



DIRECTORS' UPDATE



*DRF Director,
Assoc Prof Yani Garcia*

The Dairy Symposium is just around the corner!!

We are delighted and very excited with this event that promises to be one of kind!

Please take time to see highlights of some of our 2012 keynote speakers and program inside.

I look forward to welcoming you to Camden in July!

Yani Garcia

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JULIAN CRIBB
author of
The Coming Famine
is speaking at the
**2012 DRF
Symposium**
**July 5 & 6
Camden**



*Mr Bill Inglis
President of the DRF*

FROM THE PRESIDENT

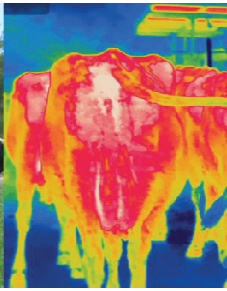
It's Symposium time.

Time to listen and let some of the top thinkers from the world dairy community challenge and encourage us. **Julian Cribb**, author of **The Coming Famine**, will speak on the future of food supplies.

Jude Caper from the USA will speak on farming more efficiently under environmental constraints.

We also have top dairy farmers, **Hayden Lawrence** from New Zealand and **Chris and Nick Dornauf** from Tasmania who will give their own takes on practical dairy farming. All that and much more. It's a great programme and I hope to see you there.

Bill Inglis



**5 & 6 July
Camden
NSW**

The Dairy Research Foundation has released its program of events for its annual Symposium, which takes place at Sydney University's Camden Campus on July 5 and 6.

The 2012 speaking line up as one of great balance between science and farm, but true to the Symposium reputation, the opening segment delivers access to quality dairy science. Our international guest this year is **Dr Jude Capper**, the assistant professor of dairy science from Washington State University, who will speak to the conference theme of “**Energising Dairy**”.



“A Google search on Jude Capper will highlight just how much energy this young woman has in delivering quality science to the dairy sector, but in this instance, we have asked her to draw on her studies into energy conservation as it applies to dairy production systems,” Yani said.

“Jude will challenge us to think differently about how we reduce waste from the dairy, how we dilute our fixed costs and how we improve our output in areas of nutrition and metabolism. The beauty of this program though is that in addition to the keynote, Jude will head up a discussion group on day 2 of the program, giving everyone really quality access to our keynote presenter.”

Another keynote speaker is science communicate **Julian Cribb** author of *The Coming Famine*. Julian has long been regarded as one of Australia's leading science and agriculture writers. His knowledge and astute perspectives on issues, trends, and influences (nationally and globally) have made him one of the stand-out commentators on what is arguably the most important issue facing us - food security.



The Symposium program then moves into a series of really practical sessions from farmers and scientists and caps off Day 1 with a much anticipated presentation from the farm business that has invested in Australia's first commercial rotary Automated Milking System.

Chris and Nick Dornauf from Deloraine in Tasmania have agreed to share their experiences since commissioning Australia's first rotary earlier this year.

‘ENERGISING DAIRY’

Hayden Lawrence

Hayden is a Massey University PhD student who was involved in the development of the C-Dax pasture meter so he could measure the exact grass production on the farm and relate this back to milk production.

In an equity partnership milking 250 Holstein Friesian cows on a challenging dairy farm, he and his wife Alecia have improved milk solids production in the last four seasons by 38% whilst driving costs per kg MS down lower than under the previous farm management regime.

The Lawrence's take a very scientific approach to enhancing performance on farm having in place a pasture based nutritional feeding regime for all classes of stock that coincides with achievable and measurable targets.



Hayden Says "You must plan, measure, manage and review every aspect of your farming business, you need good genetics and good attention to pasture management as a base to achieving any targets put in place for our farming business."

2012 SYMPOSIUM KEYNOTE SPEAKERS

Stephanie Tarlinton

Stephanie Tarlinton grew up on the family dairy farm just 15km north/west of Cobargo with two sisters, Bridget and Megan and parents Richard and June.

After completing her education she worked on a sheep/beef property at Goulburn then moved home to assist her mother on the farm (while her father was recovering from an operation).

Since 2008 she has have travelled extensively to study the different agricultural systems around the world.

In 2009 she started university and graduated with a Bachelor of Agricultural Business Management at Charles Sturt University in Orange, NSW at the end of 2011. She undertook this degree with the aim of completing further studies in the form of masters.

Growing up in the dairy industry has inspired her to continue in this sector. She wishes to play a role in building the global name of Australian dairy products and increasing the value of the domestic industry.

While at university Stephanie was involved in a number of programs such as the Woolworths Agricultural Business Scholarship and with Art4Agriculture as a Young Farming Champion. Since January 2012 Stephanie has been working as an Ambassador for the Australian Year of the Farmer.



The Symposium's Day 2 program focuses on the emerging scientists' program.

The Day 2 format involves a small group format and the capacity to dig into detail across a range of projects from animal health, to people health to the latest in preg-testing systems.

Meanwhile, finalists in the Gardiner Foundation-sponsored Emerging Scientists' program will be working with a senior facilitator to finalise their presentations - which are embedded into the Day 2 agenda. The audience will play an integral role in this activity as the competition winner will be selected by popular choice.



Official opening

Energising the dairy of the future

Julian Cribb FTSE *Julian Cribb & Assoc.*

Reducing losses throughout dairy production

Dr Jude Capper *Washington State University*

Predicting pasture growth

Cameron Clark *FutureDairy*

Wasted Energy

Hayden Lawrence *Spacial Solutions NZ*

Pasture Master series – case study #1

Steve Salway *Bemboka, NSW*

Pasture Master series – case study #2

Peter Notman *Walcha, NSW*

Technologies made simple

Nico Lyons & Rene Kolbach *FutureDairy*

Nutrient energy

Cameron Gourley *DPI VIC*

How Complimentary Forage Systems (CFS) can help you reduce wastage of time, inputs and money and increase efficiency on your farm

Yani Garcia *FutureDairy*

Green cleaning and the cost benefit analysis

Annette Zurrer *Gippsland, VIC*

Reducing the divide

Stephanie Tarlinton *Cobargo, NSW*

Australia's first commercial robotic rotary

Chris and Nick Dornauf *Deloraine, TAS*

The Symposium Dinner

Gledswood Winery



Arrival and welcome

Station 1A

Energising the feedbase

Feedbase challenge: Taree farmer Ken Atkins shares his tips in converting pasture into profit, while emerging Scientist Michael Campbell presents his research on the topic.

Station 1B

Exploring the next steps of Automated Milking Systems

The next steps in AMS thinking: Three young research leaders of the future, Nico Lyons, Tori Scott and Derek Keeper, share their latest findings and thoughts on the big challenges of robotic dairying.

Station 2A

Comparative energy

Dr Jude Capper discussion group: A discussion on the comparison of efficiencies around Holstein and Jerseys. Jude is joined by emerging scientist Mary Abdelsayed who talks about using the latest decision support tools for selecting cows

Station 2B

Energising people

Successful succession: Mark Scanlon from Next Rural has a series of tips and tools to deliver intergenerational change. He is joined by rural counsellor Michelle Blakeney and supported by Dairy Australia's The People In Dairy Program.

Station 3A

Energising the Dairy

Energy saving in the dairy: Nick Bullock, along with Wauchope farmers Leo and Luke Cleary will showcase the EWEN project, designed to measure and improve the Efficient use of energy, water and nutrients on dairy farms.

Station 3B

Emerging Scientists focusing on animal health

Optimising animal health in the dairy: Emerging scientists, Claire Kentler, Helen Golder, explore their area of research under the common theme of animal health.

Station 4A

Interactive Reproduction

Next steps in repro management part I: The E-Preg prototype is showcased courtesy of Dr Richard Shephard from Heard Systems. Emerging scientist Saranika Talukder joins Richard to discuss her area of research.

Station 4B

Interactive Reproduction

Next steps in repro management part II: Dr Luke Ingenhoff explores the use of ultrasonography to improve dairy herd reproductive efficiency. Then, Luke is joined by emerging scientist Hardy Manser whose research is closely related.

3.00pm

Presentation of the Gardiner Foundation's Emerging Scientists' Award and close



By Dr Kendra Kerrisk, Project Leader

FutureDairy 3 kicked into gear almost 12 months ago and we have been extremely busy with our new program of work. The focus of FutureDairy 3 is AMS with three key objectives:

1. **Enhance opportunities for AMS adoption and adaptation** by addressing key current and future adoption barriers or challenges.
2. **Make AMS more competitive with conventional technology** - pushing the boundaries of pasture-based AMS by addressing the key limitations that restrict the potential for increased production on farm
3. **Support new installations** of AMS and AMR and address appropriate site-specific challenges with research and/or extension of existing knowledge and expertise.



Samples from the soy bean trials that have took place in March 2012 (L-R) buds, petioles and leaflets from the Ascot variety

The key activities conducted over the past nine months or underway are discussed here.

FORAGE SCREENING FOR AMS

Dr Rafiq Islam has been working on screening potential grazing forages for AMS herds.

This work has been reported in ***FD3 Milestone 2: Modelling of potential grazing CFR options for AMS with a focus on maximising grazeable feed grown in close vicinity to the dairy.*** The report is available on request from the Dairy Australia library or through FutureDairy.

The key focus of this work is driven by the understanding that AMS will increasingly be considered and adopted by larger herds (>500 cows). One of the challenges with a large herd is the walking distances from pasture to the dairy when they are managed in a pasture-based system.

A potential solution to this is to try and grow more feed within the area close to the dairy. In particular this feed needs to be grazing forages. The forage screening and modelling work has simulated forage yields in maize (grazing), soybean and sorghum (each followed by forage rape and ryegrass intercropped) based rotations ranging from 25.3-28.2, 21.5-22.9 and 16.9-19.3 t DM/ha respectively. Further work will be conducted to determine the fit of these forage rotations to the farm system.



FORAGE AS AN INCENTIVE FOR COW TRAFFIC

Feed allocation (timing, position and size of allocation) creates the most manageable incentives motivating voluntary cow traffic. A recent investigation (summer 2011/12) was aimed at determining the potential for soybeans to encourage cow traffic. The milking herd was randomly assigned to one of two groups. One group received three allocations of pasture each day whilst the other group received two allocations of pasture and one allocation of soybeans. Previous preference work conducted within the team has shown that when given the option of a number of forages, cows show a clear preference for soybeans.

The study was designed to determine if cows that were expecting an allocation of soybeans would move from a stale pasture break, through the dairy to gain access to the soybeans quicker than cows that were expecting an addition allocation of pasture. We look forward to bringing you results on this work in future issues of this newsletter.



LOCATION OF SUPPLEMENTARY FEED

When an AMS farm system is being designed there is often an opportunity to choose the location of a feedpad (if the farm will incorporate one). Locating the feedpad prior to milking is likely to encourage cows back to the dairy more frequently but may reduce the speed at which cows are milked whereas location of the feedpad in the post-milking area is less likely to encourage cows back to the dairy but could encourage a speedy passage through the dairy. Work conducted at the AMS farm investigated the two options to determine which had the best net effect on cow visitation, milking frequency and behaviour within the dairy. Results of this work will be presented progressively through this newsletter and future issues.



AMR MANAGEMENT INVESTIGATIONS



Rene Kolbach has been busily finishing his investigations on management of the robotic rotary with voluntary cow traffic. We recently celebrated a full year of operation of the equipment with full voluntary cow traffic (24-hour operation). The Camden research farm is still the only robotic rotary farm to be operating in this manner globally. René is busily writing manuscripts and has recently submitted his masters thesis and three manuscripts for publication review. All three pieces of work are reported in milestone reports which are available on request from the Dairy Australia library or through FutureDairy.

- FD3 Milestone 1:** *Attachment accuracy of a novel prototype robotic rotary and investigation of two management strategies for incomplete milked quarters.*
- FD3 Milestone 3:** *Investigation into the effect of different bail activation sequences on throughput potential with a prototype robotic rotary.*
- FD3 Milestone 4:** *Effect of pre-milking teats with an automatic teat cleaning robot in a robotic rotary on attachment success/speed and milk characteristics for Australian pasture-based cows.*



PhD student Saranika Talukda is analysing 5 years of reproductive performance data from the AMS research farm to determine any trends or 'at-risk' groups of cows which may alert us to challenges specific to reproductive management with AMS cows.

Initial findings indicated potential for improvement with oestrus detection leading to Saranika beginning investigating the potential for InfraRed Thermography as a technology that has potential to be automated for oestrus detection. Pilot studies have been encouraging enough for Saranika to progress with designing a larger study.

Recently appointed Masters student Derek Keeper has started preparation for investigations into the challenges and advantages of managing reproductive performance with AMS. Of particular interest will be the results of survey data which will capture learnings from Australian AMS farmers on best practice management strategies, detecting oestrus cows, drafting cows for insemination, running bulls with the herd and many other aspects of reproductive management.

Future studies will also be conducted to determine how many AMS farmers making decisions to change aspects of farm system management including, calving patterns and other reproductive strategies. Derek will use methodologies that will help to determine whether AMS has driven decisions to change or these changes have been driven primarily by other regional influences. Through Derek's studies some understanding will also be developed to determine the reproductive performance of AMS herds.

POWER CONSUMPTION WITH AMS DAIRIES

The FutureDairy team has been working with DPI VIC to gather detailed energy consumption data from an AMS farm to determine the distribution of power consumption in the dairy that is attributed to water heating, milk cooling and milk harvesting.

If there are discrepancies between the AMS farm and conventional dairy operations further investigations will be conducted to determine the potential to bring the two milk harvesting systems in line with regards to power consumption.

This study will extend into a number of AMS dairies to cover a range of farm systems, machine utilisation levels and different brands of AMS. It will take some time to collect the data and ensure that a detailed technical understanding is developed but we look forward to sharing some of the results with readers in the future.



"The best performing paddocks on farm produced 100% more pasture than the poor performers."

"There is huge scope to increase pasture yield on all dairy farms."

GROWING MORE PASTURE AND YOUR PROFITS

Farm profit will almost always increase alongside the amount of pasture grown and converted to milk. There is opportunity to grow and utilise more pasture on all Australian dairy farms according to the variability in pasture growth between paddocks. Pasture growth data from some of the most productive and profitable farms in the Waikato region of New Zealand highlighted this variability.

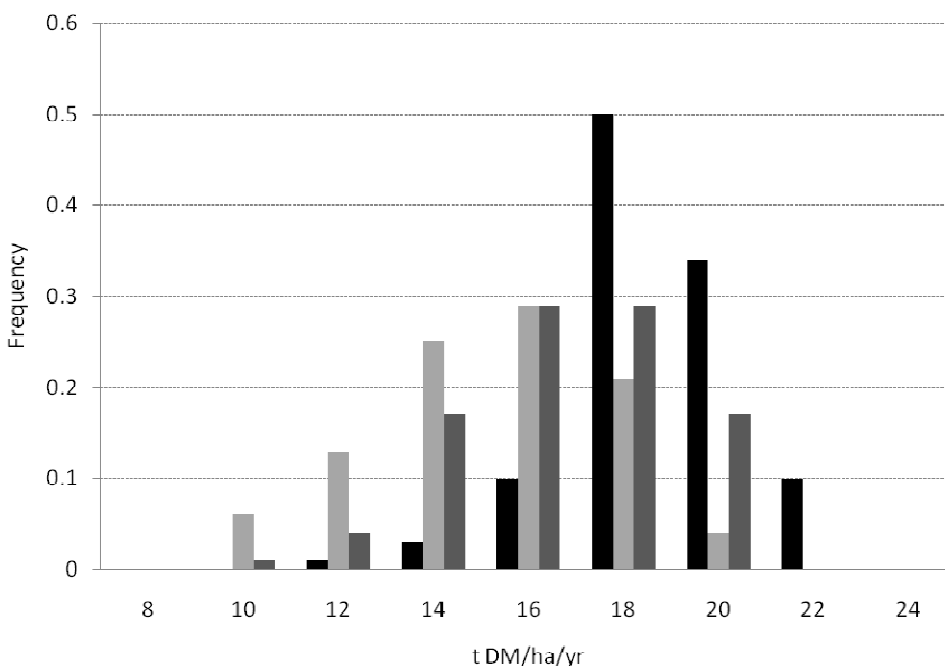


Figure 1.
Paddock pasture yield (t DM/ha/yr) for research farm 1 (■), commercial farm 1 (■) and commercial farm 2 (■).

Pasture yield for individual paddocks across farms ranged from 9.5 to 26.1 t DM/ha/year. Within farms the highest yielding paddock produced between 30 and 120% more pasture than the lowest yielding paddock. Interestingly, the average yield of commercial farms was between 3 and 5 t DM/ha/yr lower (a 25% decrease) than the research farm.

These results highlight the huge scope to increase pasture yield on all of Australia's dairy farms by increasing the yield of poor performing paddocks.

Practical methods to increase pasture yield and farm profit will be presented at this year's **Symposium on 5-6 July**.

CLEVER DESIGN FOR AMS FEEDPAD

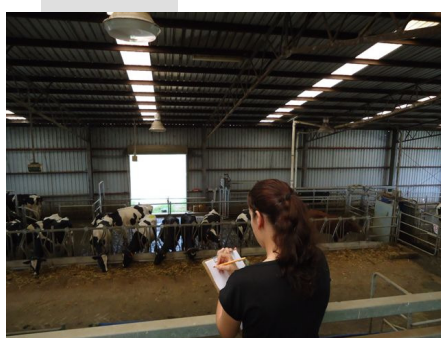
The location of a feedpad in an automatic milking system (AMS) can be a useful tool for encouraging higher levels of intake of supplementary feed, according to recent research conducted by the FutureDairy team.

Post-graduate student, Tori Scott (below), investigated how the location of supplementary feed affected the time it took cows to move back to the paddock after milking, and the time taken to return for their next milking.

Her findings suggest that a clever design for an AMS with a feedpad would position the feedpad with the flexibility to divert cows to supplementary feed either before or after milking, depending on the need, which may change throughout the season.

It could even be possible to give some individual cows or groups of cows access to the feedpad before milking while others accessed the feedpad after milking.

Automatic milking systems usually have programmable drafting gates which would enable this to be achieved.



Feedpad management could be modified to meet different objectives within the system. For example, the decision about which cows to feed before or after milking would come down to the desired level of supplementary feeding and the preferred flow of cow traffic through the dairy.

Feeding after milking is the preferred option when the herd's intake is predominantly pasture, and the supplement fed at the feedpad is a 'top up.' This option enhances cow movement through the dairy and maximises grazing opportunity.

In contrast, feeding cows before milking could be a useful tool for encouraging cows to spend more time on the feedpad; for example if pasture availability is limited," she said.

For more information contact FutureDairy project leader, Dr Kendra Kerrisk 0428 101 372 E kendra.kerrisk@sydney.edu.au

THE TECHNO WORLD HAS REACHED THE DAIRY INDUSTRY

A range of applications that add convenience and power to the business of producing milk, without costing the earth are now available for the everyday farmer.

Post-graduate students, Nicolas Lyons and René Kolbach, held the audience at the Australian Dairy Conference earlier this year, with their presentation that gave an insight into some of the 'apps' now available to Australian dairy farmers.

Applications which gave the ability to log onto the farm remotely held the greatest appeal. Nicolas outlined the use of cameras installed at critical places on the farm, that can be viewed through a home computer, lap top or smart phone.

For example, a camera installed at the calving shed can be accessed frequently to monitor calving progress.



"You could get on with other jobs, say down the paddock, while keeping a check on progress of a calving cow," Nicolas said.

The Robotic Dairy at Camden has five cameras, which staff use when they receive an alert from the automatic milking system (AMS).

"When we get an alert we can view the cameras and decide on the best course of action.

For example, there's a camera over the entry gates so we can see if a cow is blocking access for other cows.

The second application allows the farm computer to be accessed remotely, using remote log in software. Remote log in software has been commercially available for a number of years, with a wide range of applications. What's new is its application in the dairy situation.

"For instance, you may be down in the paddock and notice a sick cow. Remote access would allow you to use your smart phone to look up the cow's health records on the farm computer in the office."

"I know of dairy farmers in across Australia and New Zealand who are use remote log in regularly. It gives them easier access to important computer records, without having to be physically in front of the farm computer," Nicolas said.

POST GRADUATE UPDATES

NICOLAS LYONS *PhD Student*

Since the last newsletter edition, and thanks to the support from the FutureDairy Project and DeLaval, I have converted my Master's candidature to a PhD believing it will offer a broader perspective which will enhance my capabilities to conduct independent research in the future.



*Masters student
Nicolas Lyons*

I have also been working in writing the chapters from my 3 main experiments (historic data analysis, two vs. three way grazing and pre vs. post feeding), which will most likely be submitted for publication later this year.

Furthermore I am also in an investigation and planning phase for my next piece of component research which I anticipate will complete my research programme.

Over recent months I have also been working together with Dr. Cameron Clark and Mr. Rene Kolbach in creating lists and reports which will help AMS users (and specifically AMR farmers) to assess their farming performance.

I have also submitted an abstract and been accepted for an oral presentation at the Australian Dairy Science Symposium, with the intention of sharing my latest research results with the wider scientific community.

A huge amount of interest was generated by the presentation on 'smart technologies' Rene and I gave at the Australian Dairy Conference in February.

Together with the interest generated after FutureDairy's

media release, we have been given the opportunity to present a similar talk at the Dairy Research Foundation Symposium in July. I will also be participating in the Emerging Scientist competition.





POST GRADUATE UPDATES (cont)

MICHAEL CAMPBELL *PhD Student*

HAVE YOU EVER WONDERED IF FORAGE CROPS ARE FOR YOU?

In my recent modelling work using case study farms I have been able to demonstrate that the use of forage crops can have positive impacts on profitability for farms operating under different conditions and with varying levels of pasture utilisation.

While it is right to focus on increasing pasture utilisation as a priority farms with relatively low pasture utilisation can actually benefit greatly from using forage crops to complement their current pasture system.

There is no doubting that milk price and cost of growing the forage crops compared to alternate feed sources have a big impact on the profitability of utilising forage crops. If alternate feeds can be sourced and feed out cheaper than home-grown feed then that is a good option but in terms of long-term strategic planning home-grown forage crops can form part of a feedbase that is resilient to commodity price fluctuations.

So come along to the Dairy Research Foundation – Dairy Symposium to find out some more results from this modelling and talk about what that means for decision making on your farm.

The next step in my processing of modelling will be looking at tailoring forage crop utilisation to each individual case study farm.



Maize being rolled for storage: Is there an opportunity to utilise forage crops in your operation?

TORI SCOTT *PhD Student*



*PhD student
Tori Scott*

Over the last couple of months I have been busy in the office working towards a final report describing the effect of feeding at milking on the prototype robotic rotary on cow traffic within the dairy.

We fed a small quantity (approximately 300g per cow per milking) of concentrate pellets on the milking platform, and compared the time cows were waiting for milking to that when we didn't provide any feed on the milking platform.

The study found that providing this feed at milking caused a reduction in the time cows spent waiting to be milked in the pre-milking holding yard by more than 1hr per milking. While this is quite a large reduction in waiting time, the herd was accustomed to receiving feed on the robotic rotary, and we do not know how a herd that has never been fed on a robotic rotary, or fed at milking in conventional systems, would traffic through the dairy with/without feed.



Other interesting results from this study indicated that the production traits of cows can also influence their traffic in the dairy.

Heifers trafficked more rapidly than cows, and high yielding animals volunteered for milking more quickly than the lower producing animals. Unexpectedly, late lactation animals were faster moving through the dairy

than early and mid lactation cows.

We were anticipating that early cows would be the most motivated to leave the dairy in search of fresh feed due to their higher production, however the study was run shortly after launching full, voluntary operation of the robotic rotary 24/7. We suspect that a lack of experience may be responsible for this unexpected result.

I was able to spend some time at the farm between all my data analysis/writing, assisting the FutureDairy team in observing cows grazing a brassica crop.

It was a great experience, but I tell you, it's tough work trying to find 12 cows in a paddock of 100, particularly when they are all black and white!

Tori Scott



SARANIKA TALUKDAR *PhD Student*

USE OF THERMAL INFRARED SCANNING TECHNIQUE FOR OESTRUS DETECTION IN DAIRY COWS

The potential challenges that might be associated with detecting cows in oestrus and achieving a high level of reproductive performance in automatic milking system have been questioned by dairy farmers, therefore we evaluated the potential use of an infrared camera to detect the changes of vulva skin temperature in oestrus cows.

Eighty Six cows were synchronized with intramuscular injection of 1 ml (100µg) gonadorelin acetate at day zero followed by 2 ml (500µg) synthetic prostaglandin analogue, cloprostenol sodium at day seven. An additional 1 ml ovurelin injection was administered on day 9 and insemination was done 8 – 24 hours after 2nd ovurelin injection. Thermal scanning was performed twice daily at 7.00 h and 14.30 h from a fixed distance of 1 meter measured from the posterior end of the cow after oestrus confirmation by visual observation and rectal palpation.

The average ambient temperature during thermal scanning was 3.3 ± 1.3 °C and 19.5 ± 1.6 °C at morning and afternoon milking respectively. A positive correlation ($R^2 = 0.61$, $P < 0.001$) of vulva skin temperature with ambient temperature was observed (Figure.1).

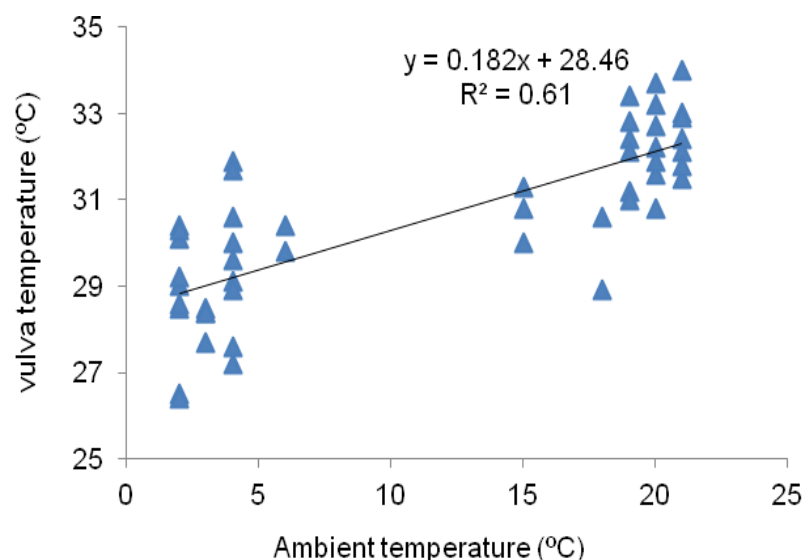


Figure 1: Changes in vulva temperature in relation to ambient temperature

Overall, vulva skin temperature differences between oestrus and non-oestrus cows were not significant, however numerical differences were observed during the morning milking with oestrus cows presenting higher skin temperature values (Figure 2).

SARANIKA TULAKDAR (con't)

Further studies are required to fully understand the relationship between changes in vulva skin temperature in relation to diurnal temperature changes. The potential use of the infrared technology to detect the skin temperature changes in relation to the time of ovulation needs to be validated.

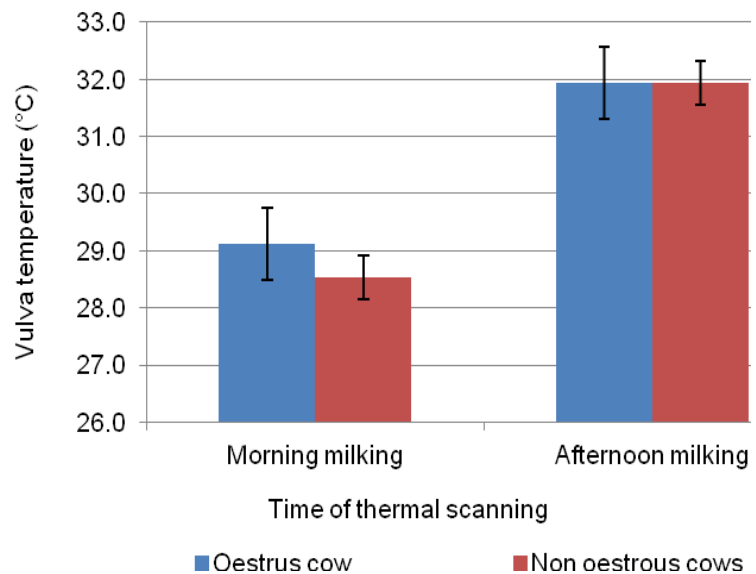


Figure 2. Vulva skin temperature (°C) of oestrus and non oestrus cows during morning and afternoon milking

RENE KOLBACH *Masters Student*

LIFE IS LIKE RIDING A BICYCLE: TO KEEP YOUR BALANCE, YOU MUST KEEP MOVING

After 2 years and 8 months being in Australia the big adventure Down Under is at an end. I have to keep moving towards another adventure, even though I would have loved to stay with this amazing group of people.

I am happy that thanks to the entire FutureDairy team I have been able to submit a thesis that I'm proud of. I am delighted that I have been able to work on the initial series of studies around the world's first automatic milking rotary (DeLaval AMR™). An experience never to forget!

Now the next phase of my life is about to start: Work! As I grew-up on a Dutch farm I know what it is like to work, but this is going to be totally different.

After a great international experience in Australia, travelling the world continues. I am now employed by DeLaval International and will spend the next 12 months helping the South Korean market develop their automatic milking skills. It will definitely be a change; from BBQ's to noodles, but it will be an interesting and suitable challenge. As you see the FutureDairy influence has reached many parts of the world.

This will be the last news letter update from me, but it is the beginning of something new and exciting. At the end of the day, the world isn't that big, and before you know it I'll be back.



HELEN GOLDER (*PhD student*)

ACIDOSIS FEED ADDITIVES TRIAL



I am currently at the beginning of conducting the final animal trial for my PhD which is focussed on developing an improved understanding of acidosis.

Currently there are a very limited number of infeed products available for acidosis prevention. It is important to identify additional products that can be used in rotation with currently marketed acidosis preventatives.

The objective this current trial is to evaluate the effectiveness of commercially available feed additives at preventing acidosis in unmated Holstein heifers fed a potentially acidotic diet.

I am looking at how three different combinations of products alter the rumen in comparison to untreated control cattle and cattle fed Virginamycin which is marketed as an acidosis preventative.

In particular I will be assessing effects on clinical signs, rumen pH, rumen volatile fatty acids, ammonia, lactate, histamine and oxidative stress concentrations at select periods over a 20 day exposure to the acidotic diet with included feed additives.

I will also assess changes in these measures over a 4 hour period after feeding these heifers a large amount of grain and their feed additives only on the 21st day as a further acidotic challenge.

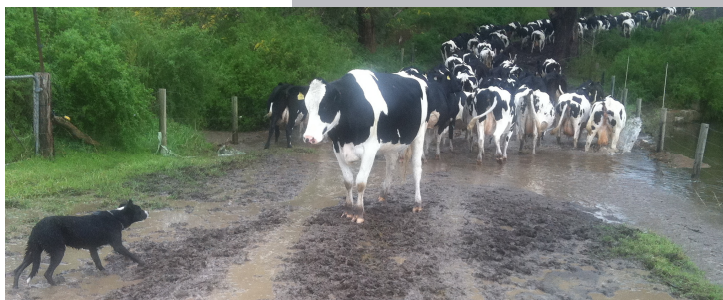
There is also potential to look at changes in rumen bacterial populations throughout the trial.



CAMDEN FARMS

The calving at Cortsorphine has almost finished and has gone very well. We have had a high percentage of heifers amongst the calves which has been great.

The new Irrigation system on Camden Farms is not being used much at the moment. Recent heavy rainfalls have meant that the need for irrigation has been limited but heavy rains bring other issues.



Along with most farmers on the east coast we are battling with the mud which is making life extremely difficult and its been a challenge to keep our cell counts down.

The pasture growth on the farms this season has been rather dissappointing although the Kye has only just stopped growing.

The Oats have been fairly good with 2 grazings on it already but unfortunately the Ryegrass is doing it tough this season.

We are keen to find out what the milk price is going to be after this month. This will have a major impact on our ability to maintain the teaching and research requirements of the University.

After many years of service 2 of our long serving staff members George Zammitt and Tony Pace are retiring from the University.



We wish them all the best in retirement although they will be sorely missed by all here at the farms.

Kim McKean, Camden Farms Manager



*For further information
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TO ALL THE DRF MEMBERS
FOR YOUR CONTINUING SUPPORT



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