USA)
	Early	Tetraploid	Tetrone		Seed Distributors		Y	Pasture Genetics
	Early	Tetraploid	SF Catalyst	✓	Seed Force		Y	Oregro (USA)
	Early	Tetraploid	SF Catapult	✓	Seed Force		Y	Oregro (USA)
	Early	Tetraploid	SF Sprinter	✓	Seed Force		Y	Oregro (USA)
	Mid Season	Diploid	Aristocrat II	✓	Valley Seeds	Y		QDPI
	Mid Season	Diploid	Noble	✓	Valley Seeds	Y		QDPI
	Mid Season	Diploid	Progrow	✓	Valley Seeds	Y		PGG Wrightson Seeds (NZ)
	Mid Season	Diploid	SF Sultan	✓	Seed Force		Y	RAGT (France)
	Mid Season	Diploid	Devour		Specialty Seeds			Specialty Seeds NZ
	Mid Season	Tetraploid	Abundant	✓	Irwin Hunter			DLF Seeds (USA)
	Mid Season	Tetraploid	Burst (BurstARG)	✓	Vicseeds	Y		Mendelian Ent (Ross Downes)
	Mid Season	Tetraploid	Maximus	✓	Heritage Seeds	Y		Barenbrug (USA)
	Mid Season	Tetraploid	T Rex		Heritage Seeds		Y	Barenbrug (USA)
	Mid Season	Tetraploid	Winter Star II® (WSRII)	✓	PGG Wrightson Seeds	Y	Y	Grasslands Innovations Ltd
	Mid Season	Tetraploid	Mach 1	✓	Agricom		Y	Grasslands Innovations Ltd
	Mid Season	Tetraploid	Rocket		Seed Distributors			Sheldon Agri
	Mid Season	Tetraploid	SF Adrenalin	✓	Seed Force		Y	RAGT (France)
	Mid Season	Tetraploid	Astound	P	Valley Seeds	P		Valley Seeds
	Mid Season	Tetraploid	Atomic Ryegrass		Upper Murray Seeds			Sheldon Agri
	Mid Season	Tetraploid	R2 Ryegrass		Upper Murray Seeds			Sheldon Agri
	Mid-late Season	Tetraploid	Vortex	✓	Heritage Seeds	P		Heritage Seeds (AUS)
	Late Season	Diploid	Arnie	✓	Heritage Seeds	Y		Barenbrug (France)
	Late Season	Tetraploid	Ace Ryegrass		Upper Murray Seeds			Sheldon Agri
	Late Season	Tetraploid	Zoom	✓	Cropmark Seeds		Y	Cropmark Seeds
	Late Season	Tetraploid	Bullet	✓	Cropmark Seeds		Y	Cropmark Seeds
	Late Season	Tetraploid	Jivet	✓	Seed Distributors			DLF Trifolium
	Late Season	Tetraploid	SF Speedyl	✓	Seed Force		Y	RAGT (France)
	Late Season	Tetraploid	SF Pinnacle	✓	Seed Force			RAGT (France)
Italian Ryegrass (*Lolium multiflorium*)	Mid Season	Diploid	Fantastic		Upper Murray Seeds			AMPAC
	Mid Season	Diploid	Eclipse	✓	Valley Seeds			PGGWrightson/Valley Seeds
	Mid Season	Diploid	Asteroid	P	Valley Seeds	P		Valley Seeds
	Mid Season	Diploid	Achieve	P	Valley Seeds	P		Valley Seeds
	Mid Season	Diploid	Kano	✓	Specialty Seeds	Y		Cropmark Seeds, NZ
	Mid Season	Tetraploid	Amass	P	Valley Seeds	P		Valley Seeds
	Mid Late Season	Diploid	Charger LM		Upper Murray Seeds			Sheldon Agri
	Late Season	Diploid	Awesome		Upper Murray Seeds			Sheldon Agri
	Late Season	Diploid	Sonik	✓	Cropmark Seeds	Y	Y	Cropmark Seeds, NZ
	Late Season	Diploid	Surge	✓	Notman Seeds	Y	Y	Cropmark Seeds, NZ
	Late Season	Diploid	Hulk	✓	Heritage Seeds	Y		AgriSeeds (NZ)
	Late Season	Diploid	Tabu	✓	Heritage Seeds	Y		AgriSeeds (NZ)
	Late Season	Diploid	Crusader	✓	Agricom	Y		Grasslands Innovations Ltd
	Late Season	Diploid	Knight	✓	Agricom	P		Grasslands Innovations Ltd
	Late Season	Diploid	Warrior	✓	Agricom	Y		Grasslands Innovations Ltd
	Late Season	Diploid	Concord® (CND)	✓	PGG Wrightson Seeds		Y	Grasslands Innovations Ltd
	Late Season	Diploid	Asset	P	Agricom	P		Grasslands Innovations Ltd
	Late Season	Diploid	Asset AR37	P	Agricom	P		Grasslands Innovations Ltd
	Late Season	Diploid	Concord® II (Supercruise)	✓	PGG Wrightson Seeds	P	Y	Grasslands Innovations Ltd
	Late Season	Diploid	Icon	✓	Seed Distributors			DLF Seeds
	Late Season	Diploid	Diplex®		Seed Distributors		Y	Sheldon Agri
	Late Season	Diploid	SF Accelerate®	✓	Seed Force		Y	RAGT (France)
	Late Season	Diploid	SF Indulgence	✓	Seed Force			RAGT (France)
	Late Season	Diploid	SF Momentum®	✓	Seed Force			RAGT (France)
	Late Season	Diploid	SF Tonuss	✓	Seed Force			RAGT (France)
	Late Season	Diploid	Turbo	✓	Valley Seeds	Y		Cropmark Seeds, NZ
	Late Season	Tetraploid	Aston	✓	Heritage Seeds	Y		AgriSeeds (NZ)
	Late Season	Tetraploid	Feast® II (FSTII)	✓	PGG Wrightson Seeds		Y	Grasslands Innovations Ltd
	Late Season	Tetraploid	Denver®		Upper Murray Seeds			Michael Obtention
	Late Season	Tetraploid	Thumpa	✓	Agricom	P		Grasslands Innovations Ltd
	Late Season	Tetraploid	Jeanne	✓	Seed Distributors, Irwin Hunter & Co.			DLF Trifolium
	Late Season	Tetraploid	SF Emmerson	✓	Seed Force			RAGT (France)

Agronomic Selection Criteria			Market Information			Intellectual Property Status		Background Information
Type Species	Flowering, Activity or Characteristics	Ploidy	Brand Name	Variety *	Australian Marketer	PBR**	TM***	Plant Breeder
Short Term Hybrid Ryegrass (*Lolium boucheum*)	Very early	Diploid	SafeGuard	✓	Valley Seeds			SARDI
	Early	Diploid	Dargo (DoubleCrop)	✓	Vicseeds	Y		Independent Plant Breeders
	Early	Diploid	Guard	✓	Valley Seeds			SARDI
	Mid Season	Diploid	Maverick GII	✓	PGG Wrightson Seeds	Y		Grasslands Innovations Ltd
	Mid Season	Tetraploid	Ohau	✓	Agricom			Grasslands Innovations Ltd
	Mid Season	Tetraploid	Ohau AR37		Agricom			Grasslands Innovations Ltd
	Late Season	Diploid	Turbo	✓	Valley Seeds			CropMark Seeds (NZ)
Hybrid Ryegrass - Festulolium Hybrid	Late	Tetraploid	SF Splice AR1	✓	Seed Force			Cropmark Seeds NZ
	Late	Tetraploid	Perun		Seed Distributors			DLF Seeds
	Late Season		Aber NIche		Upper Murray Seeds			IBERS
PERENNIAL RYEGRASS								
Perennial	Early	Diploid	Matilda®		Parkseeds Pty Ltd		Y	Parkseeds Pty Ltd
	Early	Diploid	Skippy		Vicseeds			
	Early	Diploid	Meridian AR1	✓	Heritage Seeds	Y		Agriseeds, NZ
	Early	Diploid	Kidman	✓	Heritage Seeds	Y		Agriseeds, NZ
	Early	Diploid	Fitzroy	✓	PGG Wrightson Seeds	Y		VIC DPI
	Early	Diploid	Valley®		Seed Distributors		Y	Pasture Genetics
	Early	Diploid	SF Tenacity®		Seed Force			
	Early	Diploid	Boomer	✓	Valley Seeds	Y		Valley Seeds
	Early	Diploid	Kangaroo Valley Gold®		Upper Murray Seeds			Sheldon Agri
	Early	Diploid	Everlast		Upper Murray Seeds			Sheldon Agri/Pasture Genetics
	Mid season	Diploid	Helix - Festuloliom	✓	Cropmark Seeds	Y	Y	Cropmark Seeds, NZ
	Mid season	Diploid	Bolton	✓	Vicseeds	Y		VIC DPI
	Mid season	Diploid	AusVic	✓	Vicseeds	Y		Innovative Plant Breeders
	Mid season	Diploid	Avalon (+ AR1)	✓	Vicseeds	Y		VIC DPI
	Mid season	Diploid	Arrow AR1	✓	Heritage Seeds	Y		Agriseeds, NZ
	Mid season	Diploid	Kingston	✓	Agricom	Y		Grasslands Innovations Ltd
	Mid season	Diploid	Kingsgate	✓	Agricom			Grasslands Innovations Ltd
	Mid season	Diploid	Samson	✓	Agricom	Y		AgResearch, NZ
	Mid season	Diploid	Samson AR1	✓	Agricom	Y		AgResearch, NZ
	Mid season	Diploid	Samson AR37	✓	Agricom	Y		Grasslands Innovations Ltd
	Mid season	Diploid	Extreme® (XTM)AR1	✓	PGG Wrightson Seeds	Y		Wrightson Seeds, NZ
	Mid season	Diploid	Extreme® (XTM)AR37	✓	PGG Wrightson Seeds	Y		Wrightson Seeds, NZ
	Mid season	Diploid	Drylander®		Seed Distributors		Y	Pasture Genetics
	Mid season	Diploid	SF Joule AR1®	✓	Seed Force		Y	RAGT FR
	Mid season	Diploid	Shootout®		Seed Distributors		Y	Pasture Genetics
	Early	Diploid	Tomson®		Seed Distributors		Y	Pasture Genetics
	Mid season	Diploid	Camel	✓	Valley Seeds	Y		Valley Seeds
	Mid season	Diploid	Roper	✓	Valley Seeds	Y		Valley Seeds
	Mid season	Diploid	blitz		Specialty Seeds			Specialt ySeeds NZ
	Mid season	Diploid	Prolong	✓	Valley Seeds	Y		Valley Seeds
	Mid season	Tetraploid	Endure	P	Vicseeds	P		VIC DPI
	Mid season	Diploid	Award Ryegrass		Upper Murray Seeds			Sheldon Agri
	Mid season	Diploid	Jumbuck		Upper Murray Seeds			Sheldon Agri
	Mid-Late	Diploid	Ansa	✓	Seed Distributors			DLF Seeds
	Mid-Late	Diploid	Bronte		Irwin Hunter Seed Distributors			DLF Seeds (USA)
	Mid-Late	Diploid	MegaRich		Specialty Seeds			Specialt ySeeds NZ
	Mid-Late	Tretraploid	Kai	✓	Cropmark Seeds			Cropmark Seeds, NZ
	Late	Diploid	Matrix - Festulolium	✓	Cropmark Seeds	Y	Y	Cropmark Seeds, NZ
	Late	Diploid	Ultra - Festulolium	✓	Notman Seeds	Y	Y	Cropmark Seeds, NZ
	Late	Diploid	Impact 2	✓	Heritage Seeds	Y		Agriseeds, NZ
	Late	Diploid	Propsect AR37 (PSPT)	✓	Agricom	P		Grasslands Innovations Ltd
	Late	Diploid	One50	✓	Agricom	Y		Grasslands Innovations Ltd
	Late	Diploid	One50 AR1	✓	Agricom	Y		Grasslands Innovations Ltd
	Late	Diploid	One50 AR37	✓	Agricom	Y		Grasslands Innovations Ltd
	Late	Diploid	Expo	✓	PGG Wrightson Seeds			Grasslands Innovations Ltd
	Late	Diploid	Bronte	✓	Seed Distributors			DLF Seeds
	Late	Diploid	Revolution - Festulolium	✓	Seed Force	Y	Y	Cropmark Seeds, NZ
	Late	Diploid	Platinum	✓	Valley Seeds	Y		Cropmark Seeds, NZ
	Late	Diploid	Aber Magic		Upper Murray Seeds			IBERS
	Late	Diploid	Aber Gain		Upper Murray Seeds			IBERS
	Late	Tetraploid	Halo AR37	✓	Agricom			Grasslands Innovations Ltd
	Late	Tetraploid	Base AR37	✓	PGG Wrightson Seeds	P		Grasslands Innovations Ltd
	Late	Tetraploid	Tanker	✓	Seed Distributors			DLF Seeds
	Late	Tetraploid	Optima		Seed Distributors		Y	Pasture Genetics
	Very Late	Tetraploid	Bealey	✓	Heritage Seeds	Y		Agriseeds, NZ
Perennial hybrid	Early	Diploid	Barberia	✓	Heritage Seeds	Y		Barenbrug, FR
	Mid season	Tetraploid	Jeta	✓	Seed Distributors			DLF Seeds
	Late	Diploid	Impact AR1		Heritage Seeds			AgResearch, NZ
	Late	Tetraploid	Shogun	✓	Heritage Seeds	Y		AgriSeeds (NZ)
	Late	Tetraploid	Banquet II (BQT II) Endo5	✓	PGG Wrightson Seeds	Y	Y	Wrightson Seeds, NZ
	Late	Diploid	Propsect AR37	✓	Agricom	P		Grasslands Innovations Ltd

Agronomic Selection Criteria			Market Information			Intellectual Property Status		Background Information
Type Species	Flowering, Activity or Characteristics	Ploidy	Brand Name	Variety *	Australian Marketer	PBR**	TM***	Plant Breeder
TALL FESCUE								
Mediterranean	Mid Season		Fraydo	✓	Heritage Seeds	Y		VIC DPI
	Mid Season		Prosper	✓	Heritage Seeds	Y		Barenbrug, FR
	Mid Season		Flecha	✓	Agricom	Y		Grasslands Innovations Ltd
	Mid Season		Temora	P	Agricom	P		Grasslands Innovations Ltd
	Mid Season		Resolute	✓	PGG Wrightson Seeds	Y		Grasslands Innovations Ltd
	Mid Season		Origin	P	Seed Distributors	P		Sheldon Agri
	Mid Season		SF Medallion®		Seed Force		Y	Gentos ARG
	Mid Season		Astonish	P	Valley Seeds	P		Valley Seeds
	Mid Season		Charlem		Upper Murray Seeds			Sheldon Agri
	Mid Season		Boschhoek		Upper Murray Seeds			
	Mid Season		Pastoral		Upper Murray Seeds			Sheldon Agri
Temperate	Early		Dovey	✓	Heritage Seeds			Barenbrug, UK
	Early		Hummer	✓	Agricom	P		Grasslands Innovations Ltd
	Early		Ability	P	Valley Seeds	P		Valley Seeds
	Early		Quantum II MaxP	✓	PGG Wrightson Seeds	P		Grasslands Innovations Ltd
	Early		Martin II	✓	Seed Distributors			DLF International, USA
	Early		SF RoyalQ-100		Seed Force			Gentos ARG
	Mid Season		Advance	✓	Agricom	Y		Grasslands Innovations Ltd
	Mid Season		Advance MaxP	✓	Agricom	Y		Grasslands Innovations Ltd
	Mid Season		Jesup MaxP		Agricom			Penningtons, USA
	Mid Season		SF Festival		Seed Force			Pickseeds
	Mid Season		SF Finesse-Q	✓	Seed Force		P	RAGT
	Late		Tower	✓	Seed Distributors			DLF Seeds
PHALARIS								
Temperate	Semi Winter Dormant		Australian II	✓	Heritage Seeds	Y		CSIRO
	Semi Winter Dormant		Maru	✓	PGG Wrightson Seeds			Grasslands Innovations Ltd.
	Semi Winter Dormant		Australis®	✓	Seed Distributors		Y	Pasture Genetics
	Semi Winter Dormant		Australian	✓	Many			
	Semi Winter Dormant		Uneta	✓	Many			
	Semi Winter Dormant		Grazier		Upper Murray Seeds			Sheldon Agri
	Semi Winter Dormant		Australian Original®		Upper Murray Seeds			Sheldon Agri
	Winter Active		Amplify	P	Valley Seeds	P		Valley Seeds
	Winter Active		SF Maté	✓	Seed Force			Gentos ARG
	Winter Active		Sirosa	✓	Many			CSIRO
	Winter Active		Sirolan	✓	Many			CSIRO
	Winter Active		Advanced AT	✓	Heritage Seeds	Y		CSIRO
	Winter Active		Holdfast GT	✓	Heritage Seeds	Y		CSIRO
	Winter Active		Holdfast	✓	Heritage Seeds			CSIRO
	Winter Active		Landmaster	✓	Heritage Seeds	Y		CSIRO
	Winter Active		Lawson	✓	Heritage Seeds	Y		Barenbrug, Argentina
	Winter Active		Stockman		Upper Murray Seeds			Sheldon Agri
	Summer Dormant		Atlas PG	✓	Heritage Seeds	Y		CSIRO
COCKSFOOT								
Temperate	High Summer Dormancy		Sendace		Tasglobal Seeds			TAS DPI
	High Summer Dormancy		Kasbah	✓	Heritage Seeds			
	Intermediate		SF Lustica	✓	Seed Force			INRA (France)
	Moderate Summer Dormancy		Uplands		Tasglobal Seeds			TAS DPI
	Moderate Summer Dormancy		Gobur		Vicseeds			Innovative Plant Breeders
	Summer Active		Drover		Upper Murray Seeds			Sheldon Agri
	Summer Active		Megatas		Tasglobal Seeds			TAS DPI
	Summer Active		Yarck		Vicseeds			Innovative Plant Breeders
	Summer Active		Howlong	✓	Heritage Seeds			Barenbrug, FR

2014 short term ryegrass EBV Guide

Annual ryegrass Forage EBVs based on replicated trials 2006-2013

Culitivar	ploidy	% Tetila			Flowering Days from Tetila		ME MJ/kg DM	CP %	NDF %	Extra meat value $/ha	Extra milk value $/ha	no. of trials
		winter yield	spring yield	total yield	NSW	WA						
LATE FLOWERING (>+8 days)												
SF Pinnacle	**tetraploid**	**109**	**137**	**120**	**+10**	**+18**						**8**
SF Speedyl	**tetraploid**	**110**	**128**	**118**	**+12**	**+18**	**11.05**	**27.35**	**46.33**	**+$352**	**+$889**	**30**
SF Sultan	**diploid**	**108**	**129**	**117**	**+10**	**+11**	**10.90**	**27.35**	**47.67**	**$268**	**$654**	**38**
SF Adrenalin	**tetraploid**	**110**	**124**	**117**	**+9**	**+16**	**11.07**	**25.80**	**45.67**	**+$359**	**+$928**	**34**
Winter Star II	tetraploid	104	122	113	+8		10.75	23.52	47.83	+$173	+$443	38
Arnie	diploid	109	108	110	+7	+16						5
Zoom	tetraploid	95	126	108	+14							6
Jivet	tetraploid	97	119	107								4
MID FLOWERING (+5 days to +8 days)												
Tama	tetraploid	104	116	111	+7	n.d.	10.80	25.80	48.83	+$165	+$373	4
SF CatapulT	**tetraploid**	**106**	**113**	**110**	**+6**	**+7**	**10.73**	**24.65**	**46.00**	**+$202**	**+$530**	**27**
Abundant	tetraploid	108	108	108	+6	+11						12
SF Catalyst	**tetraploid**	**102**	**109**	**108**	**+5**	**+7**						**10**
Mach 1	tetraploid	97	125	109								5
Aristocrat 2	tetraploid	105	102	106								4
T Rex	tetraploid	104	109	105	+8							12
Pronto	diploid	96	111	103								25
Burst	tetraploid	103	83	99								2
Progrow	diploid	94	101	95								2
EARLY FLOWERING (-2 days to +4 days)												
SF Sprinter	**tetraploid**	**109**	**112**	**112**	**+4**	**n.d.**	**10.68**	**26.12**	**48.33**	**+$141**	**+$345**	**37**
SF Flyer	**diploid**	**108**	**108**	**108**	**+1**	**0**	**10.75**	**25.07**	**46.00**	**+$196**	**+$506**	**36**
Maximus	tetraploid	102	107	105	0	n.d.	10.52	25.22	49.67	-$8	-$11	18
Atomic	tetraploid	107	104	103		+2						4
Surrey 2	diploid	103	104	103								8
Sungrazer T	tetraploid	103	105	102								15
Tetila	**tetraploid**	**100**	**100**	**100**	**0**	**0**	**10.53**	**23.95**	**48.67**	**$0**	**$0**	**34**
Rocket	tetraploid	101	104	99								4
Tetrone	tetraploid	107	101	97								3
R2	tetraploid	118	96	96	0	0						2
Missile	diploid	94	101	96	0	0						4
Double Crop	tetraploid	105	94	92								2

Relative ratings have been undertaken by comparing all yields as a percentage of control cultivar **Tetila**.

RRA/SDF15226

Italian ryegrass Forage EBVs based on replicated trials 2006-2013

Cultivar	ploidy	winter yield	spring yield	summer yield	total yield	Flowering Days from Tetila		ME MJ/kg DM	CP %	NDF %	Extra meat value $/ha	Extra meat value $/ha	no. of trials
						NSW	WA						
LATE MATURITY (>+11days)													
SF Accelerate	**diploid**	**104**	**107**	**113**	**106**	**+12**	**+21**	**11.03**	**24.98**	**46.00**	**+$128**	**+$308**	**39**
Asset AR37	diploid	104	103	106	103								4
Knight	diploid	103	101	101	102								4
SF Indulgence	**diploid**	**98**	**106**	**102**	**102**	**+14**	**+21**	**11.20**	**24.77**	**43.67**	**+$158**	**+$506**	**39**
Feast II	diploid	100	103	105	102	+12		11.13	26.45	44.17	+$159	+$396	35
SF Momentum	**diploid**	**96**	**104**	**107**	**101**	**+14**		**11.27**	**27.15**	**43.83**	**+$193**	**+$512**	**24**
SF Tonuss	**diploid**	**100**	**103**	**113**	**102**	**+15**		**11.13**	**27.28**	**45.33**	**+$124**	**+$319**	**21**
Maverick GII	diploid	95	103	109	100	+14		10.97	24.62	44.33	+$84	+$243	25
SF Emmerson	**tetraploid**	**97**	**104**	**99**	**101**	**+13**	**+18**	**11.30**	**26.88**	**43.33**	**+$203**	**+$563**	**36**
Crusader	diploid	100	100	100	100	+12	+18	10.88	25.53	46.50	$0	$0	39
Hulk	diploid	99	98	101	99	+12		11.02	26.00	44.00	+$106	+$286	34
Conquest	diploid	96	100	95	99	+12		10.90	23.33	44.50	+$28	+$159	4
Warrior	diploid	92	101	98	98	+12		11.07	25.50	45.00	+$64	+$190	6
Icon	diploid	82	105	93	97	+11							2
Barberia	diploid	96	98	99	97								3
Jeanne	tetraploid	91	100	99	96	+14		11.23	23.95	42.17	+$164	+$446	13
Nourish	tetraploid	94	98	106	96	+14							21
Turbo	diploid	97	94	104	95								3
Aston	tetraploid	94	92	92	93		+18						5
MID MATURITY (<+11 days)													
Diplex	diploid	107	98	85	101	+7		10.85	24.65	46.50	+$28	+$31	11
Charger	diploid	106	96	70	97	+7							7
Sonik	diploid	101	100	91	100	+10							19

Relative ratings have been undertaken by comparing all yields as a percentage of control cultivar **Crusader**.

Notes:
Feed quality data undertaken prior to each of 6 grazings July - December 2008 at Seed Force's Gundagai research base.
Feed quality analysis undertaken by NSW DPI Feed Quality Service at Wagga Wagga
Meat and milk values estimated using Seed Force's Animal Performance Calculator™
based on the following assumptions:

- Meat at 65% feed utilisation, based on 300kg steer with 44MJ for maintenance and 45MJ/kg lwg at $1.70/kg
- Milk at 75% feed utilisation, based on 600kg cow with 100MJ for maintenance/exercise/pregnancy and 5.5MJ/litre at $0.45 per litre

Flowering dates measured at Gundagai, Taree, Grafton NSW and Manjimup WA, where no measurement taken, varieties have been categorised by visual assessment.

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Agronomic Selection Criteria			Market Information			Intellectual Property Status		Background Information
Type Species	Flowering, Activity or Characteristics	Ploidy	Brand Name	Variety *	Australian Marketer	PBR**	TM***	Plant Breeder
	Summer Active		Grassly	✓	Heritage Seeds			RAGT, FR
	Summer Active		Kara	✓	Agricom			Grasslands Innovations Ltd.
	Summer Active		Tekapo		PGG Wrightson Seeds			Grasslands Innovations Ltd.
	Summer Active		Ambassador®		Seed Distributors		Y	DLF International, USA
	Summer Active		Vision	✓	Cropmark Seeds		Y	AgResearch, NZ
	Summer Active		Wana	✓	Cropmark Seeds	Y	Y	AgResearch, NZ
	Summer Active		Crown Royale		Seed Force			Grasslands of Oregon USA
	Summer Active		SF Lazuly	✓	Seed Force			R2n RAGT
	Summer Active		SF Greenly	✓	Seed Force			R2n RAGT
	Summer Active		Admiral	P	Valley Seeds	P		Valley Seeds
Mediterranean	Summer Active		SF Medly	✓	Seed Force			INRA (France)
OTHER PERENNIAL GRASSES								
Grazing Brome	Winter/Spring Active		Gala	✓	Agricom			Grasslands Innovations Ltd
Pasture Brome	Spring/Summer Active		Exceltas		Tasglobal seeds			TAS DPI
	Spring/Summer Active		Bareno	✓	Heritage Seeds			Barenbrug, FR
	Spring/Summer Active		Nandu Brome		Upper Murray Seeds			
Prairie Grass	Winter/Summer		Atom		Agricom			Grasslands Innovations Ltd
	Winter/Summer		Free Flow Matua		Seed Force			AgResearch, NZ
	Winter/Summer		SF Jeronimo		Seed Force			Gentos ARG
			Matua		PGG Wrightson Seeds			Grasslands Innovations Ltd
Tall Wheatgrass	Increased Palatability		Dundas	✓	PGG Wrightson Seeds	Y		VIC DPI
Wallaby Grass	Medium Soils		Taranna		AusWest Seeds			
TROPICAL GRASSES								
Bahia Grass (*Paspalum notatum*)			Argentine		Many			
	Not selected by stock		Pensacola		Many			
Bambatsi	Heavy clays		Bambatsii		Many			
Blue Grass (*Dichanthium aristatum*)	Heavy soils		Floren	✓	Progressive Seeds	Y		QLD DPI
Brachiaria (*Brachiaria decembens*)			Signal Grass		Many			
Brunswick Grass (*Paspalum nicorae*)	Rhizomatous for sands		Blue Dawn		Progressive Seeds			Enviroseeds
Buffel Grass (*Cenchrus ciliaris*)	Red loams and clays		American		Many			
	Fertile friable soils		Biloela		Many			
	Loams and friable clays		Gayndah		Many			
			Nunbank		Many			
Caroet Grass (Axonopus affinis)			Narrowleaf		Many			
Creeping Blue grass (*Bothrichloa insculpta*)	Roots well & nodes		Bisset		Many			
			Floren		Many			
	Heavier soils		Hatch		Many			
Couch Grass (Cynodon dactylon)			Common		Many			
Desmanthus	Clay soils		Marc		Progressive Seeds			DPI&F QLD
Digit Grass (*Digitaria criantha*)	Tufted - sands and loams		Premier		Many			Enviroseeds
Finger Grass (*Digitaria milanjiana*)	More suited to wet tropics		Jarra		Many			
	Stolons - sands, loams		Strickland	✓	Progressive Seeds	Y		CSIRO
Floren Bluegrass (*Dicanthium aristatum*)			Floren	✓	Many			
Forest Blue Grass (*Bothriochola blahhii*)	Wide range of soils		Swann	✓	Progressive Seeds	Y		QLD DPI
Gamaba Grass (Andropogon gayanus)			Kent		Many			
Guinea Grass (*Megathyrsus maximus*)	Wet tropics		Hamil		Many			
	Wet tropics		Common		Many			
	Friable clays		Common		Many			
	Tougher than green		Common		Many			
Hamil Grass (*Panicum maximum*)			Common		Many			
Humidicola (*Uroahloa humidicola*)	Wet tropics, waterlogged		Common		Many			

Agronomic Selection Criteria			Market Information			Intellectual Property Status		Background Information
Type Species	Flowering, Activity or Characteristics	Ploidy	Brand Name	Variety *	Australian Marketer	PBR**	TM***	Plant Breeder
Indian Blue Grass (*Bothriochloa pertusa*)			Bowen		Many			
			Keppel		Many			
			Medway		Selected Seeds			
Kikuyu (*Pennisetum clandestinum*)			Common		Many			
Lovegrass (Eragrostis curvula var. conferta)			Common		Many			
Mitchell Grass (*Astrebla* spp)			Common		Many			
Molasses Grass			Common		Many			
Panic (*Atra paspalum*)			Hi-Gane		Many			
Panic (*Megathysrus maximus*)	Gatton type with broader leaf		G2®	✓	Australian Premium Seeds	Y		Dr DS Loch
Panic (*Panicum laxum*)			Shadegro	✓	Australian Premium Seeds	Y		
Panic (*Panicum maximum*)			Common		Many			
Panicum maximum x *P. infestum*	Well drained, fertile soils		NuCal™ Guinea grass		Progressive Seeds			
Para Grass	Ponded pasture		Common		Many			
Paspalum (*Paspalum* spp)			Common		Many			
Pearl Millet	Late flowering		Maxa Millet		Australian Premium Seeds		Y	
Purple Pigeon Grass (*Setaria incrasata*)	Heavy soils		Common		Many			
Queensland Blue Grass (*Dichanthium sericeum*)	(Native) sands to clay soils		Scatta™	P	Progressive Seeds	P		Enviroseeds
Rhodes Grass (*Chloris gayana*)	For high rainfall zone		Callide		Many			
	Resilient type		Katambora		Many			
			Pioneer		Many			
	Fine stem and leaf, late flowering		Tolgar®	✓	Australian Premium Seeds	Y		Dr DS Loch
	Fine stem and leaf, medium flowering		Finecut	✓	Selected Seeds Pty Ltd	Y		Dr DS Loch
	Improved Pioneer, medium flowering		Topcut	✓	Selected Seeds Pty Ltd	Y		Dr DS Loch
	Salt tolerant, strongly stoloniferous. High DM yield		Reclaimer	✓	Selected Seeds Pty Ltd	Y		Dr DS Loch
	Salt tolerant, very fine leaf & stem. Even flowering for hay.		Gulfcut	✓	Selected Seeds Pty Ltd	Y		Dr DS Loch
	Salt tolerant pioneer type. Medium flowering		Salcut	✓	Selected Seeds Pty Ltd	Y		Dr DS Loch
	Large leaf, fine stem, late flowering		Toro®	✓	Australian Premium Seeds	Y		Dr DS Loch
	Fine leaf and stem, salt tolerance		Sabre®	✓	Australian Premium Seeds	Y		Dr DS Loch
	Cold tolerance, late flowering		Mariner®	✓	Australian Premium Seeds	Y		Dr DS Loch
	Nematode resistant		Nemkat	✓	Heritage Seeds	Y		QLD DPI
Sabi Grass (*Urochloa masambicensis*)	Stolon - light to heavy soils		Sarajii	✓	Progressive Seeds	Y		CSIRO
	Tufted species		Nixon		Many			
Setaria (*Setaria* spp)			Common		Many			
Signal Grass (*Brachiaria decumbens*)			Signal		Many			
Siratro	Rust resistant		Common		Many			
SUB CLOVER								
Brachycalyinum	Early		Losa	✓	Heritage Seeds	Y		LODI Italy
	Mid		Clare		Many			SARDI
	Mid		Clare 2®		Seed Distributors		Y	Pasture Genetics
	Mid		Mintaro	✓	Heritage Seeds	Y		SARDI
	Mid		Antas	✓	Heritage Seeds	Y		LODI Italy
Subterraneum	Early		Dalsa®		Seed Distrbutors		Y	Pasture Genetics
	Early		Nungarin	✓	Many			
	Early		Daliak		Many			DAFWA
	Early		Dalkeith	✓	Many			DAFWA
	Early		Izmir	✓	AusWest Seeds Irwin Hunter	Y		DAFWA
	Early		Urana	✓	AusWest Seeds, Stephen Pasture Seeds Irwin Hunter	Y		DAFWA
	Early-Mid		Bindoon	✓	PGG Wrightson Seeds	Y		DAFWA
	Mid		Campeda	✓	Heritage Seeds	Y		LODI Italy

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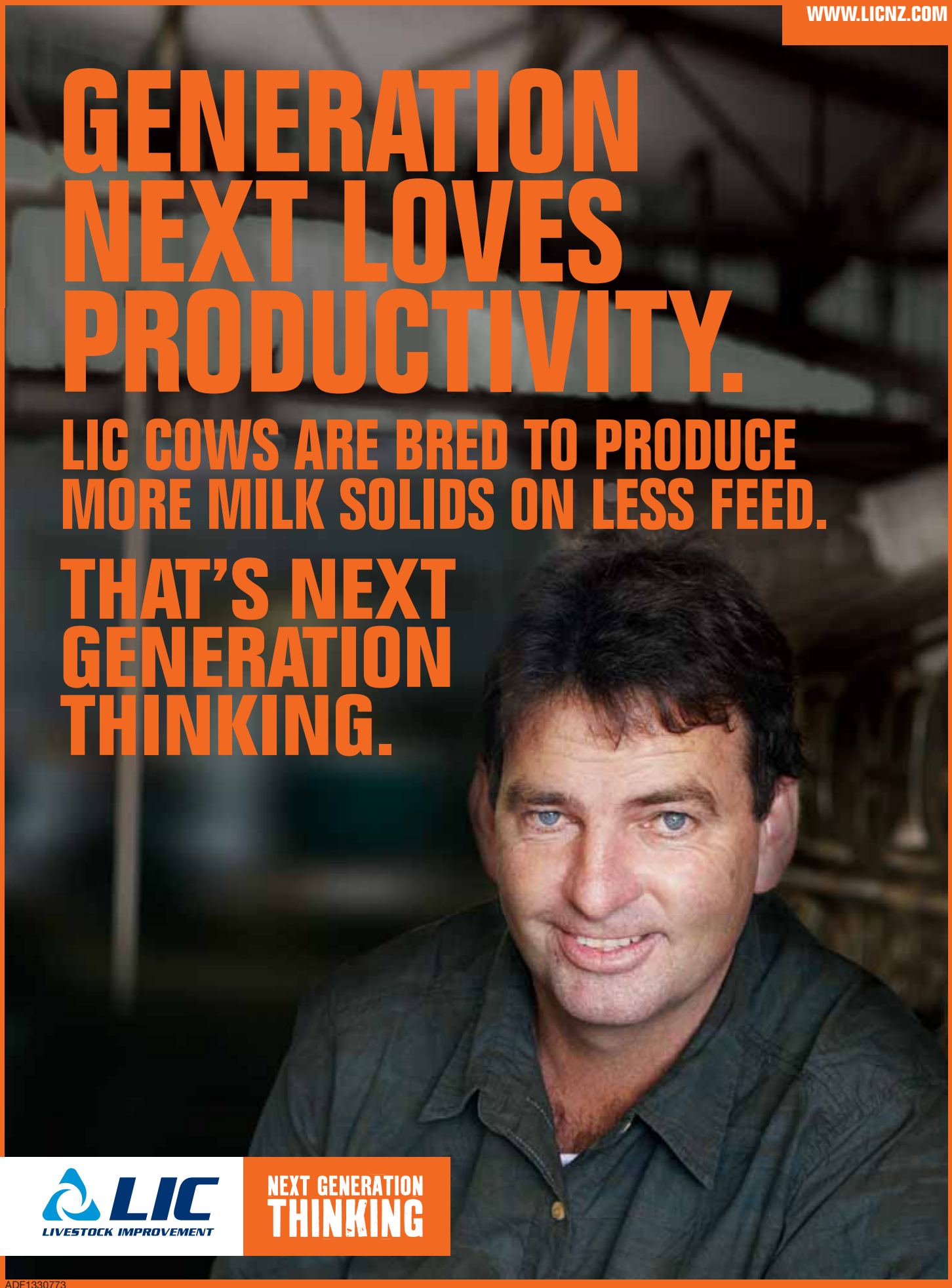

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Agronomic Selection Criteria			Market Information			Intellectual Property Status		Background Information
Type Species	Flowering, Activity or Characteristics	Ploidy	Brand Name	Variety *	Australian Marketer	PBR**	TM***	Plant Breeder
	Mid		Coolamon	✓	AusWest Seeds Stephen Pasture Seeds Irwin Hunter	Y		DAFWA
	Mid		Woogenellup	✓	Many			DAFWA
	Mid		Junee	✓	Many			NSW DPI
	Mid		SF Narrikup	✓	Seed Force	P		DAFWA
	Mid-Late		Denmark	✓	Heritage Seeds	Y		DAFWA
	Mid-Late		Goulburn	✓	PGG Wrightson Seeds	Y		DAFWA
	Mid-Late		Karridale	✓	Many			NSW DPI
	Mid-Late		SF Rosabrook	✓	Seed Force	P		DAFWA
	Late		Ovaflow®		Seed Distrbutors		Y	Pasture Genetics
	Very Late		Leura	✓	PGG Wrightson Seeds			VIC DPI
Yanninicum	Early		Monti	✓	Heritage Seeds	P		SARDI
	Mid		Riverina	✓	AusWest Seeds Stephen Pasture Seeds Irwin Hunter	Y		NSW DPI
	Mid		Trikkala	✓	Many			VIC DPI
	Mid		Meteora		Many			VIC DPI
	Mid		Hatrik®		Seed Distributors		Y	Pasture Genetics
	Late		Gosse	✓	Heritage Seeds	Y		VIC DPI
PERSIAN CLOVER								
Hard Seeded	Early season		SARDI® Persian		Seed Distributors		Y	SARDI
	Early-mid season		Nitro Plus	✓	Heritage Seeds	Y		DAFWA
Soft Seeded	Mid season		Flash	✓	Seed Genetics International	Y		Seed Genetics International
	Mid season		Lightning	✓	Heritage Seeds	Y		IPB
	Late season		Laser	✓	Heritage Seeds	Y		IPB
	Mid-late season		Turbo®		Seed Distributors		Y	Pasture Genetics
	Mid-late season		Lusa		Tasglobal Seeds			VIC DPI
	Late season		Enrich		Many			Speciality Seeds NZ
	Late season		Turbo Plus		Upper Murray Seeds			Michael Obtention
OTHER ANNUAL CLOVER								
Arrowleaf	Early		Cefalu	✓	Heritage Seeds West Coast Seeds	Y		DAFWA
	Late		Zulu II	✓	Heritage Seeds			
	Late		Zulumax®		Seed Distributors		Y	Pasture Genetics
	Very Late		ArroTas		Tasglobal Seeds			TAS DPI
Balansa	Early		Frontier	✓	Heritage Seeds	Y		DAFWA
	Early		Cobra	✓	PGG Wrightson Seeds	P		Pristine
	Early		Enduro®		Seed Distributors		Y	AgriCol, RSA
	Mid		Border	✓	Seed Genetics International	Y		Seed Genetics International
	Mid		Taipan	✓	PGG Wrightson Seeds	Y		Pristine
	Late		Bolta	✓	Heritage Seeds	Y		PIRSA
	Late		Viper	✓	AusWest Seeds, Stephen Pasture Seeds, Irwin Hunter	Y		Pristine
Berseem	Mid-Late		Elite II	✓	Heritage Seeds	Y		IPB
	Mid-Late		Memphis		Upper Murray Seeds			
	Late		Alexandria®		Seed Distributors		Y	Pasture Genetics
Bladder	Early-Mid		Agwest Bartolo	✓	Seed Distributors, PPA, Ballard Seeds, PGGW		Y	DAFWA
Crimson	Mid-Late		Blaza	✓	Heritage Seeds	Y		PFT
Rose	Early		SARDI Rose		Seed Distributors		Y	SARDI
Sulla	Mid-Late		Wilpena	✓	PGG Wrightson Seeds	Y		SARDI
	Mid-Late		Moombi	✓	PGG Wrightson Seeds			SARDI
SERRADELLA								
Yellow	Mid (WA)		Santorini	✓	Ballard Seeds	Y		DAFWA
(all hard seeded)	Early (WA)		Yelbeni	✓	Ballard Seeds WR Hagboom & Co	Y		DAFWA
French	Mid (WA), hard seeded		Margurita	✓	Ballard Seeds	Y		DAFWA
	Early (WA), soft seeded		Eliza	✓	Ballard Seeds	Y		DAFWA
BISERRULA								
Biserrula	Mid-Late (WA), hard seeded		Casbah	✓	Many			DAFWA
MEDIC								
Barrel	Early season		Cheetah	✓	Stephen Pasture Seeds	Y		
	Early season		Caliph	✓	Seed Distributors		Y	SARDI
	Mid		Lynx	✓	Stephen Pasture Seeds	Y		
	Mid		Jester	✓	Heritage Seeds	Y		SARDI
	Mid		Sephi		Many			
	Mid		Paraggio	✓	Many			
	Late		Mogul	✓	Seed Distributors		Y	SARDI
	SU tolerant		Sultan SU	✓	Heritage Seeds	P		SARDI
Burr	Early Spineless		Saracen®		Seed Distributors		Y	Pasture Genetics
	High hard seed		Santiago	✓	Many			
	Mod hard seed		Scimitar	✓	Heritage Seeds	Y		SARDI
	Spineless		Cavalier	✓	Seed Distributors		Y	SARDI

Agronomic Selection Criteria			Market Information			Intellectual Property Status		Background Information
Type Species	Flowering, Activity or Characteristics	Ploidy	Brand Name	Variety *	Australian Marketer	PBR**	TM***	Plant Breeder
	SU tolerant		Sultan SU	✓	Heritage Seeds	P		SARDI
Button	Vey Hard seeded		Bindaroo®		Seed Distributors		Y	QDPI
Gama	Good aphid tolerance		Parapronto	✓	Many			
Murex	High hard seed		Zodiac		Many			
Snail	Early season		Silver®		Seed Distributors		Y	QDPI
	Late season		Kelson	✓	Many			
Sphere			Orion	✓	Many			
Strand	SU tolerant		Angel	✓	Heritage Seeds	Y		SARDI
	Late		Jaguar	✓	PGG Wrightson Seeds	Y		
	Late		Harbinger AR		Many			
	Late		Harbinger		Many			
WHITE CLOVER								
Large leaved			WinterWhite	✓	Seed Genetics International	Y		Seed Genetics International
			WinterWhite II	✓	Seed Genetics International	Y		Seed Genetics International
			Excel Ladino	✓	Seed Genetics International	Y		Seed Genetics International
	Late		Quest	✓	Heritage Seeds, Seed Force	Y		Grasslanz Technology Ltd
			Kopu II	✓	PGG Wrightson Seeds			AgResearch, NZ
			Mainstay	P	Agricom	P		AgResearch, NZ
			Jumbo	✓	Seed Distributors			DLF Seeds
			Aber Normous		Upper Murray Seeds			IBERS
Medium-Large leaved	Mid		Storm	✓	Heritage Seeds	Y		VIC DPI
	Mid-late		Mink	✓	Heritage Seeds	Y		VIC DPI
	Mid		Weka	✓	Heritage Seeds	P		Agriseeds, NZ
			Tribute	✓	Agricom	Y		AgResearch, NZ
			Trophy	✓	Agricom			AgResearch, NZ & NSW DPI
			Grasslands Bounty	✓	PGG Wrightson Seeds			Grasslands Innovations Ltd
Medium leaved			Demand	✓	Cropmark Seeds	Y	Y	AgResearch, NZ
			Canterbury	✓	Specialty Seeds	Y		Seed Genetics International
			Braidwood	✓	Seed Genetics International	Y		Seed Genetics International
			Reisling	✓	Seed Distributors			DLF Seeds
			Esteem White Clover		Upper Murray Seeds			Sheldon Agri
			Aber Dance		Upper Murray Seeds			IBERS
Small leaved			Prestige	✓	PGG Wrightson Seeds	Y		AgResearch, NZ
			Grasslands Tahora II	✓	PGG Wrightson Seeds			Grasslands Innovations Ltd
			Tahora		PGG Wrightson Seeds			Grasslands Innovation Ltd
			Aber Ace		Upper Murray Seeds			IBERS
LOTUS								
Melilotus albus	salt tolerant		Jota	✓	WestVic AgServices	Y		VIC DPI
STRAWBERRY CLOVER								
Strawberry clover	Semi-erect		Lucilla		PGG Wrightson Seeds			Grasslands Innovations Ltd.
	Prostrate		O'Connors	✓	Many			
RED CLOVER								
Early Maturing	High		Hamua		Many			AgResearch, NZ
	Low		Astred		PGG Wrightson Seeds			TAS DPIWE
	Medium		Grasslands Colenso		Agricom			Grassland Innovations Ltd
	Medium		Sensation	✓	Agricom	Y		Grassland Innovations Ltd

Agronomic Selection Criteria			Market Information			Intellectual Property Status		Background Information
Type Species	Flowering, Activity or Characteristics	Ploidy	Brand Name	Variety *	Australian Marketer	PBR**	TM***	Plant Breeder
	Medium		Renegade		Seed Distributors		Y	DLF Seeds
	Medium		SF Rossi	✓	Seed Force		P	R2n RAGT
	Med-large leaf		Tuscan		Heritage Seeds			AgriSeeds (NZ)
			Broadway	✓	Agricom	Y		Grassland Innovations Ltd
Mid season Maturing	Very Low		Rajah	✓	Seed Distributors		Y	DLF Seeds
	Low		Redquin		Many			
			Red 812		Upper Murray Seeds			Sheldon Agri
Late season	High		Turoa		Many			AgResearch, NZ
	High		Pawera		Many			AgResearch, NZ
TROPICAL LEGUMES								
ATRO Siratro (*Macroptilium atropurpureum*))			Aztec Atro	✓	Queensland Agricultural Seeds, PGG Wrightson Seeds, Selected Seeds	Y		
Axillaris (*Macrotyloma axillare*)			Archer		Many			
Burgundy Bean (*Macroptilium bracteatium*)	Light-Heavy soils		B1 Burgundy®		Heritage Seeds		Y	CSIRO
Butterfly Pea (*Clitoria ternatea*)			Milgarra		Many			
			Blue Pea		Many			
Centro (*Centrosema pubescens*)			Common Centro		Many			
			Cardilo		PGG Wrightson Seeds			
Cowpea (*Vigna unguiculata*)			Common		Many			
			Ebony	✓	Heritage Seeds	Y		CSIRO
Creeping Vigna (*Vigna parker*)			Shaw		Many			
Desmanthus (*Desmanthus virgatus*)	Clay soils		Marc	✓	Progessive Seeds	Y		DPI&F QLD
			Jaribu		Many			
Desmodium (*Desmodium intortum*)			Greenleaf		Many			
Forage Peanut (*Arachis pintoi*)	Pinto peanut		Amarillo		Many			QDPI
			Bolton		PGG Wrightson Seeds			
Glycine (*Neonotonia wightii*)			Tinaroo		Many			
			Malawi		Many			
			Cooper		Many			
Joint Vetch (*Aeschynomene paniculata*)			Common		Many			
Lablab (*Lablab purpureus*)	Early maturing, white seed		Koala	✓	Many	Y		
	Late maturing, rarely set seed		Highworth		Many			
	Very late maturing, rarely sets		Rongai		Many			
	Perennial		Endurance		Many			
Leucaena (*Leucaena leucocephala*)			Cunningham		Many			
			Peruvian		Many			
			Taramba	✓	Many	Y		
			Wondergraze	✓	Leucseeds Pty Ltd	Y		
Lotononis (*Lotononis bainesii*)			Miles		Many	Y		
Roundleaf Cassia (*Chamaecrista rotundifolia*)			Wynn		Many			
Siratro (*Macroptilium atropurpureum*)			Common		Many			
Stylo (*Stylosanthes hippocampoides*)	Carribean, drier, cooler climate		Amiga		Heritage Seeds			CSIRO
	Shrubby, warm, moist climates		Siran		Heritage Seeds			CSIRO
	Late flowering		Beefmaker®		Australian Premium Seeds		Y	
	Shrubby		Seca		Many			
	Fine stem		Oxley		Many			
	Caatigna		Primar	✓	Many		Y	
	Caatigna		Unica	✓	Many		Y	
	Carribean		Verano		Many			
HERBS								
Chicory	Short term		Commander		Heritage Seeds			Suba & Unico, Italy
	Short term		Grouse	✓	Agricom			Grasslands Innovations Ltd
	Perennial		Chico®		Cropmark Seeds		Y	Suba & Unico, Italy
	Perennial		Choice	✓	Agricom	Y		Grasslands Innovations Ltd
	Perennial		Puna	✓	PGG Wrightson Seeds			Grasslands Innovations Ltd
	Perennial		Puna II	✓	PGG Wrightson Seeds	Y		Grasslands Innovations Ltd
	Perennial		Balance®		Seed Distributors		Y	Pasture Genetics
	Perennial		SF Punter		Seed Force		P	Suba & Unico, Italy
	Perennial		Le Lacerta	✓	Valley Seeds	Y		Fadisol
Plantain	Perennial		Tonic	✓	Agricom	Y		Grasslands Innovations Ltd
	Perennial		Ranger®		Seed Distributors		Y	Pasture Genetics
	Perennial		SF Endurance		Seed Force			
	Perennial		SF Boston		Seed Force			

This Pasture Variety Database is sourced from the Australian Seeds Federation and its members and is intended for information purposes only.
* Variety Confirmation: Confirms if a brand of a species qualifies for the use of the term 'variety' by way of meeting one or more of the defintions for a 'variety' as nominated by the International Union for the Protection of New Varieties of Plants, Organisation for Economic Cooperation and Development or Plant Breeders Rights.
**PBR: Australian Plant Breeders Rights Granted ***TM Registered Trade Mark® Granted Y = Granted P = Pending

Green urea reduces pasture ammonia loss

By DR HELEN SUTER*

KEY POINTS

UREA EFFICIENCY

- ✔ NH3 gas produced by urea breakdown can be blown away
- ✔ Applying Green Urea 14 can limit losses
- ✔ Urea losses lower in autumn when gentle rain falls on dry soil

THE breakdown of urea by a process known as hydrolysis leads to production of ammonia (NH_3), a gas, or ammonium (NH_4+), a plant nutrient.

When urea is top-dressed, any NH_3 that is produced can be blown away from the site, leading to poor use of applied nitrogen (N). For dairyfarmers, it's a bit like tossing money in the air and watching it blow away.

The amount of NH_3 that is lost from a site will depend on many factors, including:

1. What the urea is applied to — pasture, bare cropping soil, trash-blanketed systems etc. This is because the rate of NH_3 loss depends on how quickly the urea is broken down, which depends in turn on the amount of activity of an enzyme called urease, which is found in organic materials. This means in dairy pasture the risk of NH_3 loss is high.

2. Soil pH — with greater risk at higher pH (more alkaline soils). This influences whether the gas NH_3 or the plant nutrient NH_4+ is produced.

3. The climate — windy days have greater loss than still days. When rain falls (up to 10 millimetres) urea is washed into the soil so less NH_3 is lost.

One way of minimising the risk of NH_3 loss is to apply a urease inhibitor with urea to slow the activity of the urease enzyme and so slow the rate of urea breakdown.

One product available in Australia to do this is Green Urea. A field trial run by the University of Melbourne and Incitec Pivot tested the difference in NH_3 loss from top-dressed urea and Green Urea 14 on a ryegrass seed crop in autumn and spring 2010 at Murroon in south-west Victoria.

In autumn the NH_3 loss from urea was 30% of the applied N. Use of Green Urea 14 dropped this loss to 9% of applied N. After fertiliser application, no rain fell for seven days but there was dew every morning. Wind speed over this time ranged from less than one kilometre an hour to 49kmh.

In spring the NH_3 loss from urea was 2% of the applied N. When Green Urea 14 was used this dropped to 1% of applied N.

Rain fell (4mm) within 24 hours of application of the fertiliser and washed the urea into an already-moist soil so while the Green Urea still reduced NH_3 loss from urea in spring, the benefit achieved was much less than in autumn. The addition of fertiliser N increased dry matter (DM) production by eight kilograms per unit of N (328kg/hectare) for urea in autumn and 9kg/unit of N (361kg/ha) for Green Urea.

In spring the increase was 18kg/unit of N (700kg/ha) for urea and 12kg/unit of N (468kg/h) for Green Urea.

Biomass production did not reflect the savings in N achieved with the use of Green Urea, most likely because N was not limiting in either treatment despite the losses that occurred. This might mean farmers can apply less N with Green Urea.

The results of the trial show that, depending on the season, substantial benefits can be achieved from use of a urease inhibitor fertiliser such as Green Urea to reduce losses of NH_3 from ryegrass. Less N can be applied for the same production.

The project was partly funded by the Department of Agriculture Forestry and Fisheries and the Grains Research and Development Corporation.

For information contact Helen Suter, University of Melbourne, <helencs@unimelb.edu.au>. For a video overview visit <www.iplvirtualtrialsite.com.au/Cloverleigh/ cloverleightrial.html>.

References

Helen Suter, Humaira Sultana, Debra Turner, Rohan Davies, Charlie Walker, and Deli Chen (2013). Effects of nitrogen fertiliser type, use of a urease inhibitor, application method and season on ammonia loss from ryegrass, *Nutrient Cycling in Agroecosystems*, 95; 175-185.

Article courtesy of Department of Primary Industries and Environment Mountain Milk Line.

Shorter grazing intervals promote leafy growth

By SHAN GOODWIN

KEY POINTS

EXTENDING RYEGRASS

- ✔ Possible to boost tillering
- ✔ Reduce grazing intervals
- ✔ Cut ungrazed stem

Milk producer Murray Nicholls, Tookawhile, Rukenvale north of Kyogle, NSW, in irrigated ryegrass.

WELL-MANAGED irrigation is playing a role in allowing NSW North Coast dairyfarmers to achieve the "flatline" milk supply sought by domestic market processors in that region.

By allowing producers to extend their ryegrass season until storms kick on summer natives, travelling and a handful of solid set irrigation systems are bridging the gap presented by two drier-than-average springs on the North Coast.

A mild winter with few frosts and excess early rain saw much of the region's ryegrass go in late last year and in some cases that resulted in fewer available grazings.

The subsurface moisture kept growth going for longer once the dry break came and most milk producers with irrigation did not need to turn on the taps until up to two months later than normal.

Irrigation equipment suppliers have had two busy years with orders for parts that needed replacing and maintenance work on the back of the two dry August-Septembers. Norco milk supply officer Bill Fulkerson said leafy growth could be extended past mid-October in early-season ryegrass that was irrigated by reducing grazing intervals to 12-14 days and cutting any stem not grazed.

Mowing or slashing the stem below the growing point would allow the reserves in the stem to be used to initiate a new tiller at the base, he said.

Murray and Nicole Nicholls, Tookawhile, Rukenvale, north of Kyogle, have 50 hectares under Tetila ryegrass, which by mid December had received 30 millimetres per 21-day grazing since August 20.

They then sped up the grazings and irrigated every fortnight.

The Nicholls milk 200 Holsteins and Holstein-Brown Swiss crosses under a partial mixed ration system, with all silage grown at their nearby cropping property.

"Lack of consistency in water availability was one of the reasons we went to a PMR," Mr Nicholls said.

"In a typical season, by the end of October there wouldn't be sufficient water supply to continue irrigating.

"Irrigation obviously gives us optimum yield for our fertiliser costs but we have to manage it right in order to maintain consistent supply. To remain viable as milk producers we need to avoid the costs of producing over or under allocation."

Mr Nicholls said his farm went in to winter with good moisture, although the season was probably a bit too wet, resulting in one less ryegrass grazing this season.

Half of the irrigated country was planted to soybeans in November and the rest back to native pastures.

The two travelling irrigators at Tookawhile worked best for the odd-shaped paddocks split by a road that made up the topography of the farm, he said.

Grass drives profitability for NE Vic farmer

KEY POINTS

PERENNIAL PASTURE

- ✔ Invest in pasture renovation
- ✔ Experiment with new varieties
- ✔ Produce as much homegrown feed as possible

SCOTT McKillop enjoys growing grass and seeing his 350 Holstein Friesians grazing it and turning it into milk.

The Dederang, Vic, farmer and Murray Goulburn supplier knows only too well that grass use is a real driver of profitability in dairyfarming and is determined to maximise the productivity of his family's 500-hectare operation in the Kiewa Valley of North East Victoria.

"As a rule of thumb, the most successful dairyfarmers grow a lot of grass and utilise it," Mr McKillop said. "In our operation, this means doing everything that's needed in a timely way without taking shortcuts so we can grow as much pasture as possible."

A fourth-generation farmer, Mr McKillop has combined his family farming heritage with an agricultural science degree from the University of Melbourne and 15 years of off-farm work experience in livestock management and pasture agronomy.

It's been a busy decade for Mr McKillop and his wife, Belinda, who have three young children.

During this time they converted their beef operation into a dryland dairy enterprise and bought a neighbouring farm. Another farmer ran the dairy farm for seven years while Mr McKillop was working elsewhere before he opted to return to the farm full-time in 2009.

"While we still run 100 Hereford cows and calves, my father milked cows here 40 years ago so I knew the farm had good potential for dairying," he said.

To kick-start the operation, Mr McKillop bought a rotary dairy at Swan Hill, dismantled it and moved it 400 kilometres to Dederang.

In 2009 he also embarked on a major pasture renovation program, using herbicides to control bent grass and other weeds, applying lime and fertiliser to address acidity and plant nutrition needs, and resowing the perennial pastures before buying 300 cows later that year.

His knowledge of pasture management was fast-tracked during his previous five years as an agronomist with Smyth Seeds, a specialist wholesaler and distributor of pasture seeds based at Benalla, Vic.

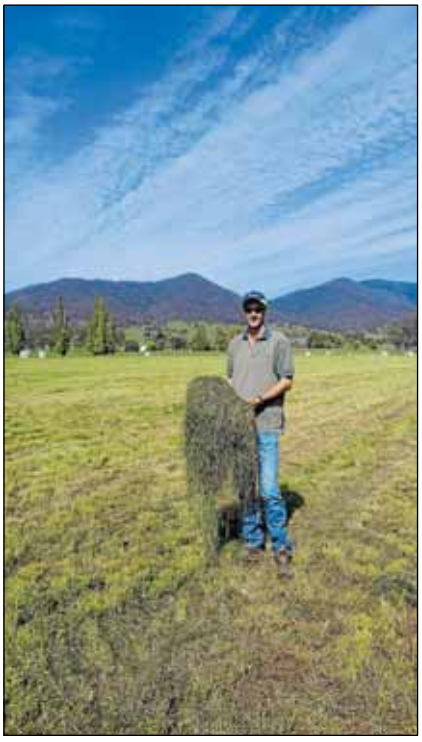
It was during his days at Smyth Seeds that Mr McKillop first heard about a new tetraploid perennial ryegrass variety called Halo AR37 bred by Agricom.

"Five years ago I saw some of the trials comparing Halo AR37 with other varieties and it stacked up pretty well, and I've grown it ever since," Mr McKillop said.

"I have put Halo to the test against other varieties like Bealey and Banquet II at my place but I am impressed with the persistence of Halo and how well the cows graze it and milk afterwards."

He said the addition of the novel endophyte AR37 gave Halo better pest resistance and more persistence in dry conditions — particularly last summer, which was one of the hottest and driest in years.

Agricom has incorporated the AR37 endophyte, a naturally occurring plant alkaloid, into Halo to protect the ryegrass plants against insect pests such as black beetle, Argentine stem weevil, root aphid and pasture mealy bug. This helps maintain the pasture's persistence and productivity.



For Scott McKillop, matching stocking rates to available feed is part and parcel of running a successful dairy business.

Mr McKillop said he liked the late leafiness of Halo. "After sowing Halo in autumn, I cut it once in spring to reduce any seed heads and keep the plants green and leafy," he said.

"This also means an extra one or two grazings of Halo in summer, compared with Italian ryegrass, and I also find Halo provides higher-quality, lower-fibre feed in late spring and summer when the annual pastures and Italian ryegrasses are starting to deteriorate." ▶

LEFT: Scott McKillop's family has been farming at Dederang, in North East Victoria, for the past 40 years.

Maximising pasture productivity

Since 2009, Mr McKillop has grown as much pasture as possible, capitalising on good seasonal conditions to produce annual and perennial varieties including chicory, brassicas, and Italian and perennial ryegrass.

"I've grown a lot of Choice chicory in the past three years — it's a great herb for providing rapidly digestible feed during spring, summer and autumn," he said.

"Chicory is a short-to-medium-term perennial that is best suited to our rising country, because it doesn't like wet feet.

"After two or three years, the chicory is oversown with ryegrass, while our perennial pastures are sown on our heavier soils.

"My target is to grow as much feed as possible, even though our cows still receive about 1.8 tonnes of grain per head each year."

It's a philosophy that paid dividends last year when Mr McKillop added another 32 cows to his herd to make the most of plentiful grass and feed.

"This made a huge difference to our bottom line when milk prices were at their highest," he said.

"Some farmers don't think of themselves as running businesses, but by matching our stocking rates to the available feed, we can respond quickly and take up the opportunities. It's all about finding the sweet spot for your operation."

A member of a dairy business discussion group, Mr McKillop has a keen understanding of the key drivers of his farm business and ensuring its viability for the long term. He enjoys talking with other dairyfarmer members of the network to share their knowledge and experience.

Mr McKillop said that dairyfarmers were putting a lot more pressure on their perennial pastures these days, grazing them more intensively, applying fertiliser and cutting them for silage.

"Under current systems, we can't expect our perennial pastures to last five or six years, particularly in warmer regions like North East Victoria," he said.

"If we get three or four years out of a perennial ryegrass I think we're doing well.

"When resowing, I like to choose the right cultivars for our situation, like Halo AR37, and make sure I do the job properly without scrimping on sowing rates or inputs."

Article courtesy of Agricom, phone 1800 051 064, website www.agricom.com.au>.

Water fires up fresh pasture for herd

By WILLIAM VALLELY

KEY POINTS

IRRIGATION EXPANSION

- ✔ Production up 2000 litres/cow
- ✔ Water has increased herd size

NIGEL Brock's cows were glad to see the last of the farm's turnips.

About 240 milkers were fed the root vegetable as supplementary feed during northern Tasmania's drier summers, until a new irrigation scheme set about galvanising their tastebuds.

Montana farmer Mr Brock bought 600 megalitres of water from the Meander Valley irrigation scheme in 2008 to change the diet and size of his herd.

He said because he could irrigate more freely, he had more green grass at his disposal.

"Cows take 10-12 days for their guts to get used to fodder crops so that affects production a bit," he said. "With grass, the bugs are already in the rumen so they just keep going."

Now with 720 cows, Mr Brock estimates the water has helped him increase production from 5000 litres per cow per year to 7000.

"It (water) gave me the impetus to increase production, because before that it was just dryland," he said.

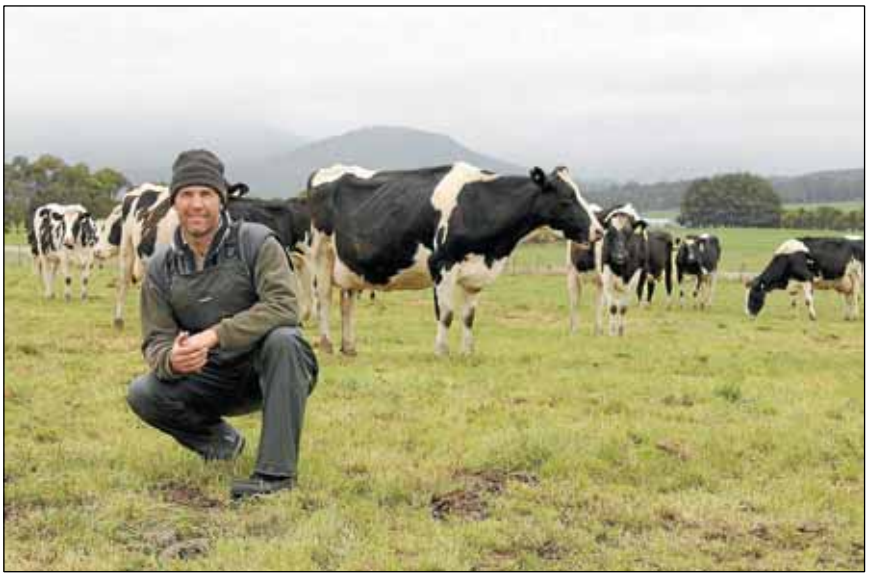
However, his farm was not as dry as some of the ground in the Midlands that's been earmarked for dairy conversion.

Mr Brock said he was surprised when he first heard of the intention to convert grazing land in north central Tasmania into dairy land. "We are a traditionally wet area up here so if we get a wet year we don't have to irrigate, whereas the Midlands is traditionally a lot drier," he said. "I was concerned about the watertables down there but blokes who farm there have said it's dropping a fraction."

While he fully supported the conversion scheme, Mr Brock said he felt it was easier to immediately benefit from irrigation in traditional dairy country.

A wet year has made Mr Brock less reliant on irrigation but has caused additional problems. In September his farm was subject to a salmonella outbreak and, while it was contained, 13 cows perished because of the disease.

"It was hard on everyone," he said. "It was horrible to see good-conditioned cows disappear because of a little bug." D



Nigel Brock says water for irrigation has enabled him to increase his milk annual harvest by 2000 litres per cow.

Clover root weevil a threat

By GUY WESTMORE*

THE clover root weevil (CRW) is one of New Zealand's most serious pasture pests. First reported in 1996, it now costs farmers an estimated $300 million per year.

While it has not yet been found in Australia, CRW is a proficient hitch-hiker in hay, vehicles and freight containers, making it a risk to Australia's pasture-based industries.

The Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE) plans to undertake a survey of pasture weevils this autumn to confirm that CRW is not present in Tasmania and gain further knowledge regarding the pasture weevil species that are present.

DPIPWE is looking for farms that have clover-rich pastures along the north coast of Tasmania (from Smithton to Scottsdale) and in the Huon Valley region that are willing to participate in the survey.

There is no cost, and the survey method is non-destructive as it uses vacuum sampling.

As with any pest or disease at risk of being introduced to Tasmania, early identification increases the chance of eradication.

KEY POINTS

CLOVER ROOT WEEVIL

- ✔ Significant pest in NZ
- ✔ Monitoring underway in Tas
- ✔ Look for signs

To monitor pasture for CRW, look for:

• Poorly growing clover — CRWs feed exclusively on clover, with white clover being the preference. Young larvae burrow into clover nodules, older larvae feed on stolons and roots, and adult weevils feed on leaves. Damage can lead to total loss of clover.

• Clover with 'notching' — adult feeding causes distinctive semi-circular 'notching' on the edges of clover leaves (see Figure 1).

• Look for adult weevils — grey/brown, slender weevils, 4-6 millimetres in length with a short snout (see Figures 2 and 3).

• Look for larvae in the topsoil — small cream/white grubs, 1-6mm in length with a brown head capsule (see Figure 4).

In NZ, larvae are present all year but are more abundant from late autumn till spring.

Anyone who thinks they have CRW should contact the Emergency Plant Pest Hotline on 1800 084 881 (all hours).

**Guy Westmore is with Tasmanian DPIPWE.*

Article courtesy of Tassie Dairy News.

Figure 1: Distinctive 'notching' on clover leaf caused by adult Clover Root Weevil. Source: Deric Charlton. URL: <http://www.TeAra.govt.nz/en/photograph/16362/clover-root-weevils-at-work>.

Figure 2: Adult clover root weevils are a grey/brown colour and 4-6 mm in length. Source: Walker, K. (2007) clover root weevil (*Sitona lepidus*) <http://www.padil.gov.au>.

Figure 3: Adult clover root weevils have a short snout. Source: Walker, K. (2007) clover root weevil (*Sitona lepidus*) <http://www.padil.gov.au>

Figure 4: Clover root weevil larvae. Source: PestWeb-NZ <http://pestweb.nzpps.org>.

Armyworms on march in Vic

By FRANK MICKAN*

KEY POINTS

ARMYWORMS

- ✔ Pasture and cereal crops affected
- ✔ Where to look for outbreaks
- ✔ Early detection is essential

OUTBREAKS of armyworms occurred in grass pastures and cereal crops in Gippsland late last year.

Reports came from dairyfarmers in West and South Gippsland of armyworm infestations in pasture crops waiting to be cut for hay. One farmer has estimated that his standing hay crop has been reduced by up to 60%. The younger instars or stage of growth (there are six instars as caterpillars) of the armyworm chew the leaves of longer pastures and may leave scalloped edges. Cereal croppers are not immune as armyworms can also affect wheat, barley and oat growers.

Heads on the ground are often the first visible sign of armyworm caterpillars in cereal crops although chewed leaves, heads and awns could be apparent.

As barley matures and green leaves disappear, part of the stem below the grain head often remains green and palatable. This is the next target for the caterpillar as grubs chew through this section causing the heads to fall to the ground.

Another sign is green, yellow or brown cylindrical-shaped faecal droppings, about one to two millimetres long, on the ground between crop rows or caught on lower leaves.

In some cases when the food supply (pastures/cereals) becomes severely depleted, caterpillars start to gather together and "march" out of crops and pastures in search of food — hence the name "armyworm".

What do they look like? There are three species of armyworm (Common, Southern and Inland Armyworms) in southern Australia, but generally they look the same as caterpillars and all do similar damage.

Armyworm caterpillars are smooth-bodied and have three white or creamy-coloured stripes running down their back and sides. Caterpillars can grow to about 30-40mm in length. A similar looking caterpillar is the brown or common cutworm but it has no obvious stripes and are uniformly brown, pink or black. These are not a problem currently.

As adults, armyworms become moths with 30-40-millimetre wingspan that swarm on warm, humid evenings. It is only as moths that the three species can be identified, which can be a problem as they do their worst damage as caterpillars.

Where to find the armyworms? During the day, look under dead leaf litter at the base of the crop or pasture sward and under clods in cereal crops. At dusk or night, a torch should show them on leaves and grain heads.

Early detection is essential, particularly when cereals and pasture seed or hay crops are at the late ripening stage. To get an accurate estimate of caterpillar numbers, considerable effort is required, but the potential cost saving is worthwhile. Sample by using a sweep-net or a bucket, or by visually ground or crop searching for caterpillars.

The sweep-net/bucket method gives a quick and approximate estimate of problem size. Sweep several times across the crop in 180-degree arcs, preferably about 100 times, at different sites within the crop to give an indication of density and spread. Armyworms are most active at night so sweeping at dusk will be the most effective time.

If average catch is more than five to 10 per 100 sweeps, then do some ground counts to determine approximate densities.

For ground sampling, do at least 10 "spot checks" in the crop and count the number of caterpillars within one square metre.

Young caterpillars (up to 8mm) cause very little damage and are hard to find. This is why many dairy and cropping farmers fail to detect armyworm activity until they are nearly fully grown and damage may be as high as 10-20% by then.

Some Gippsland farmers have elected to aerial spray for armyworms, covering affected pastures and pastures in their march path.

There are a number of chemicals registered for control of armyworms. For dairy pastures and standing hay crops, consider chemical treatment if damage is obvious.

Also consider the following points:

- timing of harvest;
- green matter available in the crop;
- expected return on the crop; and
- caterpillar development stage (if most are greater than 35-40mm or pupating, it may not be worth spraying).

If spraying is necessary, do this in the late afternoon or early evening for maximum effect, as armyworms are nocturnal feeders. Become familiar with the potency, application and withholding periods.

Frank Mickan pasture and fodder conservation specialist, Department of Environment and Primary Industries (DEPI), Ellinbank Centre.

Prairie grass persists

KEY POINTS

ALTERNATIVE PASTURES

- ✔ Ryegrass not the only option
- ✔ Non-traditional grasses worth a try
- ✔ New varieties can deliver advantages

TAKING a chance on newer pasture varieties is proving worthwhile for Hunter Valley, NSW, dairyfarmer Scott Wheatley and his family. The Wheatleys farm 200 hectares near Aberdeen, NSW, alongside the Hunter River where mild winters can allow year-round pasture growth for their herd of 200-300 Holsteins.

Hot weather over summer, however, can threaten pasture persistence.

Lucerne and perennial ryegrass are the mainstays of the Wheatleys' pasture production system but they like to keep their options open and try new pasture varieties from time to time.

In 2012, they sowed two paddocks to Atom prairie grass mixed with Tonic plantain, Broadway red clover and Haifa white clover. Atom prairie grass is a large-leafed, large-tillered, perennial grass that is expected to grow for from two to four years.

"We were looking for something that offered a high-quality feed with better persistence than ryegrass," Mr Wheatley said.

He said it was common in their area for ryegrass to require reseeding each year, even when using perennial varieties.

"We don't want to be in a situation where we have to sow every paddock every autumn," he said. "As well as the high cost of establishing new pastures, it creates a severe feed shortage for the herd."

Mr Wheatley asked his local seed specialist, Daniel Clydsdale from AusWest Seeds, to recommend an alternative pasture that would tolerate the hot summer days and warm nights. That's how they came to try Atom prairie grass.

"We sowed two paddocks in March (2012) and it took off really well," Mr Wheatley said.

"I know farmers around here are sceptical about the quality of prairie grass generally but we haven't noticed any change in the litres coming through the dairy."

Mr Wheatley said last winter was colder than usual but the Atom prairie grass performed better than their ryegrass pastures.

"It sometimes takes a bit of careful management to keep it short in late spring, to keep on top of the vigorous growth, but it also makes quite good hay if it does get away," he said.

Scott Wheatley is using Atom prairie grass, Tonic plantain and clover (pictured below) as a pasture mix on his family's dairy farm near Aberdeen, NSW.

The Wheatleys treat their Atom prairie grass in much the same way as a ryegrass pasture, grazing it every couple of weeks and watering it after grazing, but there are some differences.

For example, Atom prairie grass has a broader leaf than ryegrass and a deeper root system.

Mr Clydsdale said as a member of the brome family, Atom was naturally more heat-tolerant than ryegrass and maintained its high quality, even when in a reproductive state.

"Above all, Atom has the potential to persist for longer than ryegrass in subtropical pasture situations," Mr Clydsdale said.

Mr Wheatley said after good rains in February last year, their Atom pastures took off and became quite long, causing some concern about whether they would be palatable. However, he said the cows still grazed them down to the ground.

He said the clover and plantain had also persisted in the mix, with the plantain starting to thicke.

After sowing several more paddocks to Atom last autumn, they now have more than 10% of the farm converted to the alternative pasture. They also are trying Hummer, a new soft-leaved fescue, this season.

"I couldn't be happier with the performance of the new pastures on our farm," Mr Wheatley said.

"Ryegrass isn't the only option for dairy pastures so why not look at the alternatives?"

Article supplied by AusWest Seeds, phone 1800 224 987, website <www.auswestseeds.com.au>.

Pasture principles

By LYDIA TURNER*

KEY POINTS

GROWING RYEGRASS

- ✔ Get grazing interval right
- ✔ Leave 5.5cm residual
- ✔ Adjust rates of N

THE Dairy Centre of the Tasmanian Institute of Agriculture carried out a two-year intensive cutting study between 2010 and 2012 that looked at how a range of pasture management factors interacted to influence the production, persistence and quality of perennial ryegrass.

The study was funded by Dairy Australia through the Beyond 20.12 project, and involved cutting interval, residual height, nitrogen (N) application rate and irrigation treatments.

Grazing interval: The first key message from the study is to always graze between the two-leaf and three-leaf stages of regrowth.

As a rule of thumb, when growth rates are high (more than 60 kilograms of dry matter, of DM, per hectare per day), graze closer to the two-leaf stage to avoid shading and the death of daughter tillers.

When growth rates are low (from late autumn through winter), graze closer to the three-leaf stage to optimise pasture production and persistence by allowing time for plant energy reserves to be replenished.

Grazing at the one-leaf stage significantly reduces DM production, with less perennial ryegrass cover than defoliation at the two-leaf and three-leaf stages of regrowth, regardless of irrigation treatment.

Grazing residuals: The second key message from the study is to maintain residuals at about 5.5 centimetres (which represents 1450kg DM/ha).

Although cutting height in this study did not affect production as much as cutting interval, there was an overall advantage of maintaining residuals at around 1450kg DM/ha, compared with more severe grazing (3cm or 1100kg DM/ha) and more lax grazing (8cm or 1800kg DM/ ha).

Cutting at 3cm appeared to produce as much DM as cutting at 5.5cm but the botanical composition data showed that ryegrass cover decreased (also evidenced by a decrease in tiller number) and white clover cover increased.

Conversely, cutting at 8cm was detrimental to pasture quality, with higher fibre concentrations and lower energy content than cutting at the 5.5cm height.

Nitrogen application: The third key message from the study is that high N application rates (above 250kg/ha) do not consistently result in higher pasture production.

The N application treatments were 0kg, 1.5kg and 3.0kg N/ha/day.

The N rates were high to compensate for no N return from urine deposition and therefore reflective of annual applications in a grazing situation of about 0kg, 250kg and 500kg N/ha/year.

During the first six months of the study (April to September 2010), increasing N application rates from 0kg to 1.5kg N/ha/day resulted in a 35% increase in DM, and further increasing N application to 3.0kg N/ha/day resulted in a further 10%.

The benefits of high N application rates diminished across time, however, with no benefit from increasing N above 1.5kg N/ha.day▶

◀in the second year of the study. This indicated that an economical response to high N rates is possible when there are low levels of available soil N but as total soil N increases, annual N rate can be reduced, with a more economical response to N occurring at lower N rates.

Surprisingly, in the final six months of the study (October 2011 to March 2012) there was only a 6% increase in DM between the 0kg to 1.5kg N/ha/day treatments but this was due to changes in botanical composition.

Under zero N application, ryegrass cover declined rapidly to about 20% by six months, while white clover cover increased to about 55%. In contrast, while ryegrass cover did decrease under 1.5 kg N/ha/day, it was maintained at much higher levels and white clover cover did not exceed 30%. D

**Lydia Turner is with the TIA Dairy Centre.*

Article courtesy of Tassie Dairy News

Calculating the response to nitrogen

PREDICTING or knowing what sort of response to expect from applying nitrogen fertilisers to pasture is challenging, particularly when many environmental and climatic conditions can impact on how pasture responds to nitrogen (N) and nitrogen use efficiency.

There are four factors that should be considered in evaluating the economic value of a nitrogen fertiliser application. These are:

- cost of the nitrogen fertiliser ($/kilogram of N);
- Pasture responses to nitrogen fertiliser (kg of dry matter (DM)/kg N applied);
- efficiency of pasture utilisation (by harvesting or grazing) and cost ($/tonne DM consumed); and
- cost of alternative feed ($/tonne DM consumed).

Using nitrogen to produce feed that can be grazed directly rather than conserved is often the most cost-effective option.

Traditionally, nitrogen fertilisers have been strategically applied at times when nitrogen fixation is depressed, such as in autumn, winter and early spring, or when there is low clover content in pastures.

However, the use of nitrogen fert-ilisers to boost silage and hay yields has increased in recent years.

With this increase in nitrogen fertiliser use, and increased focus on the associated environmental impact, being able to predict the response of pasture throughout the year to nitrogen has become increasingly important.

The Tasmanian Institute of Agriculture Dairy Centre has developed a tool to do this called the Predictive Nitrogen Response Rate Calculator. This tool enables users to predict the nitrogen fertiliser response rate based on soil temperature, soil moisture content and fertiliser application rate.

The tool allows users to alter soil temperature, soil moisture content, total inorganic nitrogen levels, urea price ($/tonne) and forage price ($/tonne). One this information is entered, the user selects 'calculate', and the tool gives estimations based on the values entered.

These include:

- estimated economical fertiliser application rate (kg N/ha);
- estimated response rate (kg DM/kg N applied); and
- estimated cost per kg DM ($/kg DM).

The tool will also provide a graph that shows the estimated additional pasture growth due to nitrogen application (kg DM/ha) corresponding to various nitrogen application rates (kg N/ha/day).

To enter individual information, drag the bars to adjust each level or enter a value in the boxes provided.

Once both a urea price and forage price are entered, users click on 'calculate' to generate the estimated economical application rate, response rate and cost per kg/DM.

This information can be used assist users in deciding how much nitrogen fertiliser to apply.

This Predictive Nitrogen Fertiliser Response Rate Calculator has been developed in Microsoft Excel and can be found on the TIA Dairy Centre website at <http:// www.tia.tas.edu.au/centres/dairy-centre/publicationsandtools/tools>.

There are also some instructions located at the same website address about using the tool.

For further information about the use of nitrogen fertilisers, visit the TIA website at <www.tia.tas.edu.au> or the Dairy Australia website which contains many fact sheets and information on nitrogen use at <www.dairyaustralia.com.au>.

— ALISON HALL, TIA Dairy Centre

Article courtesy of Tassie Dairy News

Phalaris proves worth on dryland farm

KEY POINTS

PHALARIS PASTURE

- ✔ Can survive indefinitely
- ✔ Holdfast GT has superior persistence
- ✔ Balance grazing with cutting for year-round feed

USING phalaris as their main pasture base has proven to be a winning formula for Victorian dairyfarmers John and Glenys Tindall and son Lachie.

"Seven years ago we were approached to grow a trial of Heritage Seeds' Holdfast GT phalaris and we jumped at the chance," Lachie said. "We've been growing phalaris for about 50 years and thought it was worth a go.

"It showed better persistence and more growth than others around, which turned into more feed for our cattle."

The Tindalls have been growing Holdfast GT every year since and have about 150 hectares in the ground. While phalaris is their main pasture base, the Tindalls also grow a long rotational ryegrass Barberia, Meridian perennial ryegrass and a new forage oat Mammoth oat.

Each year the family, who run the Casterton-based Withnell Dairy Company, cut up to half the pasture on their 810ha farm for hay and silage. "We make a mountain of hay and silage each year for use on the farm," Lachie said.

Last year they produced more than 1000 dry tonnes of fine-chopped silage, 3000 silage rolls and 1600 round bales of hay.

The property receives about 625 millimetres of rainfall annually and is one of the only dairies left in the region, which is dominated by sheep and beef producers.

The country is undulating with heavy clay soil, and is currently running 630 Friesian milking cows, which are fed on a range of pastures, hay and silage.

In 2012-13 the herd produced 4,500,000 litres of milk, and the family expects the 2013-14 season will be well above this.

The cows are also run on improved pastures (including phalaris) once it has been cut and before it is shut up to self-seed.

In recent years the Tindalls have planted Holdfast GT in late May-June at a rate of four kilograms/ha in a blend.

"We graze it two or three times in September-October and then run the milkers through it to get the best out of it before shutting it up," he said.

Cows graze Holdfast GT phalaris pastures on the Tindall property at Casterton, Vic.

INSET: The pasture of Holdfast GT phalaris, Campeda sub-clover and Meridian perennial ryegrass.

Holdfast GT phalaris has become an important part of the pasture system on the Tindalls' farm.

The winter-active plant was selected for long-term persistence under both set stocking and rotational grazing.

The winter grazing interval for the GT is 21 days, enabling good pasture utilisation and feed on offer right when it is in most demand.

"Persistence is the key," Lachie said. "We found perennial ryegrass just didn't have the persistence of phalaris."

Holdfast GT persisted through the tough 2012-13 spring-summer. In a trial next door to the Tindalls' property, 15 perennial ryegrasses died but the Holdfast GT came through the dry well.

Lachie said management was important and if it was looked after properly, it would produce strong results.

"A common myth that cows won't milk as well off phalaris as ryegrass is wrong," he said. "We are proving the cows thrive on it. And if you look after it, phalaris will grow forever."

The Tindalls also use a range of clovers in their mix, including high-yielding Antas and Campeda varieties. Both varieties are sown around the same time as Holdfast GT at a rate of 5kg/ha in a blend.

The pastures combine, on average, to produce about 6.6 tonnes of dry matter (DM)/ha, with 5 tonnes DM/ha consumed on farm. In 2013 the yields were higher following a good finish to spring.

Campeda is the newest clover to be introduced into the Tindalls' cropping rotation, with 60ha sown two years ago. Campeda is known for its leafiness, producing dry matter quickly in autumn and providing excellent winter vigour and late-season productivity.

This autumn the Tindalls will plant more clover, with the crop to be extensively used in their hay and silage mixes.

In the past they've had issues getting clovers started but Campeda established well, according to Lachie.

"We've just finished our second year of grazing it and it's going well," he said.

He said the additional benefit of the clover's nitrogen fixation was a bonus. D

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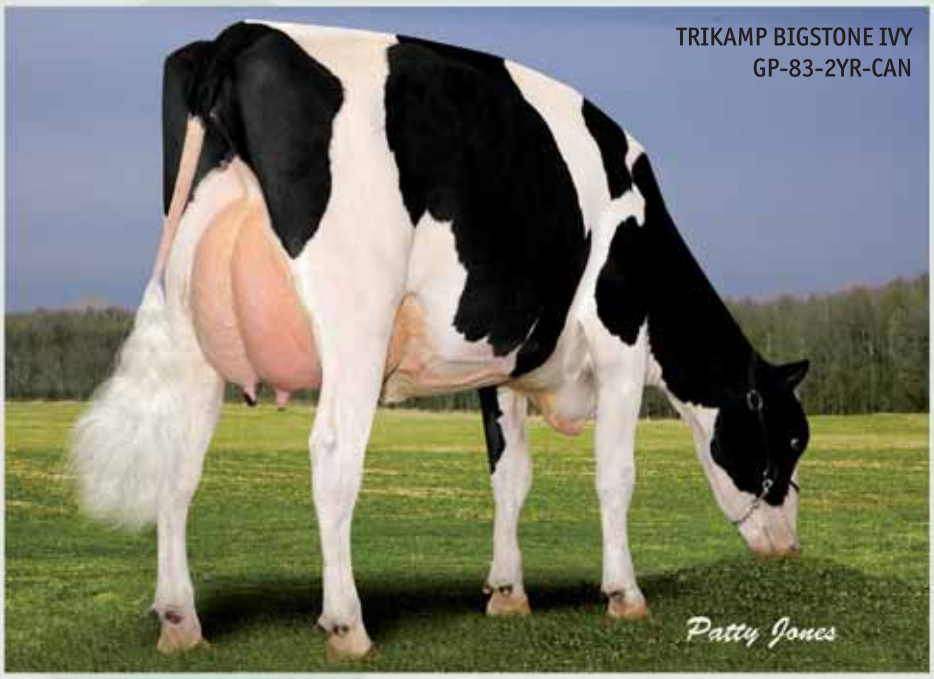

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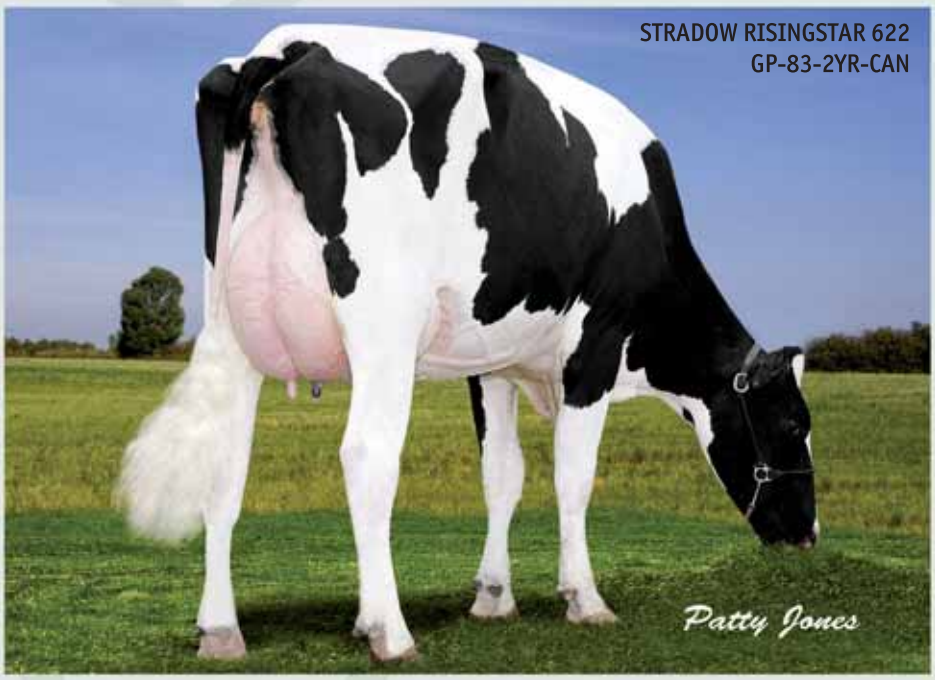

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Tassie cow takes crown

By LOUISE PREECE

A TASMANIAN cow rocketed to the top of the dairy game to claim one of the industry's most celebrated awards — for the second time. The Thompson family's eight year-old Holstein entry, Fairvale Morty Lady 51, capped off this year's International Dairy Week by nabbing the Australian grand champion dairy cow title.

Argentinean judge Juan Hose Felissia singled her out in the black-and-white judging at Tatura, Vic, saying the cow had plenty of "style, capacity and strength".

All six judges then put in their nominations for the Australian champion, placing Lady 51 at the top of the pack against all the other breeds.

The last time the cow won the coveted award was in 2011 as a five year-old.

Owner Lindsay Thompson, who runs the Linsand Holstein stud at Bracknell with his family — including daughter Lisa — said it was a great feeling to win again.

Although the cow came sixth in her class at event in 2013, Mr Thompson said better management had helped improve her condition.

"She went in a flush program and it was a long-time between pregnancies," he said. "We've done a lot of work with her though."

He said that she had since calved down 37 days ago (in late November) with twin bulls. "She's got attitude — I think that's why she does so well," Mr Thompson said.

Grand champion cow and interbreed champion with exhibitors Lindsay and Lisa Thompson, Bracknell, Tasmania, with Andrew Dee, Nathan Thomas, Canada, William McKay, Bracknell, and judge Juan Felissia, at IDW 2014. Photo by WAYNE JENKINS

Lisa Thompson said the cow would now be bowing out from the show ring, but added she was glad Lady 51 was able to return to IDW to recoup the grand champion trophy.

"I think looking back, we shouldn't have taken her in 2013," she said.

"She wasn't her perky self. She didn't fire up and people really remember the cow from the last time they saw her."

But this year, Ms Thompson believes the eight year-old was in the best possible condition.

Production statistics include a high of 15,406 litres, 513 kilograms of butterfat and 465kg of protein in 305 days, which was recorded two years ago.

"She's still producing well and did 12,000 litres last year," Ms Thompson said.

Making the arduous trip across Bass Strait on the boat to IDW was costly — and Ms Thompson said this meant they could only bring their best cows to the event each year.

"It's definitely worth going though, because it's the biggest and most recognised show in the country," she said.

"It's great exposure for us, but we've been very lucky in what we've been able to achieve too."

And while Fairvale Morty Lady 51 will not make another appearance at IDW, her offspring could return in the future.

Ms Thompson said the cow had one daughter by Goldwyn that was tracking well.

"The heifer is 18 months-old and looks similar to her mother," she said.

The Thompsons, who milk 220 cows, have been attending IDW since 2007 and have had a successful career including three IDW supreme champions.

Highlights in the rest of the Holstein judging saw the intermediate and junior broad-ribbons awarded to one NSW stud — Murribook, Mossvale, NSW.

Owners Murray and Margaret Sowter were elated with the result.

In what was a remarkable accomplishment in the junior judging, the Sowter's entry — Murribrook Dundee Pam — was selected by the judge as the best of the young heifers out of the first class.

The six month-old is by Regancrest Dundee, while her dam is Murribrook Jaspa Pammy.

Mr Sowter said her strong family bloodlines had assisted in the result. "Her granddam was a Talent, which was a great cow," he said.

"And she also originates back to a line we imported from Canada — Startmore Peggy — that we brought over in the 1980s."

The intermediate winner was Murribrook Talent Robina, which the judge, Mr Felissia, praised for her refined character and quality.

The Sowters prepared eight animals for IDW.

Lockington, Vic, teenager Kayla Bradley, 19, also performed particularly well in the Holstein judging with her entry, Missy Moo Ladino Cathy-ET.

The three year-old collected the reserve intermediate champion broad-ribbon.

"This is the best that I've done at IDW," she said.

She bought the winning cow's dam, Wellcoora Igniter Cathy, at a dispersal sale in 2003, afterwards flushing her to Talent.

The plan now is to take Ladino Cathy back to her family farm to flush her again, and then join her back to get in calf.

The heifer had previously performed well at local shows, as well as picking up the Victorian three-year-old trophy in the latest Semex on-farm challenge. D

KEY POINTS

HOLSTEINS

- ✔ **Australian grand champion cow:** Fairvale Morty Lady 51, LR, SJ & LA Thompson, Bracknell, Tas
- ✔ **Grand champion:** Fairvale Morty Lady 51, LR, SJ & LA Thompson
- ✔ **Junior champion:** Murribrook Dundee Pam, MJ Sowter, Mossvale, NSW. **Res:** Cairnhill Braxton Perky 2, Zanders Family, Kialla, Vic
- ✔ **Intermediate champion:** Murribrook Talent Robina, MJ Sowter. **Res:** Missy Moo Ladino Cathy-ETK Bradley, Lockington, Vic
- ✔ **Champion cow:** Fairvale Morty Lady 51, LR, SJ & LA Thompson. **Res:** Elmar Goldwyn Jessica 4-ET, Elmar Holsteins, Leitchville, Vic
- ✔ **Premier Breeder:** Zanders Family, Kialla, Vic
- ✔ **Premier Exhibitor:** Blue Chip Genetics, Zeerust, Vic

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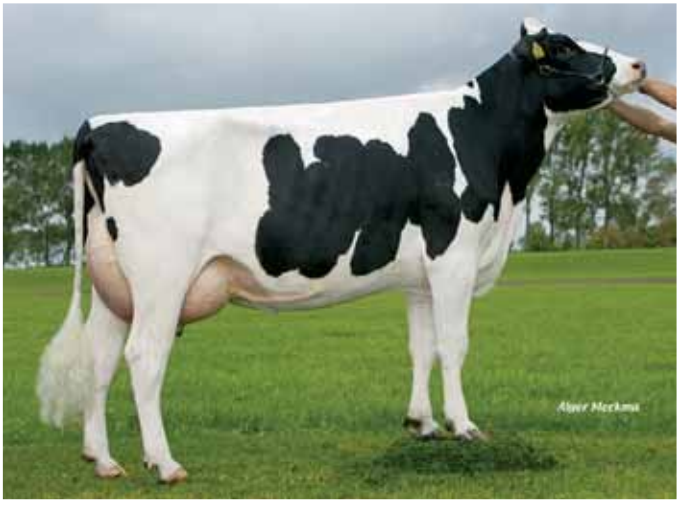

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Priscilla queen of Jerseys

By LOUISE PREECE

ONE family was particularly thrilled when the grand champion Jersey exhibit was announced at International Dairy Week in January.

The Boyd family, who run Brunchilli Jerseys at Finley, NSW, waited on the sidelines as judge Michael Heath from the United States slapped their cow to signify it had earned the big trophy.

Lyn, Maurice, David and Brook Boyd were clearly excited by the news but admitted that Brunchilli Sambo Priscilla was "something special".

The eight year-old cow has six calves already and was applauded by the judge for her udder and dairyness.

"She's a beautiful cow," Mr Heath said.

Lyn Boyd agreed. "We have a high opinion of her," she said. "She's a top producer."

Although Priscilla has not been herd-tested recently, it produced 8000 litres last season.

The Boyds also took home the premier breeder award (something they've won 12 times now), as well as the junior champion heifer title with their young entry Brunchilli Reagan Rose.

Supreme champion Jersey cow at IDW 2014 with Peter Ness, Mt Compass, SA; judge Mike Heath, US; Loui Cozzitorto, US; Milton Johnston, Taree, NSW; exhibitors Lyn, Brooke and David Boyd, Finley, NSW; and David Davies, NAB, Shepparton, Vic. Photo by WAYNE JENKINS

They have been breeding Jerseys since 1981 and prepared a team of 12 for the event.

The intermediate title was taken out by the Couch family of Riverside Jerseys, Nirranda, Vic, for their entry Riverside GG Noelene. "She has that 'wow' factor," Mr Heath said of the cow.

KEY POINTS

JERSEY

- ✔ **Grand champion:** Brunchilli Sambo Priscilla, Brunchilli Jerseys, Finley, NSW
- ✔ **Junior champion:** Brunchilli Reagan Rose, Brunchilli Jerseys. **Res:** Hazel Vale Prime Maybelle-ET, Hazel Vale, Invergordon, Vic
- ✔ **Intermediate champion:** Riverside GG Noelene, Riverside Jerseys, Nirranda, Vic. **Res:** Green Pines Sovereign, Green Pines Jerseys, Nullawarre, Vic
- ✔ **Champion cow:** Brunchilli Sambo Priscilla, Brunchilli Jerseys. **Res:** Pasadena Comerica Olive, J Falls, Finley, NSW
- ✔ **Premier Breeder:** Brunchilli Jerseys
- ✔ **Premier Exhibitor:** Brunchilli Jerseys

Swiss Sashay sashed

THE headline act of this year's International Dairy Week Brown Swiss show was supreme exhibit Grasslands Aurum Sashay.

Sashay was part of team of six (including four milkers) shown by South Australian dairy farmers Noel and Jennifer Van Rijthoven, Mount Gambier.

The Van Rijthovens emulated their 2013 performance when they also took out the supreme exhibit.

The champion was taken from the aged cow class where she edged out Tandara Jolt Sarajevo 55, which was made reserve champion senior female.

Sarajeva 55 was shown by the Govett family's Tandara Brown Swiss, Dingee, Vic.

Brown Swiss judge, Dr Alfred Weidele, Germany, said the seven cows in the final judging for senior champion were "beautiful cows".

After making the choice of the best of the pair in the class, it was a clear decision when it came to grand champion, he said.

Dr Weidele said this was his first "work" visit to Australia and it had been a chance to see more of the dairyfarming side of the country.

He was "surprised" at the quality of the udders and frames of the aged cows in particular.

"They were big, strong and wide," he said.

The grand champion was 300 days in-milk but still had a top-quality udder, he said.

Mrs Van Rijthoven said the grand champion was from the family's 360-strong herd.

The cow was first in her class at IDW as a three-year-old.

The intermediate champion was another Govett family entry, Tandara Indiano Farina 172, and the reserve was Chapple Valley Edison Sherry shown by J Jennings, Chapple Vale, SA.

Brown Swiss judge Dr Alfred Weidele, Germany, with the team showing the supreme champion Brown Swiss exhibit including Nicky McLaren, breeder and owner Jennifer Van Rijthoven, Mount Gambier, South Australia, and her niece Georgia Rankin.

The Govetts also took home the junior champion heifer with an October 2011-drop dry heifer Tandara Denver Lunda 216.

Repeating their success from 2013, the Govetts were awarded the premier breeder and exhibitor double.

— ALASTAIR DOWIE

KEY POINTS

BROWN SWISS

- ✔ **Grand champion:** Grasslands Aurum Sashay, AH&JA Van Rijthoven, Mount Gambier, SA
- ✔ **Junior champion:** Tandara Denver Lunda 216, Tandara, Dingee, Vic. **Res:** Linderlan Surge Tess, Brown family, Katunga, Vic
- ✔ **Intermediate champion:** Tandara Indiano Farina 172, Tandara. **Res:** Chapple Valley Edison Sherry, J Jennings, Chapple Vale, Vic
- ✔ **Champion cow:** Grasslands Aurum Sashay, AH&JA Van Rijthoven. **Res:** Tandara Jolt Sarajevo 55, Tandara
- ✔ **Premier Breeder:** Tandara Brown Swiss
- ✔ **Premier Exhibitor:** Tandara Brown Swiss

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Heifer Youth Show
Junior Paraders
Junior Judges
Dairy BBQ from 7:00pm

Friday 28th March 2014:-
Interbreed Judging:- from 8:30am
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First time supreme for Ayrshire stud

By LOUISE PREECE

TODD Biffin had a feeling that his cow might do well in the Ayrshire judging at International Dairy Week, but he had no idea she would be bestowed with the grand champion exhibit. "She looked good and was doing about 40 litres before we brought her down," Mr Biffin said.

KEY POINTS

AYRSHIRE

- ✔ **Grand champion:** Woodburn Park Delilah, T Biffin, Cawdor, NSW
- ✔ **Junior champion:** Liddel Reality Skye, SN&RL Cole, Wagga Wagga, NSW. **Res:** Liddel Showstar Flora, SN & RL Cole, Wagga Wagga, NSW
- ✔ **Intermediate champion:** Midway Park Polkie Orange-ET, Araluen Park, Shady Creek. **Res:** Enterprise Ristourn Aara, M&L Hentschke, Glencoe, SA
- ✔ **Champion cow:** Woodburn Park Delilah, T Biffin. **Res:** Encore Pardner Didjago, G Bawden & R Burgmann, Warragul, Vic
- ✔ **Premier Breeder:** MI & JR Hyland, Pine Lodge, Vic
- ✔ **Premier Exhibitor:** MI & JR Hyland

The Biffin family, Woodburn Park, Cawdor, NSW, only selected two Ayrshire cows to bring to IDW, but one of them caught the judge's eye in the senior champion line-up.

Kevin Smith, Queensland, is an Ayrshire breeder himself, and told the crowd the Biffins' entry — Woodburn Park Delilah — was the type of cow he would like to breed.

"She's so open framed and correct," Mr Smith said.

Mr Biffin said the nine year-old was a good example of the breed's longevity.

"She hasn't been in the show ring since 2010, when she won senior champion exhibit at the Sydney Royal Show," he said. "But she is from one of the strongest cow family lines that we have."

The Biffins, who milk 100 cows, have been exhibiting at IDW for four years.

This is the first time they have won the grand champion broad-ribbon.

Mr Smith gave the intermediate title to Midway Park Polkie Orange-ET, which was exhibited by Araluen Park, Shady Creek, Vic. The heifer was also the winner of the three year-old in-milk class.

"These are all great representatives of the Ayrshire breed," Mr Smith said about the intermediate champion contenders.

Alex Walker, Inverloch, Vic, was showing Araluen Park's entry of behalf of the owners, the Day family.

Todd Biffin, Cawdor, NSW, with the grand champion Ayrshire cow, Woodburn Park Delilah.

She said the family prepared two Ayrshires for IDW.

The winning heifer had been originally bought at the Midway Park dispersal sale.

The junior champion broad-ribbon was taken out by Liddel Reality Skye, which was shown by another NSW competitor, the Cole family of Wagga Wagga, NSW.

Mr Smith praised the young heifer for her length and style.

Stewart Cole was excited by the win. "We've only ever got blue ribbons before, nothing better," he said.

The Coles also picked up reserve junior champion heifer for Liddel Showstar Flora. D

Coburns top in Illawarras

VICTORIA'S Western District-based Coburn family left with two of three broad ribbons from this year's International Dairy Week (IDW) Illawarra show at Tatura, Vic, in January.

In what was described by judge Keith Dorries, Oakey, Qld, as a tremendous line-up of the breed, the supreme exhibit was the Coburn family's Winganna Empire Handsome. Mr Dorries said he admired the aged cow greatly.

The 2007-drop, by Llandovery Jinnys Empire and out of Winganna Jerom Jean, also took out the *Australia Dairyfarmer*-sponsored award for best udder overall.

Trevor Coburn said the team of Illawarras that included the supreme champion was part of a 380-cow herd at The Sisters, near Mortlake, Vic, which he managed.

He said the aged cow, whose pet name is "the Kelvinator", was the intermediate champion at IDW in 2010 and was supreme all-breeds exhibit at the 2013 Noorat Show.

Illawarra judge Keith Dorries, Oakey, Qld, breeder Trevor Coburn and sponsor Jim Conroy, from Semex, with the grand champion Illawarra cow, Winganna Empire Handsome.

The family also bred and exhibited IDW's intermediate champion Illawarra, Winganna Viscount Flighty, by Llandovery Verbs Viscount and out of Winganna Harlequin Flighty. Flighty is owned by 11-year-old Kieran Coburn, who has looked after the cow since it was "a baby".

— ALASTAIR DOWIE

KEY POINTS

ILLAWARRA

- ✔ **Grand champion:** Winganna Empire Handsome, the Coburn family, The Sisters, Vic
- ✔ **Junior champion:** Kangawarra Stella 3863, T&K Cochrane, Pyree, NSW. **Res:** Cherrylock Malda's Pride, B&J Gavenlock, Berry, NSW
- ✔ **Intermediate champion:** Winganna Viscount Flighty, Coburn family. **Res:** Three Creeks Rosarian 4, JJ&BL Evans, Laceby, Vic
- ✔ **Champion cow:** Winganna Empire Handsome, Coburn family. **Res:** Lemon Grove Honeymoon 15, CR Chittick (Lemon Grove), Tongala, Vic
- ✔ **Premier Breeder:** Hayes Family, Girgarre, Vic
- ✔ **Premier Exhibitor:** Hayes Family

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USA December 2013 Proof

DTRS	HERDS	MILK	REL%	FAT	F%	PROT	P%	NM$	FM$	CM$	SCR	SCC	PL	CE	TPI	PTAT	REL%
8346	1643	1252	99	53	0.03	40	0.01	747	723	775	0.1	2.79	6.5	6	2249	1.53	99

MGD: De-Su 7012 - ET VG87

*RRP $40

DE-SU FREDDIE GALAXY

Sire: Sire: Badger-Bluff Fanny Freddie
Dam: **De-Su 8947 - ET GP84**
365D 37,780M 3.7% 1406F 3.0% 1123P (Lbs)
MGS: MGS: Ensenada Taboo Planet - ET
MGD: **MGD: De-Su 7012 - ET VG87**
365D 38,340M 3.1% 1197F 3.1% 1171F (Lbs)

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DTRS	HERDS	MILK	REL%	FAT	F%	PROT	P%	NM$	FM$	CM$	SCR	SCC	PL	CE	TPI	PTAT	REL%
0	0	1822	77	73	0.03	57	0.01	717	691	748	1.0	2.74	4.8	9	2313	2.69	76

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Gary Joyce, Macarthur, Vic, and Kevin Gass, Simpson, Vic, holding the 2014 grand champion IDW Guernsey exhibit, Florando SD Koala 7.

Ollie Abblitt with the Guernsey junior champion Brookleigh Jolie, owned by the Cleggett family, Glencoe, SA.

Once, twice, three times

By LOUISE PREECE

A GUERNSEY cow returned to International Dairy Week to win grand champion exhibit for the third time in a row.

In what was the breed's national feature show, a total of 87 entries paraded the ring for judge Blaine Crosser, who made the trip to Australia from the United States for the special occasion.

On the day, Mr Crosser admitted he could not go past the eight year-old cow — co-owned by the Joyce family of Macarthur and the Gass family of Simpson — for the top gong.

He said Florando SD Koala 7 had "so much" balance and strength — and carried herself well.

"She's a real beauty," Mr Crosser said, who also presented the cow with best udder award.

In the intermediate and junior champion line-ups, South Australian breeders, the Cleggetts, stole the show, winning both broad-ribbons.

Brookleigh Isa was awarded the junior title, with Mr Crosser praising her substance and width.

The Cleggetts' herd manager Ollie Abblitt said the young heifer's victory was a real surprise.

"We wouldn't have placed money on her winning," she said.

The intermediate title was given to the Cleggett's entry, Brookleigh Jolie. It was the 2.5 year-old's first outing at a show.

The Cleggetts, who manage a dairy farm at Glencoe, SA, prepared 12 head all up for IDW. D

KEY POINTS

GUERNSEY

- ✔ **Grand champion:** Florando SD Koala 7, Joyce & Gass families, Broadwater, Vic
- ✔ **Junior champion:** Brookleigh Isa, LF&JM Cleggett, Glencoe, SA. **Res:** Rockmar Phoenix Lavender, M&R Shea, Bacchus Marsh, Vic
- ✔ **Intermediate champion:** Brookleigh Jolie, LF&JM Cleggett. **Res:** Glenally Spc Clara, G&S Tivendale, Murchison, Vic
- ✔ **Champion cow:** Florando SD Koala 7, Joyce & Gass Families. **Res:** Brookleigh Dom, LF&JM Cleggett
- ✔ **Premier Breeder:** LF&JM Cleggett
- ✔ **Premier Exhibitor:** LF&JM Cleggett

Youth shines in IDW showring

By LOUISE PREECE

KEY POINTS

YOUTH SHOW

- ✔ 187 entries
- ✔ **Grand champion heifer:** Avonlea Crackholm Dorinda-IMP-ET, led by Meg Campbell, Blighty, NSW. **Res:** Carisma Sanchez Piper-ET, led by Emma Castle

YOUNG people took control of the show ring at International Dairy Week (IDW) in January, flaunting their best handling skills to the judges in the youth competitions.

IDW organisers were blessed with cooler temperatures compared with the previous week's stretch of hot weather, allowing the event to get off to a smooth start.

More than 180 entries were received for the All Breeds National Youth Show but it was a 17-year-old who rose to the top of the game to snare the grand champion heifer title in the youth show with a junior two-year-old from the Avonlea stud, Cardinia, Vic.

Meg Campbell, Blighty, NSW, was startled by the victory but said she had known Avonlea Crackholm Dorinda-IMP-ET would be competitive on the day.

Meg Campbell, Blighty, NSW, with the All Breeds National Youth Show grand champion heifer Avonlea Crackholm Dorinda. The 17-year-old also won the senior champion in milk heifer title as senior leader with the heifer.

The entry had previously been shown at the Royal Melbourne Show in 2013, placing second in its class.

Miss Campbell said she had participated in the youth show four times altogether but had never done so well before.

"I went to Finley High School and really got into showing cattle there," she said.

The teenager has now finished school and plans to complete a Certificate II in Agriculture on a mixed livestock farm in NSW.

The reserve grand champion heifer title was awarded to Carisma Sanchez Piper-ET, led by Emma Castles. Brady Hore, Leitchville, Vic, also tasted success, with Woodlawn Fever Ashlyn 4699, securing the senior champion in milk heifer title in the junior category.

Pat Nicholson, Jugiong Jerseys, Girgarre, Vic, was the judge. D

Clean sweep for dairy girls

STIFF competition emerged in the youth showmanship classes at International Dairy Week, but Courtney Baird put forward her best effort to come out on top. The 20-year-old from Nowra, NSW, said it was her third time competing in the event.

Matt Templeton, Gippsland, judged the line-up and presented Ms Baird with the senior champion handler gong. "I've never even placed before," she said.

On the day, Ms Baird led a Jersey heifer around the ring from the Gavenlocks' stud, Berry, NSW. She said Brad and Jess Gavenlock had been great mentors in and out of the showring and had inspired her to take up the hobby.

At the moment, the keen youngster works on a 1500-cow dairy farm at Nowra and is completing a Certificate IV in dairy management.

Sophie Louden smiles with her intermediate champion handler trophy in the showmanship classes.

"I'm not actually from a farming background at all," Ms Baird said.

An educational platform offering cattle showing at Eldersley High School fuelled her passion.

"I worked on a small Jersey stud in Year 11 too," she said.

"I like farming but it's the showing side of the industry that keeps me interested."

Her ultimate goal is to land a job on a stud dairy farm.

In the intermediate class, Sophie Louden, Modella, Vic, secured the top spot.

The 16-year-old is a keen breeder and has her own stud, Arrowlea Holsteins. She led Murribrook Dundee Pam around the ring while Mr Templeton told the crowd that Ms Louden was the "most natural" in the contest.

But it wasn't always like that, she said. "The first time I went in the competition, I went through the fence," she said. The teenager holds a particular penchant for the dairy industry and is hoping to study dairy science in the US.

In the junior showmanship class, Kaitlyn Wishart, Cohuna, Vic, was singled out for the trophy.

—— LOUISE PREECE

Linton and Lisa Broad, Lockington, Vic, their children, Gavin, Toni, and Cassie with the lot 9, they paid the second top-price of $8,400 at IDW Jersey sale. Photo by WAYNE JENKINS

Top-priced Jersey sale, IDW 2014, with Brian Leslie, DLS, buyers Jake Fisher, Bec Joyce, Shepparton, Vic, Andy Neil and Brock Neil, Simpson, Vic, Shanae Fisher, Simpson, Vic, and handler Ellie Hourigan, Milawa, Vic, holding lot 13 that sold for $9200. Photo by WAYNE JENKINS

Lot 10, which sold at IDW 2014 to B&J Dickson, Terang, Vic, for $11,500, with Brian Leslie, and Scott Lord, DLS and handler, Ashley Bradley, Shepparton, Vic. Photo by WAYNE JENKINS

Semex sale to $12,000 top

By LOUISE PREECE

DAIRY cow prices failed to reach the highs of last year's cattle sales at International Dairy Week at Tatura, Vic, in January but some notable averages were still paid across the board.

Nirranda South, Vic, dairyfarmer Peter Fullerton shelled out $12,000 for the top-price Holstein in the IDW Semex sale.

Nine month-old heifer, Gorbro Uno Tiffany-ET, was sold by the Gordon family of northern Victoria.

Her dam, Orchard Vale Informer Tiffany-ET — who was the 2010 North West Cow of the Year — has nine daughters in three different herds with an average production index of 126.

Overall, the Semex sale saw 30 lots average $6823, which auctioneer Brian Leslie described as a success.

The Jersey Showcase Sale saw 19 lots reach $9200 and average $4735.

Auctioneer Brian Leslie, vendor Glen Gordon, Cohuna, Vic, with Brian Haebich, DLS, Tailem Bend, SA, who purchased lot 2 at the Semex sale for $12,000, account Peter Fullerton, Nirranda, Vic, and handler Roxanne Montplaisio. Photo by WAYNE JENKINS

Brock Neal, 19, and his father Andrew, Simpson, Vic, bought the top-priced heifer, Waterloo Farms Dare to Dream, from Quality Ridge, Arcadia, Vic. Brock said it was the first heifer he'd purchased.

"I'm hoping to get into showing cattle," he said.

Other highlights saw the Guernsey sale top at $5000 and average $4016, while the Ayrshire sale made to $4000 and averaged $2818.

The Brown Swiss sale resulted in some lots being passed in, but a top of $6000 was achieved across seven lots, with an average $3071.

There was no Genetics Australia sale held this year, but last year's sale posted a high of $17,300.

Genetics Australia's proven Aussie Reds

There has never been a better time to use the best of the Australian proven Aussie Red bulls. With the cooperation of a number of progressive Australian Breeders and progeny test members we have the strongest team of bulls ever available. All four bulls featured below warrant a place in any breeding program and all rank in the top 5 Australian bulls available with complete proofs. If red is your passion or crossbreeding is your breeding goal you cannot go past these top Australian proven bulls, designed and proven for Australian farming systems and conditions.

ARBBONJOVI

Orraryd x Torp 882

APR	187
	Rel 84%
OVERALL TYPE	111
MAMMARY SYSTEM	105
	Rel 71%

ARBBONJOVI is the highest rated Australian red bull available. In addition he continues to be Genetics Australia's most popular red sire. A lift to fat test of +0.37% and protein test of +0.21% as well as his equally impressive Overall Type ABV of 111 are no doubt good reasons for his popularity.

ARBLEX *Orraryd x Christiansborg*

APR	140
	Rel 82%
OVERALL TYPE	118
MAMMARY SYSTEM	109
	Rel 59%

ARBLEX is a top all round sire. With a combination of 140 APR, 118 Overall Type, 109 Mammary System and 106 Survival, he stands out as a must use bull. He offers a well balanced production proof and positive ratings for virtually all the mammary traits. Stand outs include fore attachment, front teat placement, udder depth and centre ligament.

ARBLIPPMAN

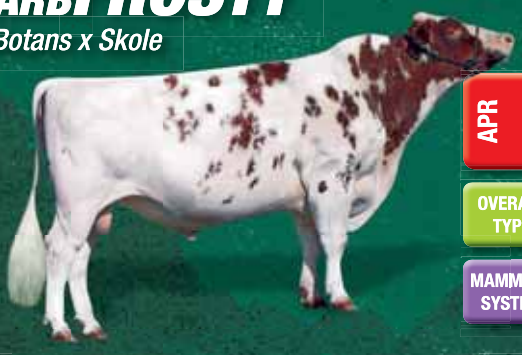
Tmoberg x Stensjo

APR	160
	Rel 80%
OVERALL TYPE	108
MAMMARY SYSTEM	109
	Rel 51%

ARBLIPPMANs proof has continued to improve. He offers significant improvement in the production of Protein, Milk and Fat. In addition he has high ratings for improving type, cell counts and survival. ARBLIPPMAN continues to be a high demand sire. He comes from the famous PRIMULA cow family at Bosgowan. His MGD – Primula 203 EX was the dam of ARBLAWRENCE.

ARBFROSTY

Botans x Skole



APR	143
	Rel 76%
OVERALL TYPE	104
MAMMARY SYSTEM	106
	Rel 62%

ARBFROSTY has a top proof for improving virtually all traits of the mammary system. Standouts include high ratings for front teat placement, fore attachment, centre ligament and udder depth. In addition he is in the top group for improving workability traits, receiving high ratings for milking speed, temperament and farmer likeability.

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Genetics AUSTRALIA

Infertility: one outcome with many causes

By LOUISE PREECE

KEY POINTS

INFERTILITY INCREASE

- ✔ Dairy fertility rates deteriorating
- ✔ Case-by-case diagnosis necessary
- ✔ Feed one of many possible causes

DETERIORATING fertility rates continue to plague Australian dairyfarmers. Ridley AgriProducts' dairy services manager Andre Nel says this is the number one farm issue concerning the industry.

In fact, the 2011 InCalf Fertility Data Project, which was based on a detailed analysis of 74 Australian herds with good reproductive data in 2000-09, revealed the typical six-week in-calf rate in Australia had dropped to about 50% by 2009.

Alarmingly, the data showed the typical first service conception rate of cows in the study had fallen to 38% by that year.

Mr Nel, who spoke about infertility at an International Dairy Week seminar, advised dairyfarmers to pinpoint the cause of infertility in their herds rather than adopt a broad line of attack against the problem.

He said poor nutrition was often identified as a cause of infertility but this differed from herd to herd.

"There is no silver bullet to the problem," he said. "But the important thing to do is get an accurate diagnosis. You need to know the parameters your herd should be meeting and address the most limiting factor first."

He said poor reproduction led to lost milk revenue, which should be an incentive to improve fertility. "If you have a seasonal-calving herd and the cow calves late, you've lost out on that milk," Mr Nel said. "It is a significant impact."

He said poor reproduction also resulted in increased breeding costs. "Most people spend $20 a day on semen, drugs to make the cow go on heat and possibly a heat detection device," he said. "And you are also slowing down genetic progress; you have to keep on getting better to stay viable.

"If you can't get cows in calf, you fall behind."

In terms of the causes of infertility, Mr Nel said some people blamed bad breeding.

"Breeding is related but is not necessarily the cause of poor fertility," he said. "Interestingly, heifer fertility has not declined significantly over time."

He said good management helped alleviate the problem. "You have to spend money in the right places," Mr Nel said.

He said investing in quality semen handling, avoiding inbreeding and using heat detection were all good practices. "You also need to keep an eye on the health of cows because there can be a lot of carry-over problems from calving which then transfer on to conception," he said. "Cows that are losing weight also affect conception."

He listed the environment as a cause too. "This is something you can avoid," he said.

"Keep cows cool and in the shade — and avoid putting any stress on them."

In terms on nutrition, he said, conception was reliant on a cascade of hormonal activity.

"Severe energy deficiency can lead to anoestrus while a positive energy balance will improve conception," Mr Nel said.

He said farmers should consider talking to a nutritionist to identify the best energy sources for dairy cows.

Andre Nel says farmers need to isolate the cause of infertility in their dairy herds.

Vitamins and minerals also played a role as co-factors in the production and function of hormones. Farmers needed to look out for anti-nutritional causes as well, he said. "Moulds and fungus in silage can reduce conception rates while a high mineral level in water can cause imbalances," Mr Nel said.

He said it was vital farmers identified the cause of impaired reproductive performance so they could "apply a silver bullet over a shotgun approach".

Huge gains in sexed semen technology

By LOUISE PREECE

KEY POINTS

SEXED SEMEN

- ✔ Big advances in recent years
- ✔ Fertility now 92% of conventional
- ✔ Prices falling

SEXED semen has had a slow uptake on Australian dairies, largely due to its effectiveness and cost. But that is about to change, according to Dan Carroll, who works with the American-based breeding company, Sexing Technologies.

Although sexed semen experienced low fertility rates when it was first developed and used in the 1980s up until 2000, Mr Carroll said the past few years had seen some huge changes.

"Basically what has transpired in the past two to three years is an acceleration of technology that has not been witnessed before," he said. "This has increased the value for the end user dramatically."

While sex-sorted semen was first able to be frozen in 1999, Mr Carroll said they were still not able to get the volume of sperm through the system at the time.

From 1995 to 2000, 1000 cells could be processed per second, which had 85% purity and 80% of the fertility of conventional semen. This compared to 200-400 cells per second in the early 1990s, when the pregnancy rate was 70% of conventional semen.

From 2002 up until 2012, Mr Carroll said the technology improved so they could sort 5000 cells per second, but it was still 80% of the fertility of conventional semen and 85% purity.

Last year, some big gains were made. About 18,000-20,000 cells could be processed per second, while purity had lifted to 93% and fertility to 92% of conventional. "In 2014, we could get 97-100% fertility," he said.

The other push in sexed semen now was fresh sorted semen. "This will be an incredible game changer," Mr Carroll said. "There is no doubt that fresh sorted sex semen will surpass frozen conventional."

In addition, up to 60,000 cells will be able to be sorted this year, with that figure jumping up to 140,000 by 2015.

He said that genomics also expanded the genetic range. "We can now make sexed semen available on the best genetics; there's a wider range of animals to choose from," he said.

And with more semen being sorted, this had an impact on price. "We've got more volume going through, so this is helping with the cost," Mr Carroll said.

"In Australia, we are going to see sexed semen challenge the cost of conventional semen."

Although some dairy farms have trialled sexed semen on their herds to see the results, it is a different story in the US.

Up to 65% of American dairy farms utilise the technology and that number continued to grow, he said.

Apart from the fact that improved sexed semen technology will improve animal welfare due to less bobby calves being born, productivity will also lift with the prospect of more heifer calves.

Another incentive for Australian dairyfarmers to jump on the sexed semen bandwagon was the increasing demand for live export heifers to China and other Asian countries.

Mr Carroll said Sexing Technologies had sent 70,000 export heifers to Turkey and Russia in the past three years. D

Centenary for Aussie Holsteins

LET the celebrations begin. The cutting of a cake kicked off the official launch of a year of events to celebrate the 100th anniversary of Holstein Australia.

Launching the celebrations at International Dairy Week, Holstein Australia president Ron Chittick said the organisation had gone from strength-to-strength since it was formed in Toowoomba, Queelsland, in 1914.

He said it was fitting that the celebrations be launched at Australia's most respected dairy show.

The breed owed thanks to the founding members — people who had put endless hours into the breed, he said. He also thanked past and present office staff for their contributions during the years.

Mr Chittick said each sub branch of HA would also be asked to nominate a person to receive a centenary medallion for their contribution to the breed.

IDW director Brian Leslie said he was "born into a Holstein family" and the breed had "taken him around the world" and allowed him to meet a lot of people.

The centenary will include:

March: South Gippsland Sub Branch centenary sale.

April 27: Darling Downs Centenary Event, Toowoomba, Qld.

July 2: Victorian branch Centenary Dinner, Bendigo, Vic.

July 3: Holstein Australia Centenary Sale, Bendigo, Vic.

July 3: North West Victorian Branch Centenary Show.

July 29: NSW State Centenary Winter Show and dinner, Hunter Valley.

August 10: Queensland Branch celebration during Ekka week.

October 5-6: National Dairy Youth Conference (all breeds), Toowoomba.

October 7: HA Centenary book launch, Toowoomba.

October 8: Centenary Gala Black Tie dinner, Toowoomba.

—— ALASTAIR DOWIE

Cutting the Centenary cake to launch the Holstein Australia 100th anniversary were Lowis White, Luccombe Holstein stud, Finley, NSW, and Henry Bevan, Bevandale, Ravenshoe, Queensland. The Bevan family celebrated 100 years of dairyfarming at Ravenshoe in 2010.

David Altmann with one of his high-producing heifers.

New applications in heat detection

KEY POINTS

DETECTING HEAT

- ✔ New software and tag for monitoring
- ✔ Able to track activity 24 hours a day
- ✔ Also useful alert for illness

NEW award-winning components in heat-detection software Heatime are expected to be gamechangers for Australian and New Zealand dairyfarmers.

The changes were outlined at a seminar held during International Dairy Week where participants heard from the farmer who first used the system in Australia.

The Heatime program was initially designed for heat detection, based only on activity-monitoring technology.

The SCR Heatime HR LD tag worn by cows (that operates wirelessly by radio frequency) now also contains a motion sensor, a microprocessor, memory and a specially tuned microphone that together detect the cow's activity and rumination in real time 24 hours a day (without it having to be at the dairy).

Semex Australia's product manager for the Heatime technology, Vaughn Johnston, said it was so precise it was capable of picking up even relatively weak signs of activity during a cow's heat and/or illness.

Mr Johnston said rumination (monitoring cud chewing) was also now part of the technology, moving Heatime into exclusive territory, and he quoted health monitoring research showing that rumination was the leading sign of a healthy cow.

Rumination and activity have a direct correlation to heat detection and/or an early onset of illness in an individual or a group. Both are also indicators for calving, and Mr Johnston said they were almost at the stage where the technology would be able to alert dairyfarmers when a cow was having a stressful calving. ▶

New technology with Heatime has amplified the information available. The program, initially designed for heat detection and based solely on activity monitoring, now also monitors rumination (the number of minutes per day a cow chews its cud), and its latest wireless application Heatime HR-LD allows the information to be sent to the farmer regularly during the day. Photo: Semex Alliance.

◄Average days open falls

David and Karen Altmann's South Australian operation, Blackwood Park, was Australia's first to install the software in 2010. The couple achieves an 11,000-litre average on 500 cows (470 in-milk year-round) milking three times a day at Murray Bridge, SA.

Their higher production had translated into shorter heats, and even though they did not join before their cows had been milking for at least 50 days, heat detection had become an issue.

Their two-year-old heifers, in particular, were producing 94% of the herd's mature-aged cows' production and had been the most challenging to catch cycling.

Mr Altmann said: "This works on the motion of the neck muscle behind the cow's ears and I was convinced that finally something had come out that was going to be really accurate.

"One of the biggest bugbears for me if I went away — and I don't go away that much — was heat detection. You might have a cluster of cows on heat and three or four obvious cows standing and you might have another three or four milling around. You're not always sure if they're on or not.

"We milk three times a day on a total mixed ration (TMR) system and we're around these cows all the time, yet we were still missing heats."

Before they took on Heatime, their average days open was more than 158 days. After the first year it dropped to 131, in the second it fell to 118 days open and in its third year it dropped to 78 days.

Mr Johnston said, "It's always a challenge to get cows that milk 11,000 litres in 305 days in calf, and if you can do it without large doses of hormones or synchronisation, it's a great thing.

"Because the Altmanns get lots of milk, they hadn't been that hard on cows that didn't get in calf because they could milk them through.

"But as they have come to know the system and have been able to accurately intensify their fertility program, they have reduced the days open significantly. The system has paid for itself within three years."

Mr Johnston confirmed that reducing days open was where the money was: every day saved about $3.40. In the Altmanns' second to third year, reducing the days open by 39.9 days on 311 cows equated to a saving of $42,190 in just 12 months.

"They went from dealing with 35-40 cows a month that were becoming problem cows to just five or six, because they were getting the right information from the system and AI-ing the right cows at the right time," he said.

Conception rate increases

Michele and Lawrie Golder milk 200 cows at Jervois, SA. They became Heatime customers after going to a field-day at the Altmanns' farm. Their respect for Mr Altmann's opinion sold them.

"I wasn't specifically looking to take it on, but we do employ several people and it intrigued me," Mrs Golder said. "I guess when you have employees, even though they do a

good job, if they are tired, watching cows for heat detection is easy to ignore."

She said Heatime had taken the workload and the guesswork out of heat detection for their operation. The Golders' pregnancy rate after the first insemination lifted from 49% to 66%.

"I don't take lots of numbers out of the percentages, but there have been quiet heats where the reading is not really high but it's enough to trigger you," she said.

"It's good if a cow doesn't have a long heat and if she cycles overnight it would be easy to miss completely. It's great to be able to track them. The most positive thing for me has been taking the guesswork out of it.

"It also picks up cows that are not well because it shows they have low activity and we do note it on the board. They might not show what it is until the next day, but the next day she may well have mastitis. We check them out and if there is heat in their udder we get on top of it early."

Rumination monitoring a powerful tool

Mr Johnston said the new advances would offer some exciting options and powerful information that could change the game for Australian dairyfarmers with an eye on every dollar.

He said he had been impressed with early results of the addition of rumination monitoring to the program.

"A healthy cow will ruminate over 500 minutes a day," Mr Johnston said." Extreme cows could push that number out to 700. But cows struggling with ketosis would hover around 400-450 and a cow that is calving would drop to 100

"The first 60 days of a cow's lactation is crucial in setting up her lactation curve.

"With rumination information, cows can be identified early in their illness and barely compromise their peak production. But, as we all know, once a cow is clinically sick, it is nearly impossible to recover her peak production.

"Rumination is also fantastic for nutritional purposes within the herd because it also has the ability and range to analyse groups of animals, so if you were to change a TMR ration or even got a new load of grain, within 12 hours you could see whether or not the change was effective. It's great information and Heatime is the only program to get that done."

WDE product innovation award

The highly proven heat-detection program Heatime HR-LD, sold by Semex as ai24, was a top-10 winner in the World Dairy Expo Management Innovation Awards.

Article courtesy of Semex, phone 0408 304 526, email <Vaughn Johnston@semex.com.au>, website <www.semex.com.au>, and of CrazyCow In Print.

Michele and Lawrie Golder say the most positive thing about Heatime is taking the guesswork out of joining.

Genomics reduces risk, increases choice

By ALASTAIR DOWIE

KEY POINTS

GENOMICS

- ✔ Reduce risk in breeding
- ✔ Aus sires marketed overseas
- ✔ Allows selection between siblings

AUSTRALIAN dairyfarmers, and their international counterparts, are taking advantage of faster access to a wider range of genetics since the establishment of GenerVations Australia in April last year. GenerVations Australia owner, Peter Semmens, said the local business was the Australian distribution agency for Canada based GenerVations Incorporated.

Mr Semmens said that when the business started in April there were six bulls being marketed — that figure was now 50.

He said of those bulls available in Australia 80% were genomic bulls.

GenerVations Australia conducted a seminar during International Dairy Week to inform Australian dairyfarmers about the benefits of genomics.

GenerVations chief executive Dave Eastman told the seminar that the use of genomics was all about reducing risk. "Genomics is one more tool to work with as a way of eliminating more risks, sooner," he said.

He said selection was based on "sire stack" (multiple generations of high ranking bulls), high production and index and high classification cows — "great cow families".

The advantage of using genomics was that it allowed selection among a group of full siblings for desirable traits. It also enabled the elimination of bulls that were not worth sampling.

Importantly it identified superior individuals anywhere in the world, he said.

Mr Eastman said an example was Coomboona Atwood Elijah, a sire bred and tested in Australia, and another local sire, Budgeree Loaded. Mr Semmens said semen from the two bulls was now being marketed in Canada, the US and the European Union.

Speakers at a GenerVations Australia seminar were Len Vis, Mapel Wood Farms, Ontario, Canada; GenerVations Inc chief executive officer Dave Eastman, Ontario, Canada; GenerVations Australia owner Peter Semmens and Sean O'Connor, O'Connor Land and Cattle Co, Ontario,Canada.

In terms of heifers, three Australian heifers ranking highly for Canadian Genomic Parent Average (GPA) Lifetime Profit Index (LPI) — Calister Super Lila, Coomboona Lexor Boltana and Coomboona Lexor Kyana — had been identified.

All three females resulted from embryos bought from females owned by GMO (a partnership of GenerVations, Mapel Wood Farms and O'Connor Land and Cattle Co) partners and were sired by Coomboona bulls.

Mr Eastman said breeding for bulls was different to breeding for cows. "You have to take more risks for bulls," he said.

Artificial breeding decisions needed to take more risks for extreme matings in breeding for bulls compared with herd replacements.

In dollar value terms of semen sold, the ratio had reversed from 65% proven and 35% genomic in the period between January and June, 2012 to 65% genomic and 35% proven in January to June, 2013.

"Now we are using 90% genomic bulls as sires of sons," he said.

Dairyfarmers wanting to take advantage of genomics could start with testing their own females, invest in cow families that consistently transmitted above average genetics and spread their risk with different sires.

Mr Eastman said GenerVations-Canada progeny tested 20 to 25 bulls each year. He said the company worked with more and more heifers each year and that had provided it with a good starting point. D

New preg test lifts profit

By JESSICA HAYES

KEY POINTS

PREGNANCY TESTING

- ✔ Key driver of performance
- ✔ North American success
- ✔ Herd recording vital

TIMING is everything, especially in dairyfarming. Pregnancy is considered a key driver of performance in dairy and improved calving rates often equate to greater profitability.

As margins continue to tighten for many Western Australian dairyfarmers, the timing of pregnancy has become even more paramount.

For Boyanup, WA, dairyfarmers Mal and Ray Kitchen, identifying empty cows at the earliest possible opportunity after breeding is allowing them to get cows back into calf more efficiently.

Since September 2013, the Kitchen brothers have used the IDEXX Milk Pregnancy Test, which allows dairy and beef farmers to test pregnancy status through milk or blood samples and confirms pregnancy status at 35 days post-breeding.

Ray Kitchen said herd testing had been an important part of their operation for decades, but the new technology was a valuable add-on and provided him with important information for improving reproductive efficiency within their 400-cow herd.

Farmwest introduced the test at its annual Discovery Day in September 2013, and according to Farmwest principal Rod Brasher, it was becoming increasingly important for producers to know pregnancy status as early as possible because empty cows cost farmers money.

Boyanup, WA, farmer Ray Kitchen and his brother Mal have used the IDEXX Milk Pregnancy Test since September.

"The more farmers know about those empty cows and the more consulting they do with the vet, the quicker they will get them in calf," Mr Brasher said.

The system won the Dairy Herd Management's first People's Choice award and an Innovation Award at the world's largest dairy trade show held in Wisconsin, US, in October last year.

And its success has seen it take off across North America and Europe.

Although the system is new on-farm, the Kitchens have already completed three lots of testing through milk sampling. ▶

◄ "Instead of the vet pregnancy testing at six weeks, this test can be done at 35 days which is a big advantage," Ray said.

"I think every year you have to be working as efficiently as you can and this is just another add-on to the benefit of herd recording."

The Kitchens' calving program begins in late January and ends in early October.

"We have quite an extended mating period where we are trying get cows back into calf as quick as possible," he said.

"We are starting to breed cows at about seven weeks after calving onwards. If you are trying to mate them too much earlier your chances of conception decline. Delaying the start of calving will provide a better pregnancy conception rate, but obviously you are extending your calving interval as well.

"Most of the time we are working on a 50% conception rate for each service we use — that includes heifers right through to the older cows."

Mr Kitchen said the pregnancy test meant fewer cows had to be yarded for pregnancy diagnosis.

"Cows identified as empty have tail paint or a breeding patch stuck to the their rump and we focus on these cows by watching for signs of heat and then re-breeding them," he said.

"We have been using our rotary for our pregnancy checking with a vet.

"Before we had the rotary dairy we used a cattle crush, but that was time consuming and handling the cows during the day wasn't ideal.

"I'm sure they prefer to be out grazing and making milk."

Based on test results, Mr Kitchen said he then selected those individual cows he wanted to be diagnosed for pregnancy.

"We have had three lots of pregnancy sampling done and at the moment we are getting the information through text message," he said.

"Farmwest bring the meters around for milk sampling. They collect the samples take them to the laboratory and test for milk volume, fat and protein components, somatic cell count and from that you get a lactation history of the cow and an index of where that cow ranks within the herd.

"You know which are your better performing cows."

Mr Kitchen said the herd recording information allowed farmers to select those cows suitable to breed the next generation.

"You'll also know which ones you want to cull out of the herd sooner as they are less profitable because they have low production or high somatic cell counts," he said.

"You are also cost saving because you can use that information to adjust your feed rations and target the high production cows.

"That information also goes to a national central database where breeding values on bulls and calves are generated." D

Improving reproductive performance

"WOULDN'T you like to have a heap of cows that milk a lot, are no trouble and get back in calf?" This key goal was stated by a dairyfarming couple I visited recently and said with feeling because until recently, only 60 replacements were reared each season from their 420-cow Holstein herd.

Additionally, one in four cows on average had calving difficulties. Stuck in a vicious cycle, too few replacements meant they couldn't cull effectively, hampering their efforts to manage milk quality.

With three joining periods a year, calving and joining work was required all year round.

Furthermore, a lot of milking cows were stale, which was not very satisfying and not helping the cell count situation.

However, with a few strategic changes, this couple has managed to turn things around and are just starting to see the full benefits of their herd's improved reproductive performance.

They are proud of the venture's six week in-calf rate, which increased from 42% in 2010 to 56% in 2012 and it continues to improve.

So what did they do differently?

It's important to note that this was (and still is) a well-managed farm.

Cows were being well-fed and calved down in ideal conditions. Health management already included appropriate vaccinations and drenching. A transition feeding program was in place and a good reliable artificial insemination technician used.

What made the difference to their reproductive performance was the use of 'calving ease' bulls chosen from the *Good Bulls Guide* plus working with their vets to ensure cows were cycling and ready for insemination.

Perhaps, most importantly was their desire to change — they sought help from their vet, kept good records to work out where to focus their efforts and tracked their progress.

As a direct result of these efforts, more calves were born without assistance improving the outcomes for both cow and calf.

Calves thrive better and are healthier, and cows take less time to start cycling after calving.

The first round of daughters from 'calving ease' bulls is calving now and already conception rates have noticeably improved.

They use relatively few bulls now, so have large groups of daughters from each sire and recognise that daughters of high 'calving ease' bulls have better conception rates.

Previously, any cow that looked sick after calving was vet checked. Now any cow that has not had a normal calving is checked, regardless of whether it looks sick or not.

A key finding from this practice is that nine out of 10 cows examined actually do need treatment.

Quiet heats appear to be the key problem with these cows, so the vets have designed a 'fixed me' AI synchronisation program that does not rely on natural heat detection. Heifers are also synchronised and inseminated with sexed semen.

Still a work in progress, this dairy farming couple's hope is that their summer calving will be discontinued and there will be less reliance on synchronisation.

They are experimenting with crossbreeding, using Swedish Reds to introduce some hybrid vigour for improved body frame and milk production.

But for now, herd test averages have increased because they are not milking so many stale cows.

An added bonus they confess is: "It's more fun milking cows when they are milking well." Why tell this particular story? To me, what this story shows is that even when a farm is stuck in the vicious cycle of poor reproductive performance, there is a way out.

Even though it can take four to five years to realise the 'full' benefits of change, dramatic improvements can be seen even in the short-term.

Farmers don't have to change everything at once — just a few focused changes might be all that is needed to get back on track.

For more information speak to a local vet or contact Sarah Chaplin, phone (03) 5833 5273 or email <sarah.chaplin@depi.vic.gov.au>

—— SARAH CHAPLIN, Victorian Department of Environment and Primary Industries, Tatura, Vic

Article courtesy of Mountain Milk Line

Equipment on show at Sungold Field Days

By PETER ROACH

Upper Murray Seeds was represented at the Sungold Field Days by Ash Batten and Chris Harkness. The company's new Aber range of High Sugar grasses was on display. Dairyfarmers had the opportunity of winning a free bag of Aber High Sugar Ryegrass. Contact: Chris Harkness, phone 0428 406 464, or Ash Batten, phone 0427 406 464.

Wilson Hot Water was attending with its range of dairy hot water heaters and solar hot water systems. National sales manager Roger Barr was on hand to demonstrate the modern evacuated tube collectors and heat pipe technology. Contact: Wilson Hot Water, phone (03) 9720 2888 or Roger Barr, phone 0415 301 372.

Milka-Ware Australia was demonstrating its range of Larsen stall gates and total dairy systems. Milka-Ware is the only authorised Larsen Stalling Builder. Greg Kinross demonstrates the new pneumatic stall gates that use compressed air instead of the traditional vacuum lifting system. Contact: Greg Kinross, phone 0437 375 912 or email <sales@milka-ware.com.au>.

DMS Afimilk launched its Afiact II at the field days. DMS Afimilk's Clint Brereton holds one of the new AfiTag II pedometers that attaches to the cow's leg for measurement of activity. Contact: Clint Brereton, phone 0409 971 161.

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The Australian Dairyfarmer

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LEFT: John Pritchard from Highfield Industries was demonstrating the SurePave solution to problems with high use areas around dairy laneways, races and troughs. It's fast, easy installation can help reduce lameness and helps with cow flow. Contact: John Pritchard, phone 1800 339 922 or 0419 227 427.

This old blast from the past was an Alfa Laval separator. It was part of a display of old milking machinery and advertising signs in the AJ Rea Marquee.

RIGHT: Mick Handley from Goulburn Valley Safety Grooving was attending Sungold demonstrating his safety grooving for dairy yards. Mr Handley has more than 30 years experience and says when it comes to protecting dairy cows, it's simple to "get it professionally done". Contact: Mick Handley, phone 0418 575 615.

March 3-4:	**IDF Symposium on Microstructure of Dairy Products**
Melbourne:	**Latest information from world's leading experts in science and technology**
Contact:	Website: <http://dairyscienceconf.com/>
March 6-7:	**IDF Symposium on Science and Technology of Fermented Milk**
Melbourne:	**Latest information from world's leading experts in science and technology**
Contact:	Website: <http://dairyscienceconf.com/>
March 12:	**DairySA Central Dairy Conference 2014**
Adelaide Hills:	**Topics include Horizon 2020, genomics, robotics, dairy systems**
Contact:	Penny Schulz, mobile 0417 853 094, email <penny@dairysa.com.au>
March 26-27:	**United Dairyfarmers of Victoria Conference 2014**
Melbourne:	**Conference for Victorian dairy industry**
Contact:	Phone 1300 882 833, website <www.vff.org.au>, email <glivery@vff.org.au>
March 27:	**Tasmanian Dairy Conference and awards dinner**
Burnie, Tas:	**Range of speakers from NZ and Australia**
Contact:	Dairy Tas, phone(03) 6432 2233, email<tasdairy@bigpond.com>
March 27-30:	**Farm World Field Days**
Warragul, Vic	**Australia's premier mixed farming field days**
Contact:	Phone (03) 5626 1373, email <office@lardnerpark.com.au>
April 7-9:	**Dairyland Hoof Care Institute Inc. Regional Hoof Trimming Course Workshop**
Bringelly, NSW:	**Comprehensive three-day hoof care course with Karl Burgi**
Contact:	Comfort Hoof Care Australia, phone (02) 4773 4291, fax (02) 4773 4104 Website: <www.comforthoofcare.com.au>, email <info@comforthoofcare.com.au>
April 10-12:	**Dairyland Hoof Care Institute Inc. Regional Hoof Trimming Course Workshop**
Bringelly, NSW:	**Comprehensive three-day hoof care course with Karl Burgi**
Contact:	Comfort Hoof Care Australia, phone (02) 4773 4291, fax (02) 4773 4104. Website: <www.comforthoofcare.com.au>, email <info@comforthoofcare.com.au>
April 10-23:	**Sydney Royal Easter Show**
Homebush, NSW:	**Main dairy show event in NSW**
Contact:	Phone (02) 9704 1111, fax (02) 9704 1122, email <enquiries@rasnsw.com.au>,

Diary dates **To have dates for a major event included in the diary, send information to Carlene and Alastair Dowie. Phone/fax (03) 5464 1542, email <carlene.dowie@fairfaxmedia.com.au>.**

When resistance runs low

By
ROD IRWIN*

IN the previous issue of *The Australian Dairyfarmer* I started to look at some of the many factors that cause outbreaks of infectious disease.

As I said, infection is brought into sharp focus when large numbers of individuals — such as dairy cows, heifers or calves — are affected by infection, and loss of performance, production, animals and genetics occurs. Coupled with these losses are the financial costs and stresses on farmers and workers. Outbreaks are a real worry.

In that article we looked at the overwhelming number of viruses, bacteria or parasites that can cause disease outbreaks. Cattle are used to contacting low levels of infection from their herd mates or wildlife as they go about their daily lives.

Indeed, low levels of infection result in a healthy immunity, but high levels of infection overwhelm an individual's immunity and a disease outbreak can result.

However, outbreaks of disease can also occur when the number of viruses, bacteria or parasites is at a "normal" level — a level that would not ordinarily cause disease. This occurs when the resistance of a whole group of animals to infection falls below a critical level.

Humans and cattle live and cohabit in a world teeming with bacteria, viruses and parasites. We are usually totally unaware of them.

This is because evolution has given us a wonderful set of defences that enable this miraculous cohabitation. Our skin and the mucous membranes of our gums, nose, eyes and gut are barriers that prevent invasion. Should this outer lining be breached, white blood cells and antibodies in the bloodstream provide a further layer of defence against infection.

And in the special case of vulnerable newborns, colostrum provides a concentrated dose of antibodies from their mothers. These antibodies are made by the mother specifically against infection found in the environment into which the newborn will be born. Pretty amazing!

So how does the resistance of a whole group of animals fall below critical levels, giving rise to an outbreak of disease? Let's look at some real-life dairy herd examples to get you thinking.

In the case of newborn calves, if colostrum management is poor, calves will not get enough antibodies from their dam or from the farmer. For example, if calves are removed promptly from their dams, they are reliant on the farmer to give them a top-up of "first strippings" as their first and second drinks. If, however, they receive a "shandy" of first strippings and milk from other milkings before the cow's milk goes into the vat, the dose of antibodies received will be low.

All calves need the correct dose of colostrum to enable them to resist infection.

If this strategy is copied for all newborn calves, the resistance of the whole group will be poor. The stage is set for an outbreak of scours even in a relatively clean environment.

How does the resistance of a whole herd of cows fall below critical levels?

Again, let's look at some common real-life examples.

The teat canal is a specialised area of skin designed to keep milk in the udder (until the calf suckles or at milking time) and to keep infection out. An undetected milking machine fault may cause teat end disease, reducing the effective length of the teat canal and lowering resistance to infection.

If environmental conditions are wet and muddy, the teat skin may become cracked and chapped, further reducing resistance to infection. Quickly the herd can be set up for an outbreak of mastitis.

Continuing the wet and muddy theme, skin and hooves are softer in these conditions, reducing the resistance to footrot or hoof abscesses. Sections of broken up or poorly maintained tracks can then damage hooves. An outbreak of lameness looms whenever a long period of bad weather persists.

As I said in the previous issue, there can be a tendency to reach for the quick fix of treatment, but improving environmental management and resistance to infection is likely to yield longer-term success.

We'll look at more causes of disease outbreaks in the next issue. Dairy vets are the first people to call regarding outbreaks of disease in a herd and are a great source of local knowledge about disease control.

Until next time, good milking.

**Rod Irwin is a practising cattle veterinarian and herd health consultant based at Warragul, Vic.*

By KERRY RYAN*

Bringing in a mentor from outside the business can encourage those reaching for new horizons to take responsibility for their own development.

Mentors and the family farming business

think again!

AN important challenge for family businesses is developing the capabilities of the next generation — especially if they are to participate in its future ownership and management. Effective leadership of the modern business needs to respond to three key drivers. These include harnessing the benefits of ongoing changes in technology, adopting best practice management techniques and effective management of people as a business grows.

This is further complicated by the potential limitations on transfer of expertise between generations. Emerging leaders developing new skills will often require insights and ideas that won't necessarily be available from those who grew the business to its current stage.

With this in mind, it's worth reflecting on the benefits of involving a mentor as part of a professional development program.

Using a mentor brings some subtle differences to the traditional approach to training. Effective mentors grow the people they work with by modelling desired skills and attitudes, ensuring accountability and clear performance expectations. This should be supported by their belief in the aspirations of the person they are helping develop.

This independent approach will be enhanced by frank but constructive evaluation. It involves transfer of skills through a combination of inspiration and education. Effective mentors draw on their own experience as well as their formal training to pass on new ways.

Mentors encourage those reaching for new horizons to take responsibility for their own development by responding to challenges while supporting them to the next level. This removes the sense of "teacher/student" and replaces it with collaboration.

I have seen mentoring make outstanding contributions to developing the capabilities of families in business. Using external input recognises the reality that parents can only go so far in developing their (adult) children. There comes a time where it is better to rely on a third party to break through barriers.

This is also vital to protect personal relationships while challenging family staff to grow while promoting independence. It offers parents the opportunity to step back, observe and encourage.

The mentor role is similar to an apprenticeship — like a "finishing school" in that it builds on all of the development and education that has taken place to date. When accompanied by participation in the right courses, conferences and exchanges with other businesses it can have a powerful impact.

Success depends on choosing the right person as a mentor. Regardless of the academic or practical background, effective mentors need interpersonal and motivational skills along with credibility from achievements that inspire and challenge those with whom they work. Candidates could range from professionals supporting the business to friends, associates or industry leaders. They need to be in touch with technology and best practice so they can "show" as much as teach their protégés.

I judge the quality of relationships within a family business as much by the calibre of their personal relationships as by the effectiveness of their working relationships. This ability to separate personal and professional relationships is fundamental to generating the satisfaction and synergy that comes out of families working together.

It brings me great satisfaction to see the families I work with growing this way.

It is a real credit to the parents as leaders in business that they invest in the right professional support to make that possible. 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>.

Dairy Australia
Your Levy at Work

Farmers profit through pasture course

TONY Flett, farmer from Cobram East, Vic, was so impressed with the Feeding Pasture for Profit (FPFP) course that he decided to do it twice, in 2012 and then again in 2013, and this year his farm manager is going to participate in the course.

"I wanted to make sure I hadn't missed anything, as it is by far, the most valuable course in terms of outcomes, I have taken," he said.

"I am now confident we are doing a reasonable job with growing and utilising our pasture, especially in the peak growth period between September to November when we we grow more than 40% of our feed for the year, because if you don't get it right then you can lose a lot of money".

Mr Flett said following the FPFP principles involves the use of the Rotation Right Tool, a spreadsheet which combined with numbered paddock areas to give a simple but effective method of allocating pasture to the herd. "We are no longer flying by the seat of our pants," he said.

"Previously we may have been utilising seven tonnes of pasture per hectare, now we are aiming to reach at least 10 tonne and that's a huge saving considering the cost of bought in feed.

"Phil Shannon, our course adviser is the 'pasture guru', I can't speak more highly of his professionalism in guiding us through the program.

"I absolutely recommend the course to other farmers."

Another farmer who has completed a FPFP course to develop his skills further is Benn Thexton who farms at Gormandale, Victoria, with his wife, Peta.

Mr Thexton has been dairyfarming for a decade and said he had been through the FPFP course twice, the first time when he was managing a farm in Maffra seven years ago.

The couple were the 2012 Westpac Dairy Business of the Year Pasture Harvest award winners and well understand that pasture consumption is the foundation of a low-cost farming system.

The Thextons milk 340 cows on an effective milking area of 86 hectares.

Their region has an average annual rainfall of 720 millimetres yet the couple's pasture consumption five-year average figure is 10.5 tonnes of dry matter per hectare (tonnes/DM/ha), without irrigation. This season their stocking rate is 4.1 cows/ha, which will be dropped back to 3.5 next season.

Peta and Benn Thexton have focused on pasture production and grow about 1.45 tonnes of dry matter per 100 millimetres of rainfall.

"I met my wife at university and that was when the three-leaf principles was first becoming known and that was really the start of our interest in pasture and we have really gone on from there," he said.

While the FPFP courses were valuable, Mr Thexton said his results also came down to matching grass variety to soil type, a focus on good grazing management and matching calving with times of pasture growth.

Anyone who wants to attend a Feeding Pasture for Profit course should contact their local Regional Development Program for further information.

One tonne/100mm

The Thextons' herd consumes 10.5 tonnes/DM/ha from an annual rainfall of 720 millimetres, which means that for every 100mm of rainfall on the farm, they are producing 1.45 tonnes/DM/ha.

Dairy Australia's feedbase manager, John Evans, said that a new benchmark for the Australian dairy industry of one tonne/100mm was an achievable figure and one that would be very useful for farmers to review how their operation was performing.

"The one tonne/100mm figure is something that all farmers can aim for," he said. "It will be useful for farmers to review how they are travelling from season to season and is also a way that they can benchmark their farms against other regions.

"Pasture consumed is one of the key drivers of profit on your farm and if you don't measure it you can't identify possible improvements in management."

Dr Evans said that one of the best ways to calculate pasture consumption was Dairy Australia's taking Stock Tool, which can be found on the Dairy Australia website <www.dairyaustralia.com.au>.

Contact: John Evans, email <JEvans@dairyaustralia.com.au>.

Dairy Australia
Your Levy at Work

Funding for groups

DAIRY Australia (DA) will provide funding support for up to 90 discussion groups throughout Australia's dairy regions in the next three years.

Established and new discussion groups are eligible for funding support from DA and farmers are encouraged to contact their regional development program (RDP) to discuss the funding process and the assistance that is available to help run effective groups.

DA invests in a range of extension activities to support dairyfarmers as they work to improve their businesses, remain competitive and adapt to industry changes.

DA's program manager for extension and farm change, Neil Webster, said farmers around Australia were wanting to see a reinvigoration of discussion groups.

"Discussion groups have been a part of the industry both here and overseas for a long time and can be a very effective approach to extension when they have a clear purpose and are well organised," Mr Webster said.

"We know many farmers see value in

Discussion group gets Ballarat farmers talking

BALLARAT, Vic, dairyfarmers say the discussion group operating in their region is not only a valuable platform to discuss on-farm issues but also a place to network and keep up with community news.

The group is made up of Warrnambool Cheese & Butter (WCB) suppliers and is co-led by WCB field service officer Joy Coulson. Of the 26 farms in the region, at least half were usually represented at meetings, Ms Coulson said.

Paul Ryan, a dairyfarmer of 40 years who along with his son and two brothers also runs beef and sheep on his farm, said he tried to get to as many meetings as possible. It's an excellent way to learn about new developments, he said.

"It's very rare that you go onto someone else's farm and don't see something that you can use," Mr Ryan said.

"It might be a new piece of equipment that someone has bought or it might be that you get to see something growing in the ground you haven't seen before, but the difference is that you can see it with your own eyes and you're not just reading about it in a story from another district," he said.

To be able to talk through current issues is also a key part of the meetings.

"What we do is similar — we all do the same job, we all have similar problems — so it makes sense for us to talk through what's been happening," Mr Ryan said.

Another discussion group farmer, Graeme Ford, also said meeting other farmers was valuable.

"Meeting up with the people in your district is useful — we are all in it together and have issues that are similar," he said. "We may not see some people at all through the year as we are just too busy but that is one time we can find out what's been happening.

We are all in it together and have issues that are similar.

"If there is one in your area it's something you should consider becoming involved in as you will probably get a lot out of it."

The group is looking forward to a new format this year, meeting quarterly for a farm walk and a group discussion.

The group typically meets at 11am-2pm and lunch is included.

Ms Coulson said peer learning was particularly important for the Ballarat discussion group, whose members had to contend with low rainfall and a short growing season.

"These farmers are very skilled and experienced at farming in that environment, which is a different set of conditions compared to other regions," she said. "It's important for them to talk together as they know the local conditions."

Dairy Australia (DA) extension coordinator Ian Linley said there were about 15 discussion groups in the western Victoria region focusing on profitability, farmers understanding their business and home-grown feed consumption.

"Profitability not productivity is becoming a greater focus," he said. "For example, we have a new group and its first five sessions will focus solely on profitability.

"DA and WestVic dairy are very keen to talk with anyone who wants to form a group as we have the support available for them to access guest speakers or facilitators that can help them out."

Dairy Australia
Your Levy at Work

Benefits of joining in

REASONS to get involved with a discussion group

- Talk through business matters common to you and other farmers
- Gain confidence in your decision-making
- Network with other farmers and service providers
- Develop your skill and knowledge and learn from others

Established and new discussion groups are eligible for funding support from Dairy Australia.

discussing their business decisions with other farmers."

A key factor contributing to successful groups was that the group's direction was driven by the farmers involved, he said.

"We are keen to connect with groups and help support them to be successful so farmers can get even greater value from their involvement," Mr Webster said.

Groups may use their funding for the engagement of a facilitator to support effective group operation or to pay for a specialised speaker and expert advice delivered to the group. Targeted farm field days and farm walks and other activities agreed with the relevant RDP and DA will also be eligible for support.

Farmers interested in applying for funding for an existing discussion group or who would like to create or re-establish one can contact their RDP or DA extension co-ordinator for support and advice. See contact details on page 122.

Dairy Australia
Your Levy at Work

How to choose a calf milk replacer

CHOOSING between the many different types of calf milk replacer on the market is not easy, so it pays to read the label carefully or if in doubt, ask for some professional advice. While the appearance of calf milk replacers has changed little in decades, the science that goes into their formulation has come a long way and the ingredients used in formulating modern products are different to the older versions.

Calf milk replacers have been used on many dairy farms to successfully rear strong healthy dairy calves and can offer several benefits over feeding whole milk. Calf milk replacers provide a dependable daily supply of nutrients, reducing the risk of digestive upsets as seen in some calves when feeding a changeable whole milk diet.

Storage of calf milk replacers is simpler, with no need to hold large volumes of liquid feed that can easily become spoiled or contaminated. Importantly the transfer of disease-causing organisms commonly found in whole milk, coming either directly from the mother (i.e. bovine Johne's disease) or from faecal contamination, can be significantly reduced.

The challenge for calf milk replacer manufacturers is to produce a product that provides comparable calf performance to whole milk at an affordable price. The commodity price of dried skim milk continues to rise, due to the high values of milk casein, a high quality protein that is a highly valuable resource for human nutrition. So the makers of calf milk replacers are continually searching for alternative sources of available protein.

Early products relied largely on whey-based proteins, which are left over after milk clots. Unfortunately the first clinical studies on these products yielded poor results, with many calves developing diarrhoea or failing to grow well.

It was thought that these poor results were due to the fact that whey protein does not form a clot in the calf's stomach. The milk clot, which is formed from the action of stomach enzymes on casein, was believed to promote better nutrient absorption by holding the food in the stomach for longer. Milk replacers without casein pass through the stomach without clotting and rapidly arrive in liquid form in the small intestine.

Calf milk replacers provide a dependable daily supply of nutrients.

Further research found that the presence of a milk clot did improve the rate at which the nutrients from milk are absorbed into the blood of the calf, but this had no effect on the overall digestibility of the diet. The whey proteins that pass from the stomach were equally well absorbed in the small intestine. This means that with or without a clot, calves end up receiving the same amount of nutrients and so should perform equally well.

It was later found that the chemical methods being used to make the whey proteins were at fault, changing the structure of the proteins and reducing their digestibility. When scientists compared growth rates and health outcomes of calves fed a calf milk replacer containing correctly prepared whey protein and those fed a calf milk replacer made with traditional dried skim milk powder, there was no difference in results — all calves grew equally as well. These findings have now led to whey proteins being the most commonly used protein source in calf milk replacers on the market today.

An old test for milk replacer quality was to add a junket tablet to the prepared milk and wait and see if it formed a milk clot. What happens when a junket tablet is added to a modern calf milk replacer? If there is no casein it means no clot can form no matter the level of protein, so using a junket tablet is no longer helpful in testing the protein quality of a calf milk replacer.

The best way to select a good quality calf milk replacer is to read the label, paying particular attention to the protein and energy content, so as to know exactly what is being bought. If help is needed in choosing the type of product that best suits the calf-rearing system consult a vet or nutritional adviser.

More information on milk replacers and feeding calves can be found in the Dairy Australia fact sheet "Understanding Calf Milk Replacers" available at <www.dairyaustralia.com.au/healthycalves> or in Dairy Australia's comprehensive calf rearing manual *Rearing Healthy Calves*. To obtain a free copy of this manual just fill in the online order form at the bottom of the Healthy Calves webpage.

Contact: program manager Animal Health and Fertility at Dairy Australia Kathryn Davis, email <kdavis@dairyaustralia.com.au>.

Dairy Australia
Your Levy at Work

Breeding objective survey under way

THE Australian Dairy Herd Improvement Scheme (ADHIS) Australia's Longest Farm Walk 2014 is gathering speed in the dairy regions, highlighting the need for farmers to have a say on the future direction of Australia's national dairy herd.

Dairy Australia's (DA) program manager of genetics and data management, Matthew Shaffer, said farmers had a unique opportunity to learn more about the value of genetics at DA-funded events throughout March.

"Australia's Longest Farm Walk is a great way for us to have conversations about where we can go with herd improvement locally and to also discuss the importance of the national survey as part of the information-gathering for the National Breeding Objective review," he said.

A link to the survey has been emailed to all levy payers. The survey's aim is to identify the breeding priorities of Australian dairyfarmers, something which has never been done in a review before, which will be evaluated alongside industry and scientific input.

"Farmers' herds are an important part of each dairy business and typically their second-largest asset," Mr Shaffer said.

"It's important for the ADHIS and the wider industry to understand what is important to farmers to make sure the National Breeding Objective is delivering the kind of cow farmers want to milk in their region to help create more profitable farms."

Farmers' herds are an important part of each dairy business and typically their second-largest asset.

Mr Shaffer said the process was independent and science-based and the survey method, where farmers had to prioritise their needs, would have a direct impact on the weighting of traits.

"Not everyone's breeding program is the same but it's really important to prioritise the traits farmers value most, whether it's production, fertility or cell count — that's what a National Breeding Objective does," he said.

The survey is open from March 8 to April 30; the results will be available in July.

Australia's Longest Farm Walk will continue throughout March. For more information visit <www.dairyaustralia.com.au>. D

InCalf and Countdown workshops planned

FARMERS looking to improve their herd's reproductive performance or milk quality can learn about the latest developments from Dairy Australia's (DA) InCalf and Countdown 2020 programs this autumn.

Workshops to give farmers the chance to hear about new information and resources available for both programs were first rolled out in February in partnership with regional development programs and are continuing through to May.

DA's animal health and fertility project officer, Erika Oakes, said both workshops would be helpful to farmers in assisting them to keep up with new developments and refresh knowledge.

"InCalf and Countdown are programs that can help farmers get the best out of their businesses and help improve on-farm profitability," Ms Oakes said. "Both programs have exciting new resources and technologies, including free apps which will be showcased, and we hope farmers will benefit from hearing and learning about these from industry experts."

Workshop topics for the InCalf program may include:

- a guide to synchrony programs;
- heat detection technologies;
- a body condition scoring app;
- bull management;
- sexed semen; and
- DIY artificial insemination and semen handling.

Workshop topics for Countdown 2020 may include:

- introducing the bulk milk cell count step graph;
- use of PCR testing;
- the Countdown app and new Countdown guidelines;
- residues in milk;
- Cups On Cups Off courses.

Information on when InCalf and Countdown workshops will be happening locally is available through regional development programs.

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