



# FEED TROUGH

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Program



## FORAGE ALTERNATIVES: Crops Commercially Trialled

“Possibly the best wheat and pea crop I have seen,” said Dr Joe Jacobs, 3030 Researcher DPI Victoria, when he inspected Colin and Jill McGregor’s cereal silage crops in late September at Karridale WA. In WA for the Vasse Research Centre Open day, the WA Regional Feedbase Development Group used Joe’s extensive experience of cereal silage crops for a farm tour, following a growing interest in cereal silage in WA.

With a wheat belt background, Colin and Jill McGregor are no newcomers to growing good grain crops. However, it was their move in 2007 to the 900mm rainfall beef property Boathough which presented them with the opportunity to grow cereals for silage to sell to the WA dairy industry. This season they are growing 248 ha of cereals, of which 104 ha is a Currawong wheat and Kasper pea mix. They decided to introduce peas into their cereal silage mix after hearing Joe Jacobs talking about

their 3030 results at the WA DID day in May 2009. The next day they ordered 16 tonnes of peas!

Currawong wheat has been used for its ability to handle grazing as well as a silage crop, maturing at a time that matches the optimum time for ensiling the Kasper peas. Four of the five paddocks involved (ranging from 30 – 74 ha) were sown in early June (a month later than 3030’s Demo Dairy



Currawong wheat & Kasper pea mix

crops), with the fifth paddock sown in mid July to stagger the silage harvest; the later sown crop ensured grass in June for Colin’s beef cows. The challenge for this late sown crop was whether it will need to be cut at the boot stage to match the ideal maturity of the peas, or whether it can be taken through to the soft dough stage.

A number of different management options have been trialled, including doubling sowing rates for peas on one section and grazing one wheat paddock; grazing did not affect yield, providing the cattle are off before stem elongation..

The aim will be to cut the cereals at the soft dough stage when the wheat will be about 30% DM and the peas 20% DM. (when they are flat and just starting to “plump up”).

The plan is to develop long term contracts with local dairy farmers who can cost effectively buy in their extra silage requirements in the form of cereal and cereal/pea silage. ■

## It’s Cool to be Cool... ...if you’re a dairy cow

by Dr. Steve Little,  
Grains2Milk  
program leader  
for Dairy Australia

With the hot weather already on our doorstep, it is time to take steps to keep your cows cool this summer. Cows feel the heat as soon as the temperature rises above 25 degrees Celcius, so they feel hot before we do. When it affects their production, it affects your hip pocket. But it doesn’t have to; simple steps can make a big difference. The first step is to go on alert. Check that your shade and evaporative cooling is ready to start cooling cows and that your ‘hot season’ strategies are in place (nutrition, mating, milking times etc.).

The most useful and practical way to determine how your cows are actually coping with the prevailing conditions and managing their heat load is to check their breathing rate regularly (twice daily on hot days). An increased breathing rate is the first outward sign of heat stress. Take action if your cows breathing rate is over 60 breaths per minute.

The Weather Forecaster tool on the Cool Cows website helps you keep an eye on weather conditions and their likely affect

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## From the Editor’s Desk

Summer is fast approaching with temperatures guaranteed to rise - and if the predictions happen, it promises to be a hotter than average summer. So it all important to keep your cows cool and performing well - how to do this? – read on and gather some excellent advice from Dr. Steve Little – of Dairy Australia’s Grains2Milk program...and as always, Feed Trough is packed full of excellent information to help you make informed feed based decisions. *Western Dairy* PO Box 341 Mundijong WA 6123 P: 08 9525 9222 F: 08 9525 5008

# New tool helps interpret feed lab reports

by Dr. Steve Little, Grains2Milk program leader for Dairy Australia

Dairy farmers can use feed analysis services in several ways:

- To compare alternative feeds available for purchase and decide which are the best buys
- To check that loads of feed delivered to the farm are to the agreed nutritional specifications
- To assess the nutritional quality of pasture and other forages being grazed or conserved as hay or silage
- To do running checks on the nutritional specifications of mixed rations being fed, to check that they are as expected

However, results on feed reports received from feed laboratories can be difficult to interpret and act on. Is this a good result for this particular feed? Is this feed a good buy compared to alternative feeds available?

## Limitations and suitability

The new 'My Grains2Milk Feed Report' web tool, now available on the Dairy Australia website, will help you turn your feed lab results into decisions and actions on your farm.

Simply enter the necessary details into this tool for a particular feed sample you have had analysed, and the tool will generate a report for you which includes:

- Star ratings to put your results in context of what's high or low quality

for that particular feed based on expected dry matter, ME, crude protein and NDF levels.

- Conversions from kgs of the feed as fed to kgs dry matter and visa versa
- Feed value calculations for cents / kg dry matter, cents / megajoule ME and \$ / kg protein, based on the feed lab report and the feed's purchase price if it is a feed you are looking to buy.
- Tips on what to consider when buying and storing this type of feed, and feeding it out to your herd, with links to relevant Grains2Milk fact sheets and other information you may find useful.
- A 'Did you know?' Section, containing interesting facts which you may not be aware of.

You can view your Grains2Milk Feed Report on screen. A copy is also e-mailed to you automatically as a PFD file. Each time you generate a report, a copy is saved in a History file which you can log in at any time later if you want to view your past reports.

The new 'My Grains2Milk Feed Report' web tool is really easy to use. ■

## Further information:

To give it a go, visit [www.myG2Mfeedreport.com.au](http://www.myG2Mfeedreport.com.au)



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## Cool to be Cool..

[from P1]

on your cows' heat load. Past and forecast data is now available for Bunbury. Past data is also now available for Busselton.

On the Cool Cows website you can also subscribe for alerts. This is a free service that will send you an e-mail whenever the weather forecast for a given area indicates cows will be subject to high to extreme heat stress in the next few days. (This service is available now for Bunbury. It will also be available for Busselton in the 2010/11 hot season).

Now is the time to be planning what you'll do when you get those alerts and have to bring all your resources to bear to minimise the impact of an excessive heat load event on your cows. Different levels of heat stress warrant different actions. See the Cool Cows booklet and visit [www.coolcows.com.au](http://www.coolcows.com.au) for further information. For little or no cost, you can reduce the impact of heat stress on your cows by:

- Providing access to shade and cool drinking water at all times
- Changing milking times so cows are not walking to the dairy in the mid-afternoon heat.
- Altering nutrition and mating management

Have you installed sprinklers in your dairy yard? Every dairy yard in Australia should be fitted with sprinklers to provide cows with evaporative cooling. It can be set up very cheaply and as well as keeping your cows cool, it will help keep the flies away. ■

Further information: For more ideas to keep cows cool, visit [www.coolcows.com.au](http://www.coolcows.com.au)

The screenshot shows the 'Cool cows' website interface. At the top, there is a navigation bar with links: Home, About the program, Media centre, Subscribe, Contact us, and a search box. The main heading is 'Cool cows' with the subtitle 'DEALING WITH HEAT STRESS IN AUSTRALIAN DAIRY HERDS'. Below this are several tabs: Cost of Hot Cows, Herd Susceptibility, Managing in the Heat, Cows & Heat, Resources, Tools, and News & Events. The main content area is divided into three numbered sections: 1. 'Are my cows impacted?' with a 'Susceptibility Assessor' and 'Cool Benefit Calculator' tool; 2. 'Changes on my farm' with an 'Actions Generator' tool; and 3. 'Managing in the heat' with a 'Weather Forecaster' and 'Subscribe for Alerts' option. A map of Australia shows the distribution of dairy herds across different regions. At the bottom, there is a section titled 'What's your next cooling infrastructure project?' and a footer with contact information and logos for the Australian Government and Dairy Australia.

Left: Coolcows website

# GRAIN QUALITY

## all in the eyes of the beholder

by Dr. Steve Little, Grains2Milk program leader for Dairy Australia

If you give the same sample of grain to a dairy farmer and then to a grain grower, and ask them to assess its quality, and you will get quite different responses.

After asking the price per tonne, the dairy farmer will check the grain's physical quality, looking in particular at:

- the proportion of small grains and other screenings which may lead to poor feed digestibility and wastage if they cannot be effectively processed with their grain crusher, and
- Visual signs of weather damage or mould, which can increase the risk of fungal toxins (mycotoxins)

If the dairy farmer is a savvy grain buyer, they will then use a feed analysis report to go beyond the grain's price tag and see how it stacks up in terms of its nutritive value for their cows:

- Cents / kg Dry Matter
- Cents / MJ Metabolisable Energy (ME)
- \$ / kg Crude Protein

The grain grower will respond quite differently looking at the grain on the basis of the traditional standards on which grain has been traded by the Australian grains industry for many years. These measures include:

- % Moisture
- % Protein
- Test weight or Bulk density
- % Screenings
- % Sprouted and stained grains
- Presence of insects, odour, scour or musty smells, and weed seeds,

The grain grower will match these with the grain industry's quality standards, provided by Grains Trade Australia and grade the grain using terms such as AGPI Wheat, Feed 2 Barley, Feed Oats 1, etc.

Unfortunately, not only are we faced with a significant language barrier between dairy farmers and grain growers when it comes to grain quality, the quality standards and grain grades used by grain growers, merchants, traders and brokers bear little real resemblance to the actual feeding value of grains to our dairy cows.

It is not surprising then that many grain growers and others in the grains industry have only a limited understanding of our specific needs and wants as grain users and hold a number of mistaken beliefs.

- Metabolisable Energy (ME) – Most

grain growers are not very familiar with the concept of ME value. Those that are may incorrectly believe that test weight is a good indicator of the energy value for cows. Some may not appreciate that ME value varies more within a given grain variety due to growing conditions than between different grain varieties, so the particular grain variety is of little interest to us. (Note - Major feed labs now offer the new AusScan NIR calibrations for ME value of grains)

- Protein - Grain growers often have an exaggerated sense of the importance of the protein level of a grain to a dairy farmer (not understanding that other feeds such as lupins and protein meals which have a lower cost / kg protein are routinely used with grains by dairy farmers to help meet cows protein requirements).
- NDF – Grain growers generally don't appreciate the differences in the NDF value of different grain types and how NDF value relates to cow feed intake.
- Level of screenings – Grain growers may not appreciate how important the % screenings is to a dairy farmer in terms of grain digestibility and wastage, and that the maximum % screenings stipulated in the quality standards for some 'feed' grades of wheat, barley etc. may not be acceptable for dairy farmers crushing their own grain on farm, because of the greater risk of wastage.

Below: Good quality wheat



- % sprouted grains - Grain growers see this as a negative, and may not understand that starch in grains that have germinated are often more accessible to the microbes in a cow's rumen, so they tend to be more easily digested and ME content may in fact be increased.

- Signs of weather damage – Grain growers may not appreciate that grains with visible signs of weather damage carry a risk of moulds / risk of fungal toxins which can cause a drop in milk production and health problems in cows.

As the saying goes, 'The customer is always right'. As a dairy farmer you should therefore take every opportunity to inform and impress upon the grain grower, merchant, trader or broker you are dealing with that the nutritive value of the grain is also very important to you in addition to some of the physical quality parameters included in their traditional quality standards.

- Always confirm every verbal grain purchase agreement in writing, whether it is for a 'spot' purchase or a forward contract. Include specifications for quality, price and supply.
- Learn the grain industry grain language by knowing their traditional grain grades (available on the GTA website [www.gta.com.au](http://www.gta.com.au)) and specify in each agreement exactly which particular grain grade you require. Eg. don't write 'Feed barley', but stipulate 'Feed barley 1'. Otherwise you leave yourself open to have to accept deliveries of grades with much higher screening levels than you want, as per Feed barley 2, 3 or even 4!
- Consider negotiating an additional clause in your grain contract with a target ME value based on feed lab analysis, with a premium or discount if it is above or below this value.
- Check grain quality on each farm delivery. Remember – you have every right to reject a delivery if it does not meet the agreed standards.

Dairy Australia is working with the grains industry to address the language barrier between the two industries and better explain the grain quality needs of the dairy industry. ■

**Further information:** Grains2Milk 'Buying feed' information pack on the Dairy Australia website, [www.dairyaustralia.com.au](http://www.dairyaustralia.com.au)

# Finding a Feed Testing Laboratory

A critical factor in managing your feedbase for optimal efficiency is knowing the quality of your conserved silage and hay. For a small investment in feed testing, you will benefit from being able to provide a balanced ration to your milkers and target different quality forage to the appropriate class of stock.

Outlined below is a list of feed testing laboratories that are commonly used by farmers in WA, as well as the standard tests they offer and prices. It should be noted that these are standard tests and most labs offer more tests and are constantly upgrading their services.

Please give them a call if you require further tests or sample bags/envelopes, which are included in the testing price. Collection and handling of samples may vary between laboratories so please ask your lab for correct collection and handling techniques.

GWT also offers a fermentation analysis for \$60.50 which includes DM, Lactic acid, Acetic acid, lactic/acetic acid ratio, propionic acid, Butyric acid, Iso-butyric acid, total acids and pH. This helps to assess the silage making process and how good the ensiling process was. The laboratory provides acceptable values to use as a reference point. ■

## Feed Testing Labs

**Independent Lab Services (ILS)**  
Ph (08) 95257085,  
PO Box 244, Serpentine, WA 6125

**Feedtest (FT) \***  
Ph 1300 655474  
Reply Paid 86226  
260 Princes Hwy, Werribee, Vic 3030

**George Weston Technologies (GWT)**  
Ph (02) 9764 8222  
Chemistry laboratory,  
PO Box 1, Enfield NSW 2136

\* If you are sending samples to Feedtest note the new address.

**Table 1: Forages Testing**

lab	cost inc GST	reply paid	express post	DM	DDM	TDN	ME	CP	ADF	NDF	ash	fat	WSC/ NFC	professional comment	Sol prot, RDP	ADICP, NDICP	DE	LIGNIN	STARCH	RFV	Ca, P, Mg, & Cl	
ILS	\$82.50	Y	N	Y	Y	N	Y	Y	Y	N <sup>1</sup>	N	N	N <sup>1</sup>	Y	N	N	N	N	N	N	N	N
FT	\$55.00	Y	N	Y	Y	N	Y	Y	N	Y	N	N	Y <sup>2</sup>	N	N	N	N	N	N	N	N	N
GWT	\$49.50	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y

1. Included for cereal hay, cost \$88.00; 2. Cereal hay only

**Table 2: Grain Testing**

lab	cost inc GST	reply paid	express post	DM	DDM	TDN	ME	CP	ADF	NDF	ash	fat	WSC/ NFC	professional comment	Sol prot, RDP	ADICP, NDICP	DE	LIGNIN	STARCH	RFV	Ca, P, Mg, & Cl	bulk density	screenings
ILS	\$77.00 <sup>1</sup>	Y	N	Y	Y	N	Y	Y	Y	N	N	N	N	Y	N	N	N	N	N	N	N	Y	Y
FT	\$55.00	Y	N	Y	Y	N	Y	Y	Y	N	N	Y <sup>2</sup>	N	N	N	N	N	N	N	N	N	N	N
GWT	\$49.50	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N

1. Lupins \$82.50; 2. Oats only

Below: Know the quality of your hay & silage



## For Further Information

The aim of Feed Trough is to provide dairy farmers with information as to where they can find more about feedbase research & management in WA and other dairy regions, so as to provide opportunities for their business. National Dairy Australia Feedbase Projects have a wealth of information available on their websites:

**Greener Pastures**

[www.agric.wa.gov.au/greenerpastures](http://www.agric.wa.gov.au/greenerpastures)

**FutureDairy**

[www.futuredairy.com.au](http://www.futuredairy.com.au)

**Project 3030**

[www.dairyextension.com.au/project3030.asp](http://www.dairyextension.com.au/project3030.asp)

**Western Dairy**

[www.westerndairy.com.au](http://www.westerndairy.com.au)

**Dairy Australia**

[www.dairyaustralia.com.au](http://www.dairyaustralia.com.au)

[www.coolcows.com.au](http://www.coolcows.com.au) \*\*

[www.myG2Mfeedreport.com.au](http://www.myG2Mfeedreport.com.au)

**Tasmanian Dairy Demonstration Farm**

[www.tddf.com.au](http://www.tddf.com.au)

\*\* Coolcows booklets available from Dairy Australia or Western Dairy

### Let us know...keep us in the picture!

Are you growing or thinking of growing cereal silage or brassicas - then let us know.

Please contact Dario Nandapi: Smart Cow Consulting

Ph (08) 9720 1534; Mob 0429 201534; [dario@smartcow.com.au](mailto:dario@smartcow.com.au)



Department of Agriculture and Food



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