

Dairy  
Australia  
Your Levy  
at Work



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## About the newsletter

*This newsletter is distributed bimonthly, and circulated electronically via email. We aim to include exciting and inspiring works that are being done nationally in the dairy on-farm NRM area. A copy of the newsletter can also be found on the Dairying for Tomorrow website*

<http://www.dairyingfortomorrow.com.au>

*We hope you enjoy it, and feel free to circulate to any interested parties. Future contributions are most welcome and can be emailed to us - contact details at end of the newsletter.*

## Field Trials: Reducing Nitrogen Loss

Nitrogen fertilisers are an important part of today's intense agriculture farming systems. Since the introduction of nitrogen based fertilisers to agriculture there has been significant increase in pasture yields and production levels. However, nitrogen in the ammonia (NH<sub>3</sub>) form is easily leached and is quite volatile and therefore must be carefully managed in the environment.

Urease inhibitors applied to nitrogen fertiliser can stop the conversion of ammonium NH<sub>4</sub> (stable form of nitrogen) to ammonia NH<sub>3</sub> (unstable form of nitrogen). This conversion is prevented by urease enzyme inhibiting nitrifying bacteria that are responsible for the change in nitrogen chemistry.

Traditionally urease products have been used in New Zealand to stop winter leaching of nitrogen. In North and South America corn crops have gained up to 20% increase in yield when using urease products.

A urease inhibitor trial is currently being undertaken on two dairies in South Australia; Donovan's Dairy and Harrimar.

The aim of the trial is to reduce the ammonia loss to the atmosphere and leached to the ground water in irrigated pasture systems through the use of urease inhibitors. Two products are being used, a urease coated urea and a urease/nitrification nitrogen based liquid product, both of which are commercially available.

Measurements recorded are dry matter, sap nitrate and soil water nitrate, pH and electrical conductivity.

Rick Jordan manager of the project hopes to see production improvement with the urease treatments which will benefit the farmer's bottom line while looking after the environment.



Above: Rick Jordan monitoring the urease trials in South Australia

*This project is funded by the Department of Agriculture Fisheries and Forestry: FarmReady Industry Grants and supported by DairySA.*

For further information please contact Janice Perry, Dairying for Tomorrow project officer 0400 278 498 or [Janice@advantageag.net.au](mailto:Janice@advantageag.net.au)

## SA dairies secure funding for water use efficiency

Dairy farmers in South Australia's south east will benefit from over \$70 000 in funding from Governments Farm Ready Industry grants program.

South East Dairy farms face reduced water availability from climate change and revision of water allocations. This project will assist farmers to develop a better understanding of irrigated farm production and greenhouse gas emissions by

utilising available water use efficiency and emissions calculators to test different scenarios on farm. By testing the scenarios, farmers will be able to confidently adapt their businesses to meet the challenges of profitability and climate variability.

The project has 2 components:

- the use of the "DGAS" dairy greenhouse gas emissions calculator to demonstrate the impacts of different farm management systems on the level of greenhouse gas emissions from farms, and
- the use of the water use budgeting tool to assess potential water use across various forage and crop options as well as to prompt irrigation scheduling and water use efficiencies on farm.

The project, supported by DairySA will run over 12 months with farmers having access to the tools through discussion group meetings, workshops and project updates from Dairy SA.

For more information please contact Monique White, Dairying for Tomorrow Coordinator for SA on 0400 972 206 or email [monique2@internode.on.net](mailto:monique2@internode.on.net).

## MGFarmC@re leads to on farm change

When Tom & Nicole Pouw of Hallston, Gippsland became participants of Murray Goulburn's FarmC@re- Environment Program, they felt that this was an opportunity to demonstrate their environmental credentials and take-on some new challenges.

"We wanted to get in early because I have a feeling that things will go like Europe in Australia and this all prepares us," says Tom.

Milking 160 to 180 cows on a steep milking area of 125 ha is not without its management challenges. Providing shelter across the 175ha property became

a priority for Tom when he took over the family farm thirteen years ago.

"Some of our hills are exposed to both intense direct sun in summer and blustery winds in the winter," provides Tom.

Together with their young family of three boys, Tom and Nicole have planted thousands of trees and fenced kilometres of shelter belts, steep gullies and creek stream banks. They have found that where trees have provided shelter from the extreme elements, pastures are growing much more vigorously at certain times of the year and persistence has greatly improved.

In 2004 they set about fencing and revegetating approximately 2km of creek over a three year period.

"We used to lose six to eight of our animals each year in the creek," says Nicole. "Fencing it out has stopped that and it has also gained us increased pasture in areas that used to be boggy most of the year round, and we used the fence lines to further divide paddocks."



*Above: Tom & Nicole Pouw together with youngest son Leigh (5) believe the MG FarmC@re-Environment Program has helped them focus on some new challenges for their farm.*

The Pouw's have mapped out their farm on eFarmer as part of the FarmC@re Program, discovering the true extent of their achievements.

They have fenced 8.5 ha of remnant vegetation and can claim similar revegetation areas.

"eFarmer has provided us with a way of measuring all our paddocks and has encouraged me to design a paddock numbering system at last!," laughs Tom.

Drier and more unpredictable seasons have prompted the couple to introduce changes to the way they handle water and effluent in the dairy. Recently a water audit was undertaken in the dairy where they discovered by capturing rainwater and reusing their plate cooler water they have a few megalitres of water as breathing space under their current licence arrangement.

And, with nearly ten years of effluent built up in their ponds, last month they turned on a new effluent application system. Now 14% of the milking area can be irrigated with a moveable sprinkler and this resource will be factored into their nutrient budget, developed through the FarmC@re Program. The effluent area will be added to the current soil testing program to closely monitor the build-up of nutrients

Tom also has plans in place to lift the overall pH across the property. With adequate PKS levels, but emerging issues on some paddocks with Aluminium and Magnesium levels, Tom plans to concentrate on a liming program over the next three to four years.

"The farm has never had any lime applied in it's history so I think it is about time I give it a go and closely monitor the effects."

"FarmC@re has certainly opened our eyes to the responsibilities we have, and my feeling is that it's going to get even greater," says Nicole, "but it has been a good starting point for us and has certainly made me realise that we are on the right track with much of our thinking."

*FarmC@re- Environment services are provided by Marguerite White (Gippsland & North Vic) on 0447 500 415 and Sam Dalziel (South West & South Australia) on 0421 577 921. MG's FarmC@re- Environment Program is supported by funding from the Australian Government Department of Agriculture Fisheries and Forestry under its Australia's Farming Future Initiative.*

## Out & About in Western Victoria



Above: Tim Bligh (Basalt to Bay Landcare Network Chairman) Louise Sheba (DfT Coordinator Western Victoria) and Cathy Phelps (Dairy Australia NRM Program Manager).

The Dairying for Tomorrow program has been promoted in western Victoria through meetings with key NRM stakeholders in the region.

In December Cathy Phelps and Louise Sheba met with Basalt to Bay Landcare Network Chairman, Tim Bligh to discuss his groups' projects and NRM issues. It was also an opportunity for Tim to become aware of the NRM actions Dairy Australia is undertaking and the role that Louise will have in the region as Dairying for Tomorrow Coordinator.

Cathy and Louise also met with the Heytesbury District Landcare Network Chairman Richard Gloyne and Landcare Coordinator Ben Roberts. These meetings are very valuable as the networks have contact with dairy farmers and have an ear to the ground regarding dairy farmer NRM issues and concerns. The networks have identified what NRM tools work best for their farmers and which ones need further development to reach a target audience.

In addition, Cathy and Louise met with key managers and officers from Corangamite CMA and

Glenelg Hopkins CMA. This was beneficial in the development of project ideas and ascertaining what type of incentive grants are available to farmers. Since these meetings Louise has been working with Rod Eldridge of Dept. of Primary Industries to put together an NRM matrix of the incentive grants currently available to dairy farmers.

February 11<sup>th</sup> and 12<sup>th</sup> saw the finalisation of Down the Track – Dairy 2020 (the Western Victorian and South East South Australian Dairy Industry Strategic Plan). The strategic plan will identify NRM actions for inclusion into the regional NRM Action Plan. It is aimed at achieving a high level of input from dairy farmers and dairy industry participants and provides direction on how the industry can increase milk production by 50% by 2020.

## Nutrients a focus in Tasmania

What are the appropriate nutrient levels on modern day dairy farms? How much do nutrients vary across the farm? What can be done to better manage soil nutrients?

DairyTas has secured funding from the Cradle Coast NRM for an extension project on Dairy Nutrient management. Part of this project involves doing full farm soil testing and nutrient mapping on 6 farms in the Northwest Tasmania region, with one of these farms being on King Island. Farmers chosen for these exercises are Paul & Rachael Hamilton (Elliott farm), Paul Lambert (Sth Riana farm), Rod Butler of East Ridgley, Brett & Vanessa Ford of Paradise, Gary & Helen Strickland of King Island and Darren Charles of Mawbanna. Dairy farmers were selected to cover the Cradle Coast region.

Another part of this exercise is to review the performance of 3 farms that had previously been evaluated. This will identify how any change of management has impacted on grass growing and nutrient distribution.



*Above: Jo Lyall of TIAR, taking core samples of a paddock in the current project*

Soil testing on the farms, being coordinated by Dr Bill Cotching of TIAR, (Tas Institute of Agricultural Research) commenced in February and results will be available in the coming months. Some field days will be arranged to distribute findings in their regions.



*Above: Jo Lyall gently preparing some soil samples for analysis.*

The project will deliver an extensive soil nutrient evaluation of the levels of phosphorous, potassium, sulphur and pH of all paddocks of their respective farms, ie. all P,K,S & pH. This information will be mapped to more clearly identify the varying levels across the farm. A budget of recommended nutrient addition will be prepared for each farm, based on all

calculated inputs and outputs of that farm. This also includes a potential savings calculation, based on previous additions of nutrients.

## *Soil Carbon Facts*

Dairy Australia has released an important literature review this month. "Soil Carbon Sequestration Under Pasture in Southern Australia" was compiled by Dr David McKenzie of McKenzie Soil Management Pty.Ltd.

The main focus of the review is on issues associated with soil carbon sequestration for climate change abatement in the dairy industry of southern Australia. The likely challenges and opportunities for dairy farmers are explored.

For a copy of the literature review contact Catherine Phelps - Natural Resource Management Program Manager Ph 03 9694 3730.

## *DairySAT action in South Australia*

Managing a balance of resources is how John and Karen Hunt see their role on Oamaru Farm, South Australia. John a second generation farmer and Karen a third generation farmer from New Zealand have been the equity managers on the Kongorong dairy farm for the past two years. This dynamic farm is owned by partners Chris Procter, and Will Nixon Andrew & Rob McKeller.

450 cows are milked on this irrigation farm with an annual milk production of 8 million litres. "Our farm is a low input system with medium to high output, our system is grass based and we only annually feed 300 kg grain/cow using 200Kg nitrogen/ha/year" John says.

John is a member of the South East Regional Dairy Committee and was very interested in participating

in DairySAT to develop a whole farm natural resource management action plan.

John commented “things have changed since the old days. We have to be more accurate farmers. Changes have to be made to be more cost effective and conserve the environment. It is uneconomical to put inputs like fertiliser and water down the drain and it also has environmental consequences.”

The action points identified from working through the DairySAT book have allowed the Hunt’s to prioritise their plans. An effluent upgrade was a major action point, John and Karen hope to reduce their fertiliser budget by 30% with an upgraded traveller hard hose effluent system.

Increasing native shelter belts on Oamaru is another action point. With little remnant vegetation on the property, The Hunts plan to plant natives around the edge of the pivot and to protect the travelling irrigated areas. Karen said “we want a pleasant place to work and live, and increasing the shelter belts will help this.” “We are also putting in an energy saving hot water service, this will reduce our hot water bill by 75%” John remarked.

Efficiency of the irrigation system is continually monitored using rain gauges and meter readings. Monitoring starts one month before the irrigation season commences. John says, “this is a important part of our business to ensure plants are not stressed and behind in production before the irrigation season starts.” He continues by saying “knowing your raw and consistently irrigating and matching with good grazing is an important part of our business”

John’s philosophy is “if you can get the ground and grass right, then the rest will come.” The DairySAT action plan and recognition of good practice has reinforced his commitment to sound NRM practices. He continues to say that “sustainable practices must be practical, make sense and fit with our system”.

John believes that Australia will have to produce “clean” milk. Dairy farmers across Australia will have to keep up with a national standard and tools like DairySAT play an integral role.

*This project is funded by the Department of Agriculture Fisheries and Forestry: Caring for our Country program and supported by DairySA.*

For further information contact DfT Coordinators: Kylie Boston 0407 231 547 or Janice Perry 0400 278 498



Above: John & Karen Hunt in their dairy.

## Healthy Soils Field Days in Gippsland

We need to understand what’s going on beneath our feet if we want to manage our soils effectively and efficiently.

That was one of the key messages delivered to the 180 participants – mainly farmers and agronomists – who attended the *Healthy Soils, Sustainable Farms* field days held in Maffra and Leongatha South during February.

The two field days, both held on working dairies, were the first in a series of industry specific, on-farm field days to be held as part of the *Healthy Soils, Sustainable Farms – Tackling Acidification in West Gippsland* project. The project, which is funded by the Australian Government’s Caring for our Country,

aims to help farmers make informed decisions regarding the most appropriate soil management strategies for their business.

Project coordinators Joanne Caminiti, from the West Gippsland Catchment Management Authority, and Jenny O'Sullivan, believe that the high number of participants reflects the growing interest in soil health amongst Gippsland farmers. It is also indicative of the confusion that many farmers face when comparing the different approaches and products – ranging from the conventional through to alternative – that are being offered in the market place.

“We want to give farmers and their advisers the opportunity to explore, question and evaluate different approaches, without any pressure to go down any particular path or buy a particular product,” explains Jenny. “We want participants to challenge and maybe even be challenged, but to not feel threatened.”

The field days were held at the Macalister Demonstration Farm at Maffra (an irrigated dairy farm), and Max and Barbe Jelbart's dryland dairy farm at Leongatha South.



Above: Field day participants inspect the soil pit at Max & Barbe Jelbart's property, Leongatha South.

Each field day opened with a talk by a soils scientist, Doug Crawford, from the Department of Primary Industries (DPI), explaining the causes of acidification and the impacts that chemical

imbalances can have on plant growth and farm viability.

This was followed by a presentation by Dr Damian Bougoure (also from the DPI) about the complex biological processes occurring in our soils, and the vital role that microorganisms play in the nutrient cycle.

The final speaker was Graeme Sait, from Nutri-Tech Solutions, who has carved out a niche for himself in the field of sustainable agriculture.

Each field day featured a farm walk to a purpose-dug soil pit in two differently managed paddocks, to examine (with the assistance of Doug Crawford) root mats and soil profiles. Doug gave his interpretation of the impacts of different management strategies, such as irrigation, laser grading, regular applications of lime and deep ripping, on soil structure and pasture growth.

A theme common to each speaker was the need to soil test (and possibly tissue test) regularly, and comprehensively, to get an accurate picture of where a farm's soils are headed.

Feedback from participants revealed a strong interest in on-farm trials to evaluate a range of strategies discussed at the field days. Both Jenny and Joanne say that the potential for on-farm trials will be discussed at a work shop to be held at the completion of the project in June this year.

For information about the field days, or the project in general, contact Jenny O'Sullivan on (03) 5663 2386 or [osulliva@dcsi.net.au](mailto:osulliva@dcsi.net.au), or Joanne Caminiti on 0417 324 987 or [joannec@wgcm.vic.gov.au](mailto:joannec@wgcm.vic.gov.au).

## Service providers focus on DairySAT

With the recent launch of the revised DairySAT, 26 service providers from across the Gippsland region were provided with the opportunity to learn more about the tool.

The workshops were held at Traralgon & Ellinbank in November 2009 and allowed people servicing the dairy industry to share their experiences of using DairySAT. Positive aspects of DairySAT, challenges in using it and future opportunities were all discussed with enthusiasm.

The group drew on experiences from within Gippsland as well as other Australian dairy regions. Future opportunities to integrate DairySAT into various projects as well as collaborations amongst those present were identified.

Marguerite White from Murray Goulburn's FarmC@re project shared her recent experiences of using the online DairySAT tool with farmer groups. Jenny O'Sullivan explained how Queensland's Dairying Better 'n Better program was used to design a program which saw more than 50 farm businesses take up and use DairySAT.

## Woolworths funds for Gippsland

GippsDairy has secured \$22,000 from the Woolworths Sustainable Farming Program. The funding will be used to update regional extension material and produce five local case studies. The case studies will focus on practical and replicable systems that manage and distribute effluent and nutrients in an efficient manner.



Above: Effluent being spread on a Gippsland farm.

GippsDairy will work with the Department of Primary Industries, the Environment Protection Authority and the West Gippsland Catchment Management Authority in a combined effort to improve extension of nutrient management in the region.

## Coming Events

### "Milking the Weather" information sessions

- Understand the drivers of Gippsland's weather.
- Make the most of the Bureau of Meteorology's website.
- Understand the benefits and limitations of weather forecasting

**Poowong** March 18, 11 – 1 pm

**Fish Creek** March 18, 7.30 – 9.30 pm

**Yarram** March 22, 11 – 1 pm

**Maffra** March 22, 7.30 – 9.30 pm

**Orbost & Stratford:** dates to be announced

For more information contact Gillian Hayman, DfT Coordinator 03 56832663 or [ghayman@dcsi.net.au](mailto:ghayman@dcsi.net.au)

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