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- Another successful Symposium was recently held in Camden. Read all about it in this edition.

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## DAIRY DATES

DAIRY RESEARCH  
FOUNDATION  
COUNCIL MEETING

is to be held on **Wednesday 1st  
December** at 10.00am in  
Camden



*Mr Bill Inglis  
President of the DRF*

## DIRECTORS' UPDATE

Welcome to our last addition for 2010. We have very recently held our hugely successful Symposium, showcasing some brilliant researchers, industry people and farmers from around the world.

Our other exciting event was the Australian launch of the **DeLaval Automatic Robotic Rotary** which was held at **Elizabeth Macarthur Agricultural Institute**, Menangle on 12th November.



*The AMR launch on 12 November (L-R) Bill Fulkerson, Yani Garcia, Kendra Kerrisk (USYD), Trevor Gibson, Paul Arthur (I&I) and Rosanne Taylor (USYD)*

Wishing all a happy and safe Christmas holiday period.

**YG**

## From the PRESIDENT

In the past few weeks, for the first time, have been able to view the new Robotic Rotary.

All the talk and promise has gained a physical reality. This will have the capacity to change the shape of the dairy industry not just in Australia, but around the world.

From the foresight of Bill Fulkerson to the current ideas and work of Yani Garcia and Kendra Kerrisk and their team, and the visionaries at DeLaval. A major reshaping of the way we feed and milk cows is taking place.

I congratulate them all on such a wonderful accomplishment.

**BI**

## DRF COUNCIL MEETING

The next meeting of the DRF Council is on **Wednesday 1st December** at 10.00am at the Camden Campus

# THE 2010 SYMPOSIUM

Wednesday 8th and Thursday 9th September 2010

[Dairy Research Foundation Website](#)

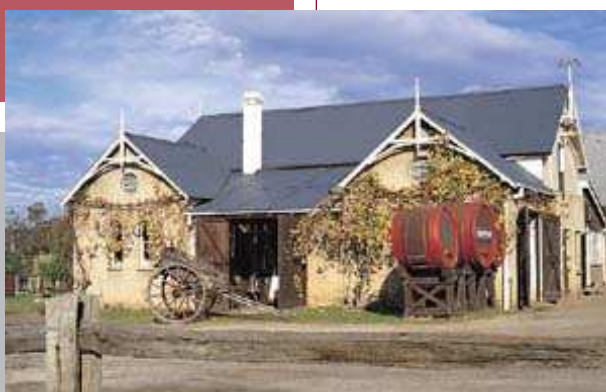
The **Dairy Research Foundation** is perceptive to the challenge of bringing the most contemporary research and technology to the Australian farming community and relevant industry people.

Once again in 2010 our annual symposium has delivered a large range of practical topics relevant to every farm in the country in some way.

This years Symposium was attended by a large audience of over 160 people each day.

Many of our registrations came from dairy farmers, farm managers and service providers. A majority were from NSW but QLD, VIC, TAS and WA were also well represented. This is great news as it reflects the quality of the research on offer here in Camden.

The **Foundation Dinner** was also well attended, with the venue, **Gledswood Winery and Homestead**, at full capacity again this year.



*The beautiful Gledswood Winery, venue for the 2010 Foundation Dinner*



## 2010 SYMPOSIUM (cont)

Wednesday evening was also the forum for announcing some very special awards. The winner of the **Milk Marketing NSW Dairy Science Award** this year was the highly respected **Dr Ian Lean** of SBS Cibus.

Our **Young Scientists** were very well represented this year with the eventual **winner** being **University of Sydney PhD student Michael Campbell**.

Feedback from the night indicates that it was a very enjoyable evening and an excellent opportunity for people to continue networking or follow up on the day's discussions.



In 2010 we were lucky enough to be supported by the National Centre for Farmer Health (NCFH).

The happily came to Camden and set up bright and early on the second morning of our Symposium to provide complimentary health assessments. They had a great turnout for this and probably a few surprises for some of our attendees!



*Michael Doherty from the University College Dublin talked about recent advances being made in the management of production disease in dairy cows*

*University Vet Alison Gunn and Ian Moss of SBS Cibus were amongst our spectacular program of speakers*



*Tim McAllister from Agriculture and Agri-Food Canada was a key speaker at this years' symposium*



*Dr Ian Lean, Winner of the 2010 Dairy Science Award and Symposium speaker*

*Tim Burfitt, Anthea Lisle and Michael Ison from Industry & Investment NSW*



*NSW farmer Butch Smith is a regular attendee at the DRF Symposiums*



## 2010 SYMPOSIUM (cont)

Our evaluation forms are a great indicator to the organizing committee as to whether we are on the right track each year. These were completed by a large proportion of our attendees and we'd like to thank you all. The feedback seems to point to the fact that most participants are very happy with the range of international and local speakers we secure for our program each year.

We appreciate this feedback as it is vitally important in the preparation of next year's program.

The DRF Symposium Committee is grateful to all the sponsors for their wonderful contributions and continued support. These are the fundamentals that enable us make the DRF Symposium the successful event it has become. Thank you kindly.

Finally, the Dairy Research Foundation is looking forward to the 2011 Symposium, which will again have some exciting changes. We also get great satisfaction out of continuing to support dairy science research and students at Camden.

### *Thank you to our 2010 Sponsors*

#### Platinum



#### Gold



**Rabobank**

**Wrightson Seeds**

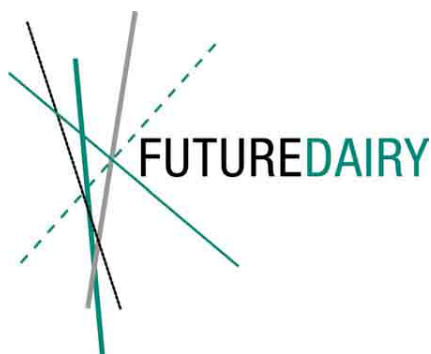


#### Silver



#### Bronze





## FUTUREDAIRY UPDATE

### FUTUREDAIRY GOOGLE GROUP

People interested in joining the AMS Discussion Group should send a request for registration to Darold Klindworth or Kendra Kerrisk at the following email addresses.

[darold.klindworth@dpi.vic.gov.au](mailto:darold.klindworth@dpi.vic.gov.au)

[kendrad@usyd.edu.au](mailto:kendrad@usyd.edu.au)



*AMS Leader  
Dr Kendra Kerrisk at the  
launch of the new AMR - to  
read more see page 8*

## PRECISION FARMING

### AMS INDUSTRY UPDATE

Australia now has 12 commercial Automatic Milking System (AMS) farms up and running and at least 3 farms signed up for installation.

With these numbers, the range in system types accommodating AMS and the recent media release about the Automatic Milking Rotary (AMR) industry support for AMS farmers is becoming increasingly important.

The Dairy Extension Centre (DEC) AMS integration project (funded by DA and DPIV, led by Sean Kenny (DPI Vic) will play an integral part in ensuring that farmers have the necessary knowledge and support during the decision making and implementation stages of AMS adoption. Without this the success of AMS as a technology on farm will be greatly reduced.

Recently the DEC conducted a workshop with at least one Dairy Extension Officer from every state of Australia and industry experts (including Kendra Kerrisk, FutureDairy and Jenny Jago, DairyNZ) to start laying the foundation for ongoing capacity development of the advisory sector in all dairy regions. The details of the capacity development program are still being determined by the DEC project team but at this stage the plan is that it will revolve around four intensive sessions (2-3 days each) over the next 12-18 months. The first session was conducted in South Australia in October with an amazing turn out resulting in about 10 AMS "Champions" that will be the key links with each state plus industry experts on AMS,

Milk Harvesting and Human Resources (farmer typologies). During the workshop the group visited two commercial AMS farms and started to develop an understanding of some of the challenges on farm and areas in which the DEC project could focus to ensure capability is developed in the most appropriate areas.

## AMS INDUSTRY UPDATE (cont)

The DEC project is also investigating international experiences with AMS adoption and support networks to ensure that the learnings capture “what has worked” and “what hasn’t worked” overseas to increase the probability for success in both Australia and New Zealand. The enthusiasm of the workshop participants and productivity of the sessions was outstanding and is extremely encouraging as the task ahead for the development of a national support network is surely an ambitious but very necessary task.

## INVESTIGATION INTO MILK INTERVALS AND IMPACT ON MILK PRODUCTION

By Nicolas Lyons

The increasing adoption of automatic milking systems (AMS) in pasture-based farming systems, drives continued research in this area. Data from 267 lactations from cows milked during 2008 at the FutureDairy AMS farm were analysed to describe the variability in number of milkings per day, milking interval distribution and the possible impact of these on milk production of individual cows.

Being a voluntary milking system, the amount of milkings per day is variable both between and within cow and there is a trend for milking frequency to gradually decline as the cow progresses through the lactation (see figure 1).

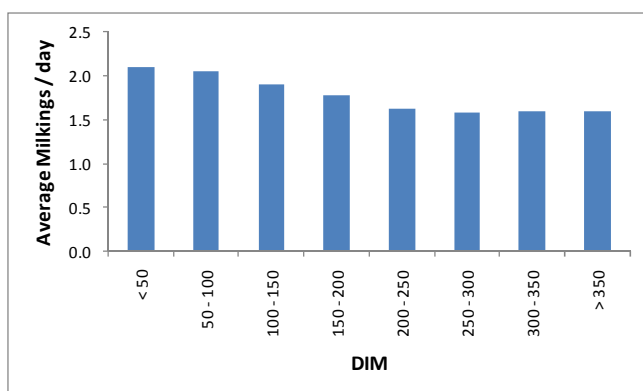
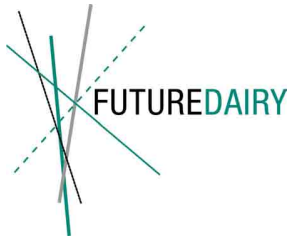


Figure 1. Data generated through 2008 of the average milking frequency of cows at different stages of lactation at the FutureDairy AMS research farm.

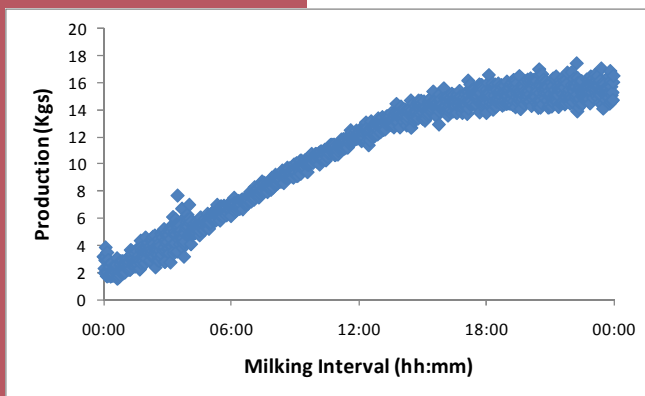




## INVESTIGATION INTO MILK INTERVALS AND IMPACT ON MILK PRODUCTION (cont)

Cows are motivated to move around the farm system voluntarily (thereby milking themselves) in search for an incentive (most commonly the availability of fresh allocation of feed). This creates variable milking intervals across the lactation, and figure 2 reflects the relatively lower milk yields obtained at milking intervals exceeding approximately 18 hours.

The relationship between yield and interval is almost linear up to 18 hours, with a yield increase of 0.8 kgs for every extra hour in milking interval). Beyond 18 hours the relationship between milk yield and interval is reduced which could be associated with a negative impact of these extended intervals on cow production and udder health.



**Figure 2. Graphical representation of the relationship between milking interval and average milk harvested at each milking session.**

Preliminary results indicate that within and between cow variability exists related to milking interval and milking frequency, and that this changes through the lactation.

Previous work has indicated that the extended milking intervals are likely to not only impact negatively on milk production but also udder health.

Management techniques will be implemented to try to address the incidence of these extended milking intervals by increasing the frequency and regularity of cow traffic around the system, aiming at obtaining more regular intervals between milkings.





## AMR - THE NEXT STEP IN ROBOTIC MILKING TECHNOLOGY

The world's first robotic rotary dairy, developed by DeLaval in collaboration with Australia's FutureDairy project, was revealed in Germany and Australia this month,

A pilot of the robotic rotary has been installed and is operating at the Elizabeth Macarthur Agricultural Institute, Camden, NSW (*pictured right and below*).

The robotic rotary has an internal, rotary herringbone platform, with cows facing outwards and the robots housed in the centre. While the Camden pilot has 16 milking points or bails, the commercial product is likely to have 24 with the option of two to five robots, depending on the required capacity of cow throughput.



Developed for Australia's pasture-based dairy systems, the robotic rotary is suited to herd sizes between about 300 and 800 cows.

The robotic rotary automates most milking tasks, enabling the job to be performed as a background activity, without the presence of a human operator. However, there are certain milking-related tasks that require operator input such as activating the washing system; changing parts; attending alarms and managing a separate herd of cows whose milk is not intended for the factory (eg antibiotic and colostrum cows).

The benefits of Automatic Milking have been well recognised overseas where single unit robotic boxes are being widely used to milk herds of up to 300 cows.

Whilst there have been significant savings in labour (time and/or cost) the most valued benefits recognised overseas have been in terms of flexible working conditions and associated lifestyle improvements.

The first commercial robotic rotaries will have the capacity to milk up to 90 cows per hour, depending on number of robots in-

stalled. With different systems and management approaches it will be feasible to milk up to 800 cows twice per day or up to 540 cows three times per day.

To read the full Automatic Robotic Rotary fact sheet please go to the [www.futuredairy.com.au](http://www.futuredairy.com.au) home page.



## AUTOMATIC MILKING ROTARY (AMR) IS LAUNCHED TO THE AUSTRALIAN DAIRY INDUSTRY



*Dr Bill Fulkerson , pioneer of the FutureDairy project with Dr Kendra Kerrisk who helped to bring his ideas to fruition.*



*The Minister Joe Ludwig, FutureDairy Chair Shirley Harlock, Kendra Kerrisk and Andrew Turner (DeLaval) unveil the opening plaque*



*Post Graduate Student Nicolas Lyons (above) presented the operating details of the AMR to guests*



*A presentatioOn was made to Dr Kerrisk by Ian Halliday, Managing Director of Dairy Australia*



*Close to 100 guests were witness to the launch of the new AMR in Australia*

### INNOVATION AWARD

™ The DeLaval AMR received the 2010 EuroTier Gold Medal, a prestigious European award for agricultural innovation. It was presented at the EuroTier 2010 agricultural technology extravaganza in Germany on 16 November 2010.

EuroTier Medals are awarded by an independent innovations commission. Criteria include being a new concept, importance of product for practice, conformity with animal welfare, impact on farm and labour management and the environment and energy situation.

Congratulations to DeLaval on a supreme achievement!



# PRECISION FARMING

## REMOTE SENSING OF RUMEN pH



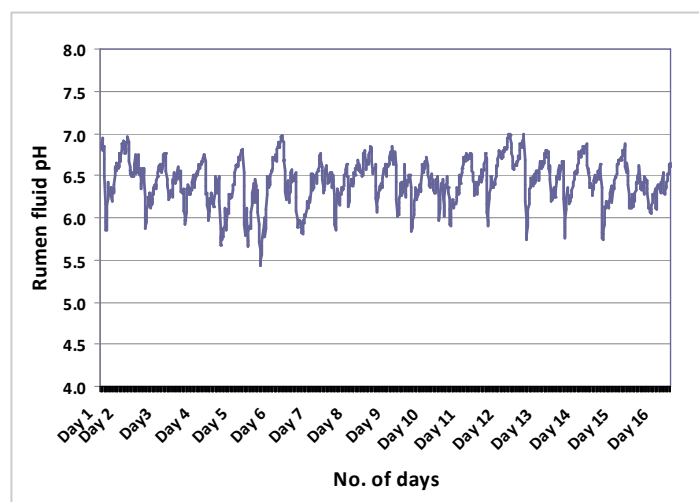
Currently, we are working with a wireless rumen monitoring device (ecow) developed by Dr. Toby Mottram of UK. The system includes rumen boluses and a handheld touch screen PC (Figure 1). These boluses are being tested for their accuracy to receive and transmit data from inside the rumen of cows.



**Figure 1** Components of continuous pH measuring device (a) hand-held PC with internal antenna and (b) e-cow bolus.

An initial testing with these e-cow boluses in rumen of grazing dairy cows has demonstrated promising results with no drift in a 16-day period (Figure 2). We are looking forward to further testing of these boluses in wide range of feeding conditions to determine their sensitivity for a longer period.

**Figure 2** Continuous rumen fluid pH measurements by e-cow bolus during a 16-day period.



## NEW DAIRY RESEARCH SCIENTIST POSITION IN QUEENSLAND

Are you graduating in Ag Sci this year and looking for a warmer climate? a new Graduate Dairy Research Scientist position has just been advertised by Agri-Science Queensland (**University of Queensland – Gatton**) for students interested in pasture/crop science.

If you are interested please see more details at <http://jobs.qld.gov.au> or contact Dr Mark Callow at 07 5460 1385 | M: 0427 740 885  
E: [mark.callow@deedi.qld.gov.au](mailto:mark.callow@deedi.qld.gov.au) for more information.

## FEEDBASE

### CHLOROPHYLL METER TO ESTIMATE YIELD AND NITROGEN USE EFFICIENCY OF MAIZE

FutureDairy is investigating several plant based and reflectance based techniques in order to diagnose nitrogen deficiency of hybrid forage maize and to predict yield and nutrient use efficiency of maize.

Previously, FutureDairy showed that improved technology such as Greenseeker can be used to diagnose nitrogen (N) deficiency and to estimate yield and nutrient use efficiency of hybrid forage maize.

FutureDairy also showed that plant based indicators such as N content of maize plant may also be used as an alternative to Greenseeker to diagnose N deficiency and yield of maize. Recently, we have used Chlorophyll meter as an alternative to Greenseeker and N content of maize plant in order to predict yield of forage maize.

The Chlorophyll meter is easy to handle, light in weight and spatial variation between plants due to the differences in N can be measured.

*A chlorophyll meter being used to collect data from a young maize plant*



# FEEDBASE



## CHLOROPHYLL METER TO ESTIMATE YIELD AND NITROGEN USE EFFICIENCY OF MAIZE (cont)

Data on Chlorophyll meter reading were collected from a large trial that involved two rates of pre-sown and three rates of post-sown N fertilizer applied to maize at six-leaf stage. Range of N fertilizer was from 0 to 293 kg/ha. Each of the N fertilizer treatment received 0, 33, 66 and 100% irrigation water. Data was collected from two to eight leaf stages. We found that Chlorophyll meter readings at eight leaf stages gave a good indication of total biomass matter yield (*see Figure 1*) and nitrogen use efficiency of maize at harvest.

The accuracy of such estimation for biomass yield was similar to that obtained by reflectance based Greenseeker and plant-based N content.

Therefore, the Chlorophyll meter may be used as a more practical alternative to Greenseeker and N content of maize plant to achieve the yield target and to improve nitrogen use efficiency of hybrid forage maize. *For further information contact Dr Rafiq Islam at [m.islam@sydney.edu.au](mailto:m.islam@sydney.edu.au).*

*FutureDairy team members  
Davinder Jhajj and Santiago  
Farina*

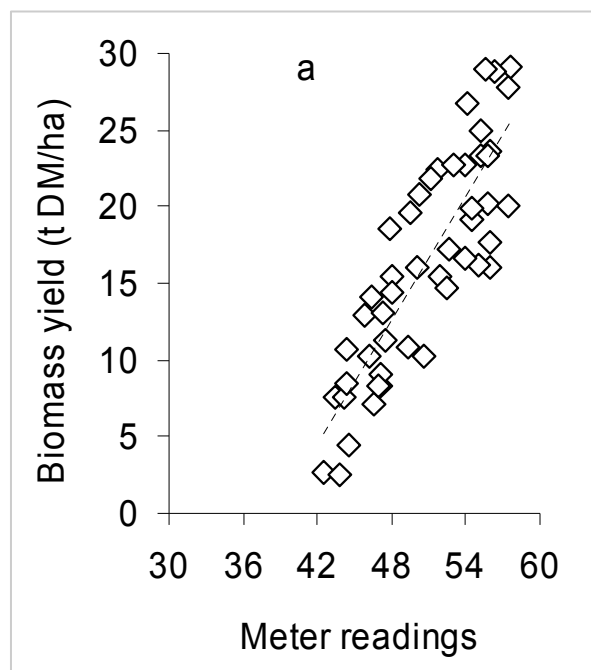


Figure 1. Chlorophyll meter readings of whole maize plant at eight leaf stage can estimate total biomass yield (t DM/ha;  $R^2 = 0.73$ ).

## CROPS TO ALTER MILK COMPOSITION

Dairy farmers may be able to use high yielding crops to manipulate milk composition, according to research by the FutureDairy team at Camden, NSW. The field trial, conducted by Honours student, Douglas Mackintosh, involved lactating dairy cows grazing Persian clover or forage rape (brassica).

There was no difference between the two crops in total milk yield. However cows grazing forage rape produced milk with a higher protein content than those grazing Persian clover. In contrast, cows grazing Persian clover produced milk with a higher milk fat content than those grazing forage rape.

FutureDairy project leader, Associate Professor Yani Garcia, said the effects on milk composition were likely to be due to forage rape having a lower fibre content and higher energy than Persian clover.

Energy intake is the main driver of milk protein content so the higher the energy concentration in the feed, the higher the content of protein in the milk.

“We know from previous research that both forage rape and Persian clover are high yielding crops, providing quality feed during the autumn, when quality pasture is typically in short supply,” said Assoc. Prof. Garcia.

FutureDairy’s results suggest that dairy farmers with pasture-based systems can choose the forage crop that best suits their needs.

“With forage rape, we should expect higher yields in early autumn and possibly an increase in milk protein content, according to these results. Persian clover will be a better fit where the feed deficit occurs in late winter and early spring,” he said.

This has been the experience of some farmers involved in FutureDairy’s Hunter Valley on-farm trials.

“Two of the farmers grew forage rape to fill the feed gap in early winter.

Compared with the previous year, their annual results show increases in total milk solids per cow, milk solids per kg of body weight and an increase in overall annual milk protein production,” said Assoc. Prof. Garcia.



Student Doug Mackintosh’s (above) research has found that cows grazing brassica, or forage rape, produce milk with higher protein content than cows grazing Persian clover.

*For more information, contact Associate Professor Yani Garcia, FutureDairy, ph (02)*

*4655 0621 email [sergio.garcia@sydney.edu.au](mailto:sergio.garcia@sydney.edu.au)*



## FEEDBASE

### NORTHERN VICTORIA PROJECT UPDATE

The Northern Victoria Future Dairy Project is progressing along well with four farmers confirmed to be participating and a fifth farmer about to come on-board. The on-farm monitoring has commenced in October with fortnightly measurements of the feed-base and milk production.

The farmers all have one thing in common, a desire to profitably increase the amount of home-grown feed used in the diet as well as total milk produced per ML of water. The farmers have been selected with the help of Murray Dairy and in consultation with local service providers. They all are unique and will provide interesting case studies of how to apply the principles from Future Dairy's previous work into a commercial operation reliant on irrigation water. Work is also continuing with the Dookie project (Uni of Melbourne) to establish a link to enable collaborative work in both projects and also into the future.

For more information contact Michael Campbell at [michael.campbell@sydney.edu.au](mailto:michael.campbell@sydney.edu.au)

## CAMDEN FARMS

### Westwood

A large grant from the Sydney Catchment Authority via the IINSW Smart Farms Project has enabled the University Farms to commission a new irrigation system on its Westwood property.

The method being used is a lateral irrigation system with water being pumped from the Nepean River. This will enable the irrigation of 35ha at Westwood Farm.

A similar but more complex system will soon be commissioned on Corstorphine Farm.



*The newly commissioned irrigation system at Westwood farm*



*Harvesting on Westwood Farm in Camden*

## THE HUNTER VALLEY PROJECT



*Grazing on one of the Hunter Valley properties involved in this project*



*Tim Freeman and Ross McDarmont are involved in the FutureDairy Hunter Valley Project*



*Ongoing monitoring of trials in the Hunter Valley*

Research within the Future Dairy project has shown in the past that a Complementary Forage Rotation (CFR) can consistently produce over 40 TDM/ha.

The integration of the forage rotation principles with efficient pasture production has resulted in Complementary Forage Systems (CFS) that can produce 25tDM/ha across the whole farm.

It is always important to show that research will still work when applied to commercial farms, and as such, the Hunter Farm Project was launched in July 2009.

Six farmers were enlisted to work together with the research and extension teams (Future Dairy's research team and Industry & Investment NSW Dairy Extension Officers Kerry Kempton and Anthea Lisle) to ground truth the research.

According to the Dairy Australia definition of Feeding Systems, two of the farms could be described as System 2 (Pasture plus other forages with moderate to high concentrate feeding in bail), and four farms could be described as System 3 (Partial mixed ration with or without concentrate feeding in bail).

These two feeding systems are by far the most common within the Hunter Valley dairy industry. Only two of the farms had grown maize for silage in the past, and the other four had no experience with bulk crop silage.

All of the farmers were keen to increase home grown feed and reduce their reliance on purchased feed where possible; they also had the resources and desire to try new approaches to forage production and were prepared to provide farm data.

## THE HUNTER VALLEY PROJECT (cont)

Throughout the first year of the project, data from all six farms was collected and analysed, and a monthly monitoring and reporting process was put into place, tracking feed growth, quality and intake, and financial efficiency on farm.

Feed budgets and production targets were also set, and an action plan put into place to guide the farmers in achieving their goals. A photographic diary of pastures and crops on farm was kept across the 12 months, and farm walks and group discussion of short- to medium- term challenges occurred regularly. Special attention was paid to the cost and productivity of the CFR area, to monitor what contribution that area made to whole farm production.



The first 12 months of the collaborative process for Future Dairy Stage 2 has been successful in farms moving towards their individual goals. All of the six increased forage production significantly on the part of the farm targeted for applying the CFS principles (*see Table 1 on page 17*). For most this translated into extra home grown forage over the whole milking area, and decreased their costs of home grown feed as well. However, two of the farms did not make significant increases, mainly due to other factors outside of the scope of the project.

The project team and all of the six collaborating farmers have committed to a further twelve months of participation in the project. During this time, different species across each farm will be evaluated for their contribution to the dry matter production across the farm. Farmers feel that they now have more confidence to strive for higher production off the allocated CFS area, as well as concentrating on controlling their purchased feeds.

For further  
information on  
articles published in  
this newsletter



please contact us on  
+61 2 9351 1631  
or by email at  
[vetdrf@usyd.edu.au](mailto:vetdrf@usyd.edu.au)



## THE HUNTER VALLEY PROJECT (cont)

Table 1: Key features and results from of the 6 Hunter Valley Farms

	Farm A		Farm B		Farm C		Farm D		Farm E		Farm F	
CFS Rotation used from October 2009 (yields achieved and projected)	Maize 21 tDM/ha Brassica & annual ryegrass 9.8 tDM/ha <i>projected</i>		Maize 15 tDM/ha Annual ryegrass 6.97 tDM/ha <i>projected</i>		Forage sorghum silage 12.8 tDM/ha Ryegrass/lucerne/chicory/oats mix 8 tDM/ha <i>projected</i>		Maize 19.5 tDM/ha Brassica, annual ryegrass & oats 13 tDM/ha <i>projected</i>		Maize 1 15.9 tDM/ha Maize 2 9.5 tDM/ha Triticale with maple peas 8 tDM/ha <i>projected</i>		Forage sorghum silage 10 tDM/ha Perennial ryegrass & clover 8 tDM/ha <i>projected</i>	
CFS area: ha:% of milking area	17 ha 15%		10 ha 15%		9 ha 15%		8 ha 15%		20 ha 14%		8 ha 6%	
Total projected yield on CFS area	31 tDM/ha		22 tDM/ha		21 tDM/ha		33 tDM/ha		34 tDM/ha		18 tDM/ha	
Forage utilisation over whole farm (tDM/ha)	08/09	09/10	08/09	09/10	08/09	09/10	08/09	09/10	08/09	09/10	08/09	09/10
	10.8	12.4	13.2	13.6	12.2	13.4	11.5	14	11.0	12.2	11.0	11.5
Difference in forage utilisation	15%		3%		10%		26%		10%		5%	
Cost of home grown feed \$/tDM	281	260	165	126	121	91	160	169	112	145	104	108
Difference in cost of home grown feed	-7.6%		-23%		-25%		6%		29%		4%	
CFS targets for 2010 / 2011	20 ha Total <b>36tDM/ha</b> Maize 25tDM/ha Brassica (leafy turnip) and ryegrass (short season annual) 11tDM/ha		10 ha Total <b>36tDM/ha</b> Maize 25tDM/ha Brassica (leafy turnip) and ryegrass (short term annual) 11tDM/ha		9 ha Total <b>26tDM/ha</b> Forage sorghum silage 13tDM/ha Pasture 13tDM/ha		8 ha Total <b>38tDM/ha</b> Maize 25tDM/ha Brassica (leafy turnip) and ryegrass (long term/biennial) 13tDM/ha		20 ha Total <b>40tDM/ha</b> Maize crop 1: 20tDM/ha Maize crop 2: 12tDM/ha Triticale and legume: 8tDM/ha		12 ha Total <b>25tDM/ha</b> BMR 12tDM/ha Brassica (leafy turnip) and ryegrass (long term/biennial) 13tDM/ha	



*PhD student Santiago Farina  
checking his clover crop*



*Masters student  
Daniel Dickeson*



*PhD student  
Michael Campbell*



*PhD student  
Anas Al-Makhzoomi*

## POST-GRADUATE STUDENTS

### **Santiago Farina**

After 3 years of hard work Santiago has submitted his thesis and is currently waiting on feedback from the examiners.

Santiago will start working as a consultant for Interlact in December.

### **Daniel Dickeson**

Daniel is another student who has recently submitted his thesis. He is hoping to receive examiners feedback very soon to enable him to revise and resubmit.

Daniel continues on as a staff member with the FutureDairy team.

### **Michael Campbell**

Michael is running the Northern Victoria Project from his base in Wagga as part of his recently started PhD.

Michael was also the winner of this years Young Scientist Award at the Dairy Research Foundation Symposium Congratulations Michael!

For more information about this work please see the project update on page 12.

### **Anas Al-Makhzoomi**

On the 23rd and 24th of September I attended the Metabolic Symposium 2010 in Melbourne. Some modifications will be added to my manuscript and data with the coordination of Pietro Celi, Herman Raadsma and Peter Thomson.

By the end of this year, I am hoping to produce a publishable peer reviewed journal article.

Concurrently, my project is being modified with some changes by my supervisors Pietro Celi and Herman Raadsma and in coordination with the CRC.

## POST-GRADUATE STUDENTS (cont)

*Masters student  
Rene Kolbach*



### **Rene Kolbach**

I've been working now for 6 months on my research Masters around the new prototype automatic milking system.

The main focus of the masters project is quantifying the potential throughput, performance and limitations of the new prototype of AMS with regard to on-farm application in an Australian pasture-based system.

Some exciting developments have occurred in the last weeks. My first talk at a conference has taken place at the DRF symposium in Camden. And recently DeLaval, one of the FutureDairy sponsors, announced the development of the world's first Automatic Milking Rotary (AMR™, [www.delaval.com](http://www.delaval.com)).

The AMR is the system where my research is being based. It is exciting to be involved in a project like this as a Masters student. The robotic rotary will be unveiled by DeLaval in November in Camden, Australia and at the EuroTier 2010 show in Germany.

I'm sure this will be the next step in automation of the dairy industry and I hope to show you the first research findings as the opportunity arises!

### **Nicholas Lyons**

I have been analyzing a whole set of historic data from the AMS at Camden, made up of more than 230 lactations and more than 130,000 milkings, in order to be able to analyse the impact of long milking intervals and high variability in milking intervals, on production of cows milked under a voluntary and automatic pasture-based system.

Findings up to the moment have shown that intervals above 18hrs have a negative impact on production, which is in accordance to previous studies relating to cow health (refere article on page 6).

I am currently using all that information, to design trials in order to improve cow traffic, which is expected to result in a more constant flow of cows to the milking station, increasing the efficiency of the whole system.



*Masters student  
Nicholas Lyons*

## POST-GRADUATE STUDENTS (cont)

### Helen Golder

I am currently undertaking further statistical analysis on the results of my first animal trial that aimed to assess if sugar and histidine content of pasture is increasing the risk of subclinical acidosis.

I will soon be looking at oxidative stress in plasma samples taken during this trial.

I attended and displayed a poster at the Australian Society of Animal Production Conference held at Armidale in July and presented a snapshot of the results of my trial work at the Dairy Research Foundation Conference held at Camden in September.

*Note:* Helen was the runner up of this years Young Scientist Award. Congratulations Helen!



*Masters student  
Helen Golder*



*Visiting student  
Gaatze De Vries*



*Visiting student  
Ewoud Nauta*

## VISITORS TO CAMDEN

### Gaatze De Vries

Hello, I am Gaatze de Vries. I am from the Netherlands and am doing a 5 month internship with the FutureDairy Project to work on and gain experience in the field of Automatic Milking Systems (AMS) .

At home we have a dairy farm with 95 cows and 80 heifers and calves. I am studying at the **Van Hall Larenstein (University of Applied Science)**, in Leeuwarden, in the north of the country.

I have experience on working on dairies in both the Netherlands and in Canada.

I hope to learn a lot about Australian farming systems and look forward in applying this knowledge back home.

### Ewoud Nauta

Hello, I am Ewoud Nauta. I am from the north of the Netherlands, where I am studying at the **Van Hall Larenstein (University of Applied Science)** in Leeuwarden.

The Bachelor of Dairy Farming includes all facets of dairy farming, from the daily farm management through to long term strategies, innovation and sustainability.

My experience has been working on a number of dairyfarms in Holland and Denmark.

I am doing a 5 month traineeship with FutureDairy, to gain experience in doing research on and around a dairy farm.

