



Dairying for Tomorrow Newsletter

December 2013

Australian Dairy sector compliant with Unilever's Sustainable Agriculture Code

Australia has become the first country to ensure its entire dairy sector is compliant with Unilever's Sustainable Agriculture Code.

All dairy production accredited by Dairy Australia – which represents the country's entire dairy sector - now meets the demands of the code, which measures 11 key indicators: soil health and fertility, soil loss, nutrients, pest management, biodiversity, energy, water, social and human capital, local economy and animal welfare.

As a result, all Australian-produced milk is now recognised as 100% sustainably sourced.

Dirk Jan de With, Procurement VP Ingredients & Sustainability at Unilever, said: "We have partnered with Dairy Australia over the past 18 months to benchmark the Australian dairy industry's production standards against our Sustainable Agriculture Code standards. We were encouraged to find that Australia's dairy industry is compliant with the Sustainable Agriculture Code."

Dairy products from South East Asia & Australasia account for about 5% of Unilever's total dairy supply.

Ian Halliday, Managing Director of Dairy Australia said: "We are absolutely delighted that ours is the first dairy industry in the world to be recognised as meeting Unilever's sustainability standards. We intend to show continuous improvement towards improving sustainable dairy farming."

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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 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.



As a next step, to drive even higher standards of sustainable production, Dairy Australia, together with suppliers Murray Goulburn, Fonterra, and others have agreed to implement a pioneering sector wide project to focus on soil use, biodiversity and waste management. This partnership for improvement will involve about 100 farms across Australia's eight dairy regions.

Unilever also continues to work to drive sustainability initiatives with other suppliers around the world. As part of its Sustainable Living Plan, it aims to source 100% of all dairy produce used sustainably by 2020. At the end of 2012, it had achieved 31% of its goal, up from 10% in 2011.

By taking a long term view on sustainability, Unilever hopes to ensure the security of its supply of raw materials, to reduce costs and to protect scarce resources.

Further information <http://www.unilever.com.au/media-centre/news/SustainableDairySourcing.aspx>

Gippsland Nutrient Summit

On October 31, the Gippsland region welcomed visitors Dr Alice Melland & Professor Mark Rivers for an update on nutrient management in the dairy sector.

Recently returned from Ireland, Alice worked at Teagasc in the Agricultural Catchments Programme. Teagasc is Ireland's agriculture and food development authority. She is now based at the University of Southern Queensland at the National Centre for Engineering in Agriculture.



Alice captivated the Gippsland audience with her extremely interesting presentation. She spoke about compliance in the dairy sector within the EU & Ireland focussing on dairy catchment water quality.

Ireland has a plan, Food Harvest 2020 which sets out goals for Smart, Green Growth within the agricultural sector. The goals are as follows

- 50% increase in milk product
- 20% increase in value of beef product
- Sustain crop outputs without increasing area

Alice described the dairy sector in Ireland as grass based, spring calving, winter housing 12-16 (up to 20) weeks, milk factories – almost 100% co-operatives, mainly export market (about 90%).

Ireland is legislated within the European Union and has a system of 'subsidies & sticks' to manage water quality. There are restrictions to stocking rates, maximum fertilisation rates and a limit to external nutrient inputs on some soils. It was interesting to hear Alice speak about the many benefits of such a system but also the restrictions resulting from policies.

Alice recently conducted a review of the monitoring of catchment scale works to assess whether the measures of work in dairy catchments was on the right track. The review focused on the impacts of agricultural land management practices on surface water quality, it encompassed 24 studies within Europe, North America, Brazil and New Zealand.



The key finding of this review was that lag times are significant and it can take up to 4 - 19 years to measure the impacts of best management practice approach. A 'no measurable effect' is common, there were few reports of costs or cost-effectiveness at catchment scale and fewer reports of ratio of costs of implementation to value of benefits.

Professor Mark Rivers from the University of Western Australia spoke about recent dynamic simulation modelling work undertaken on some of the Gippsland Lakes catchments as part of a Dairy Australia funded project. Modelling was undertaken to assess the impacts of farm-scale land management change on catchment-scale water quality. The conceptual models built by Mark & his team place farming within this broader catchment context.

The modelling of changes to land use mosaics within the catchments provided great insight into the relative roles within the catchment P system of the various land uses. While dairying uses large amounts of P, the effects that dairy farm management can have at the catchment scale when these farms represent only a small proportion of the landscape are limited.

The most important conclusions from Mark's research are that:

While State and regional environmental management and regulatory agencies continue to set optimistic goals for water quality protection, this research shows that these targets are not achievable within current landscape paradigms even after broad scale BMP implementation, and that either these targets must be re-considered or that significant land use change (rather than simply improved management within current systems) must occur to meet the targets.

Catchment-scale effects of P losses at the farm scale are a complex function of P-use efficiency, landscape position and landscape footprint. Simply targeting those land uses perceived to have high nutrient loss rates does not adequately address the problem.

Catchment P management must be considered in a more inclusive and holistic way, and these assessments should be used to inform future planning policies and development plans if environmental goals as well as community expectations about the productive use of agricultural land are to be met.

Further information contact Gillian Hayman, Dairy Australia NRM Technical Specialist, Gippsland 0428345493

Rewards for Protecting Valuable Vegetation



Above: Some of the vegetation covered under the Critchleys' management agreement

South Australian dairy farmer Vince Critchley reckons the benefits of his native vegetation management agreements with the Federal Government well and truly outweigh the costs.

'It is the way it should be done: long term ongoing agreements that the farmer can build on or improve upon in the future. We do the work anyway, this makes it profitable,' says Vince.

He has 160 hectares of native vegetation on his farm that is covered by two 15 year management agreements as part of the Federal Government's Multiple Ecological Communities (MEC) project designed to protect Peppermint Box Woodlands.



Vince worked with the project team to develop a management plan for the land covered by the agreement. The plan includes activities such as weed control and monitoring that will be undertaken. It allows for grazing but the level is reduced from what he would have done if he wasn't participating in the project.

'Development of the plan was a piece of cake with support provided by project staff to get it done,' says Vince. 'They came out on site and assessed the vegetation and rated its value.'

With the plan in place, Vince was then able to put a tender to the program. The tender price included the costs of loss of income as a result of the reduced grazing, and stopping of firewood collection and moss rock removal, as well as weed control and monitoring costs. Applicants submit one price which is assessed by the project team. Approved agreements provide 15 years of a fixed income to implement the management plan.

The MEC project is an acknowledgement by government that there needs to be an ongoing income stream for farmers to be able to actively manage important remnant vegetation. There needs to be a 'triple bottom line': supporting the environment, the business and the people. The project uses existing landholders to provide a management service for the environment, making it profitable for the landholder.

'If I wasn't getting the payment I would have to graze the area more heavily and it wouldn't have the environmental value,' confirms Vince. 'It is really exciting. I couldn't have afforded to achieve the protection of the remnant without the program but now groups like Trees for Life are using the area to collect seed for their seed bank.'

A similar State Government program delivered through NRM Boards called BushBids allows for five year management agreements.

More information Monique White, NRM Technical Specialist 0400 972 206 or monique@dairysa.com.au

I Spy with my Camera Eye

Members of the South West Dairy NRM Reference Group were delighted with the presentation by Basalt 2 Bay Landcare Network Co-ordinator, Lisette Mill on the 'spy cameras' which have been placed on farms recently.

The cameras have been focused on water troughs to see what other animals might be using the trough as a source of water. Whilst the images revealed native birds and animals are using the trough other insights proved to be most amusing. Particularly on one farm where the bull took ownership of the trough and would 'shoo' away other stock trying to access the trough. Also if there are bee hives in the area the bees can also buzz around the water and put stock off from drinking.

The spy cameras start from as little as \$120 and have a bank of rechargeable batteries. The day time range is around 20m and night time around 30m. The cameras are motion and heat sensitive. The group discussed many possible uses including calving and feral animal control. Technology is available whereby the camera images can be sent to mobile phones.

Lisette is looking for some dairy farmers who would like to participate in having cameras located on their properties. Also Lisette announced that an information session is to be held at Peshurst (SW Victoria) in early 2014 and if anyone is interested in attending or learning more about using the cameras. Please contact Lisette on basalttobay@gmail.com or 0408712713 for more information.



Southern Riverina dairy farms getting Fert\$mart

Farmers and their agronomists in the southern Riverina will soon be able to participate in a funded extension of the successful Fert\$mart program held earlier this year. Fert\$mart is an initiative of the dairy industry aimed at improving the efficiency of fertiliser use and soil health. It brings together the '4R' principles (right rate, right timing, right placement, right source) as well as the national nutrient management guidelines based on best available science.

This latest extension of the program has been funded by the Murray Catchment Management Authority and will assist 12 farmers to work through the Fert\$mart process with their own agronomist. The product is a nutrient management plan that is targeted to each of the farm management zones and provides a clear summary of the fertility strategy for the year ahead. Farmers who do not have a current map of the property will also be provided with one.

The Fert\$mart process was successfully trialled in 3 pilot groups (Murray region, Gippsland & Mt Torrens SA) during 2012/2013. Plans developed as part of the pilot covered 5,500 Ha and generated feedback such as:

- Makes good use of soil testing effort
- Better use of effluent
- More awareness of nutrients coming onto the farm
- Strategic, rather than piecemeal, approach.
- More accurate & targeted use of fertiliser.
- Better records & plans regularly updated.
- Ensures fertiliser program is cost effective, and maximises pasture production.

Murray Dairy will be advertising and seeking expression of interest in this opportunity during December/January. The development of Fert\$mart was funded by the Australian Government and Dairy Australia. This project is supported by the Murray Landcare and Producer Group Network and is funded by Murray CMA and the Australian Governments Caring for our Country program.

More information from Scott Birchall, NRM Technical Specialist with Dairy Australia (Murray region) on 0458 210 604 or Murray Dairy on 03 5833 5312.

Research Project Update: Dairy Businesses for Future Climates

The Dairy Businesses for Future Climates project is well underway. A project overview was included in [Issue 22](#).

Working groups of dairy farmers and industry representatives have been established in Tasmania, South Australia and Gippsland. These groups will assist with the project which will explore the impacts of climate extremes on dairying regions.

One of the initial tasks of the working groups was to identify climate extremes that are of concern to dairy businesses. Amongst those discussed were failed spring conditions, extended dry summers including heatwaves, prolonged wet winters and extreme winds. These conditions impact in many ways including reduced feed



Above: prolonged dry conditions are one of several climate extremes that can impact on dairy businesses

availability, soil damage through pugging, loss of power supply and impact on livestock.

Case study farms have been selected within each of the regions. These farm businesses will allow for the testing of different development options under different climate patterns. Economists, biophysical modellers, social researchers & farmers will work together to assess the impacts of extreme weather events on dairy farm businesses.

This project is supported by the Australian Government's Department of Agriculture as part of its Carbon Farming Futures Filling the Research Gap Program. Further information Catherine Phelps, Dairy Australia 03 96943730

Efficiencies identified by Energy Assessments

Energy assessments continue across SA as part of the Smarter Energy Use on Australian Dairy Farms project. Dairy farmers Ian Newbold and Bill Fraser, both from the Fleurieu Peninsula, hosted Chris Harding from The Energy Guys on their properties to conduct energy use audits.

Ian was heartened by Chris's finding that they had already implemented a number of energy saving technologies on their Yankalilla farm. 'We have a variable speed drive on the vacuum pump and Chris estimated that it is saving around \$3,500/year,' said Ian. 'We also have most of our water gravity-fed with only a booster pump for yard wash down so the pumping costs aren't as high as they are for some others.'



Above: Dave Hutton at work in Bill Fraser's shed

The assessment identified that water heating could be improved. The Newbolds' hot water costs were 29% of total costs compared to 20% for other dairies in SA. 'Solar hot water system is an option. We would use the solar system to heat and store water in a secondary reservoir during the day then transfer it to our existing service for boosting on night tariff. 'We're reviewing systems and would like to install one in the future,' said Ian. 'The assessment is a good yardstick to see where we are at. You don't know how you are situated until you do it,' he concluded.

Bill Fraser, who farms near Victor Harbor, also found the process worthwhile. 'Chris was thorough, he went through everything and gave us ideas of where we could save power,' said Bill. 'We found we were pretty efficient, but compared to other farms we were paying too much, so we reviewed our options and changed electricity supplier. 'We are making significant savings as a result.'

The assessment suggested a range of low-cost maintenance activities that the Fraser's need to undertake in order to keep equipment running efficiently. 'We make an effort to ensure this maintenance is done regularly,' confirmed Bill.

They also made a change to their plate cooler pump. The more efficient pump costs less to run and is also cooling the milk more effectively before it enters the vat, thereby reducing the time the vat refrigerator needs to run. 'Our water temperature in the plate cooler can vary but we can save 30-40 minutes of refrigeration time at peak milk flow. Chris estimated that a one degree reduction in milk temperature entering the vat could save \$300 per year.' 'I would absolutely recommend that others participate in the assessment program. It has been a success on our farm,' he finished.

Further information from DairySA's NRM Technical Specialist Monique White on 0400 972 206. Smarter Energy Use on Australian Dairy Farms is part of the Future Ready Dairy Systems project which aims to help farmers explore ways to increase resilience in their dairy businesses by providing information and resources. It is delivered in South Australia by DairySA and is funded by Dairy Australia and the Australian Government through its Climate Change Research program.

Solar hot water in the mix on King Island

Wind turbines, solar panels and diesel generation are all part of the energy mix for King Island – see below photo of hybrid power station on King Island.

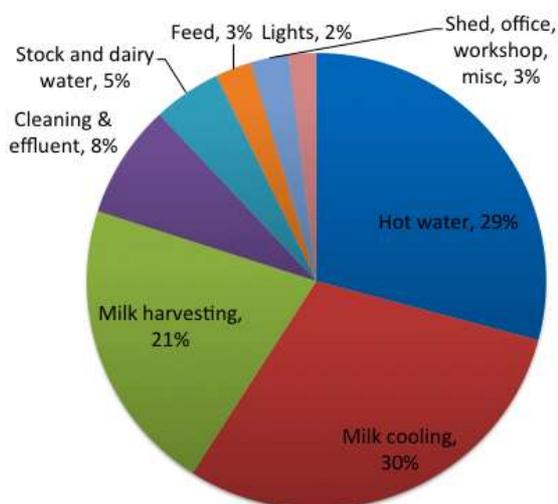


King Island Hybrid Power Station – wind, solar arrays and diesel generation

Darren Cooper at work on King Island

King Island dairy farmers will have one more energy option thanks to funding from the Renewable Energy Fund – King and Flinders Island (funded by Department of Infrastructure Energy and Resources). All suitable sheds on King Island will have an Apricus commercial solar hot water system installed. Darren Cooper (Tas Energy and Heating) and Rachel Brown (Dairy NRM Technical Specialist) recently visited King Island to site and measure sheds.

Information from the Smarter Energy Use in Dairies energy audits has shown that water heating costs are typically around 29% of the power bill for Tasmanian dairy sheds. Pre-heating with a commercial solar hot water system is a sustainable and cost-effective way to reduce dairy shed power bills.



Left: Information from the Smarter Energy Use in Dairies energy audits has shown that water heating costs are typically around 29% of the power bill for Tasmanian dairy sheds.



Because DairyTas is purchasing commercial solar hot water systems in bulk for King Island, an excellent price has been secured for mainland Tasmanian dairy farmers. Interested farmers should lodge their expression of interest with Darren Cooper at Tas Energy and Heating ph. 0457 555 883.

DairyTas has only 25 places left for energy audits. please make the most of this opportunity and get your expression of interest in ASAP. See www.dairytas.com.au/nrm/energy/ to download your expression of interest form.

For further information about these and any other NRM projects, please contact Rachel Brown, Dairy NRM Technical Specialist ph. 0409 333 381 rbrown@landly.com.au

Useful Web Links

[Dairy Climate Tool kit](#) Case studies about farmers in different regions managing climate variability, climate impacts & responses, greenhouse gas information, calculator to assess farm emissions (DGAS).

[Fert\\$mart](#) An initiative of the dairy industry aimed at improving the efficiency of fertiliser use and soil health. It brings together the '4R' principles (right rate, right timing, right placement, right source) as well as the national nutrient management guidelines based on best available science.

[Cool Cows](#) Information about keeping cows cool in hot conditions

[Dairying for Tomorrow](#) Lots of links, case studies & tools covering natural resource management issues in the dairy industry.

Dairying for Tomorrow

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