

DairySA Project Update

CLIMATE CHANGE - REDUCE ADAPT INNOVATE

Global warming is something to be worried about and we should all do what we can to reduce greenhouse gas emissions but over the next 10-15 years it will be hard for farmers to distinguish between the impact of global warming and seasonal variability. At the recent Dairy Innovation Day Peter Hayman, SARDI and Traci Griffin, CRC Greenhouse Accounting where two of the speakers on this topic and they explained the potential impact as well as some solutions.

The SA Greenhouse strategy slogan is reduce, adapt, innovate but how does this relate to dairy farmers?

Agriculture contributes nearly 18% of Australia's total net greenhouse gas emissions, putting it in second place to Stationary Energy that produces nearly 49%. However, agricultural sources contribute 77% of the total nitrous oxide and 68% of the total methane emissions in Australia, with 64% of methane coming from ruminants. Both are powerful greenhouse gases, with 310 and 21 times the global warming potential of carbon dioxide respectively, however much of the data quoted relates to carbon dioxide.

Over the past 400,000 years the concentration of carbon dioxide in the atmosphere is thought to have fluctuated from between 100 and 280 parts per million (ppm). Prior to the industrial revolution, the concentration was about 280ppm. Since the industrial revolution, this concentration has risen rapidly, now exceeding 380ppm, and all indications suggest concentrations will continue to increase.

"All that extra carbon dioxide, together with the other greenhouse gases, is stopping heat escaping from the atmosphere; its like putting on an extra jumper to keep warm in winter," explained SARDI's Principal Scientist of Climate Applications, Peter Hayman.

Modelling is showing the impact of greenhouse gas accumulation. There is more confidence in the projection for high temperatures, more heatwaves and fewer frosts, sea level rising and an increase in cyclonic wind activity and less confidence in the predictions for rainfall, run-off and non-cyclonic weather events. While a warmer world is generally expected to be a wetter world, southern Australia is expected to be drier. Table 1 shows the predictions for changes in SA rainfall by 2030 and 2070, although the predictions for 2070 are more uncertain.

Table 1	2030	2070
Predicted changes in seasonal rainfall	0% to -18%	0% to -40%
Summer	+5% to -18%	+20% to -40%
Autumn		
Eyre Peninsula	+5% to -18%	+20% to -40%
Upper Nth & Murray Mallee	-5% to +5%	-20% to +20%
YP, Adelaide & SE	0% to -18%	0% to -40%
Winter	0% to -18%	0% to -40%
Spring	0% to -20%	0% to -60%

Less rainfall does not automatically mean less pasture as work in cropping has shown that the initial increase in levels of carbon dioxide in the atmosphere result in improved water use efficiency and modest yield increases. However, this benefit is likely to be reduced in future as climate change brings a drier and warmer world. In any case the changes are almost certain to bring some surprises in terms of pests, weeds and diseases.

In the dairy industry much of the focus relates to reducing methane emissions, as they represent a loss of unutilised energy from the system. Opportunities exist to redirect some of this lost methane back into the system for improved productivity.

Methane (CH₄) is mainly belched and breathed out by ruminants with dairy cows having a higher proportion of emissions per animal unit than sheep and beef cattle. Dairy cattle emissions range from 91-146kgCH₄/head/year. However, large variances in methane emissions between individual cows have been recorded, indicating the possibility of a genetic link to methane production. Feed quality has also been found to influence emission rates, with high emissions from dry summer pastures, to lower emissions from lush cooler season pastures. Research is now focusing on the use of cost effective dietary supplements that both reduce methane loss and improve productivity. Current research indicates such additives may reduce methane emissions by up to 20% without affecting milk production levels.

SA Dairy Network Extension Roundup



SEEKING FARMER FEEDBACK ON DISCUSSION GROUPS & THE DAIRYSA NETWORK

DairySA is conducting a review of dairy discussion groups to find out what's working and what needs to be changed or improved. A survey of farmers and other industry participants will be undertaken as part of this review. We are looking for feedback from both discussion group participants and non-participants.

Contact Amy Williams williams.amy@saugov.sa.gov.au or (08) 8226 1928.

DAIRYSAT LAUNCHED AT DAIRY INNOVATION DAY AT MURRAY BRIDGE

The South Australian version of DairySAT was launched by David Wotton, Chair of the SA Murray Darling Basin NRM Board, at Dairy Innovation Day at Murray Bridge on the 9th of March. DairySAT is an environmental self-assessment tool for dairy farmers.

Contact Monique Aucote (08) 8532 4220 or pmc@lm.net.au.

UPCOMING EVENTS

There are many dairy events coming up in March and April, so make sure you check out the Dairy Diary on the website www.dairyindustrysa.com.au. The Dairy Diary includes Term 1 TAFE workshops, which are open to dairy farmers, dairy employees and other industry participants.

If you would like a copy faxed or posted to you, contact Amy Williams on (08) 8226 1928.

UPCOMING EVENTS SUPPORTED BY DAIRYSA INCLUDE:

10th April	River Murray Focus on Forage meeting –Rick Jordan 0427 447 753
12th April	Barossa and Mid North discussion group meeting re silage production Trevor Clark (08) 8842 6226 or 0438 423 900
First week of May	CowTime "Watts In Your Dairy" workshops – Meningie (2/5), Angaston (3/5) and Myponga (1/5 or 4/5 – TBA) – Verity Ingham (08) 8766 0127
9th and 10th May	InCalf Farmer Action Group meetings at Myponga – Willunga Vets (08) 8556 2075
8th June	Dairy Innovation Day at Mount Gambier – Kirstie Murphy (08) 8536 3958

DAIRYSA EXECUTIVE OFFICER

Verity Ingham has returned from maternity leave. The DairySA Board would like to thank Kirstie Murphy for all her work as DairySA Executive Officer over the past four months.

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SUCCESSFUL CENTRAL REGION DAIRY INNOVATION DAY

There has been a lot of positive feedback from the Central Region Dairy Innovation Day held in Murray Bridge on 9th March especially in regards to speakers and venue. Thanks to the DairySA Central Region Committee for all their efforts in organising the event!



Far Left: DairySA's Dairying for Tomorrow Regional Coordinator Monique Aucote discussing the newly released SA Dairy SelfAssessment Tool with Sam Acheson.

Left: Regional Coordinator Tim Prance chats with Roger Schmidt about the Top Fodder program.



SA DAIRY NETWORK IS A SUB COMMITTEE OF DAIRYSA AND OFFERS SUPPORT FOR DAIRY EXTENSION, DISCUSSION GROUPS AND TRAINING IN SOUTH AUSTRALIA. SA DAIRY NETWORK IS FUNDED BY DAIRYSA AND PIRSA.

SA DAIRY NETWORK CONTACTS

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