

# FEED TROUGH

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## MAKING EFFLUENT INTO COMPOST

By Rob La Grange, Western Dairy's Dairy Industry Development Specialist (DIDS)

The Western Australian dairy industry has its first composting demonstration project up and running in the Boyanup area and it aims to highlight the advantages and disadvantages of turning dairy effluent into compost. Compost is the end product of the microbial digestion of organic matter. Well-made dairy effluent compost is widely regarded as a good source of nutrients for fodder production. In addition it will act as soil modifier by adding organic matter to the soil. Three farms are involved in the project and a field day will be held in late April or early May 2013 to inform the community on the findings of the project.

Victor Rodwell and Steve Scott farm in the Geographe Coastal Hotspot and South West Catchments Council funding has been secured to run the demonstration project on these farms. In addition Western Dairy will fund a third farm in the project belonging to Peter Harris. Project manager Matt Evans is overseeing the project with involvement from the AAMA as well as Western Dairy's Dairy Industry Development Specialist (DIDS), Rob La Grange.

The farmers will receive training in making compost and the wider dairy farming community will be invited to attend this training. Technical details include site selection, using the right recipe and regular turning to ensure that the targeted moisture and air content as well as temperatures are uniformly maintained throughout the pile. Making good compost starts with the ingredients and these are in the main two types, the dairy effluent and a carbon source such as hay or straw. The C: N ratio is what is important and samples of both the effluent source and carbon source have been taken for all three farms. Typically the effluent source is either the shed solids effluent or the feed pad effluent. Hay, straw and calf bedding will make up the carbon source on the respective farms.

A composting expert will deliver the training and determine the right mix of ingredients to create successful compost and the farmers will be responsible for turning the pile regularly as well as monitoring moisture and temperature levels with the support of the WD DIDS. Farmers will use front end loaders to turn the piles and add water as needed.

The field day will showcase the compost produced on farm as well as the farmers' views on the process and their commitment in time and effort. There will also be a financial aspect on the day on the profitability of making compost and the nutrient value of the compost. A visiting speaker will highlight the value of using dairy effluent as compost and practical insights into successful compost-making.

For Further information on this project please contact Rob La Grange on 0448 939 344 or [rob@westerndairy.com.au](mailto:rob@westerndairy.com.au)



*Turning the pile regularly with machinery is essential to make good compost*

### Dairy Innovation Day (DID) 2013

Friday 4th May

Venue - Ross Woodhouse's lease property,  
"Campbell's" - Warner Glenn

For enquiries email [info@westerndairy.com.au](mailto:info@westerndairy.com.au)

# KEY PASTURE MANAGEMENT MESSAGES FROM TASMANIA

The Dairy Centre of the Tasmanian Institute of Agriculture carried out a 2-year intensive cutting study between 2010 and 2012 that looked at how a range of pasture management factors interact to influence the production, persistence and quality of perennial ryegrass. The study was funded by Dairy Australia through the Beyond 20.12 project, and involved cutting interval, residual height, nitrogen (N) application rate and irrigation treatments.

Key messages from the study include:

## 1. Always graze between the 2-leaf and 3-leaf stages of regrowth

As a rule of thumb, when growth rates are high (> 60 kg DM/ha/day), graze closer to the 2-leaf stage to avoid shading and the death of daughter tillers. When growth rates are low (late autumn through winter), graze closer to the 3-leaf stage to optimise pasture production and persistence, by allowing time for plant energy reserves to be replenished. Grazing at the 1-leaf stage significantly reduced dry matter (DM) production, with less perennial ryegrass cover than defoliation at the 2-leaf and 3-leaf stages of regrowth, regardless of irrigation treatment.

## 2. Maintain residuals at around 5.5 cm (which represents 1450 kg DM/ha)

Although cutting height in this study did not affect production as much as cutting interval, there was an overall advantage of maintaining residuals at around 1450 kg DM/ha, compared with more severe grazing (3.0 cm or 1100 kg DM/ha) and more lax grazing (8.0 cm or 1800 kg DM/ha). Cutting at 3.0 cm appeared to produce as much DM as cutting at 5.5 cm, but the botanical composition data showed that ryegrass cover decreased (also evidenced by a decrease in tiller number), and white clover cover increased. Conversely, cutting at 8.0 cm was detrimental to pasture quality, with higher fibre concentrations and lower energy content than cutting at the 5.5 cm height.

## 3. High N application rates (above 250 kg/ha) do not consistently result in higher pasture production

The N application treatments were 0, 1.5 and 3.0 kg N/ha/day. The N rates were high to compensate for no N return from urine deposition and therefore reflective of annual applications in a grazing situation of approximately 0, 250 and 500 kg N/ha/year. During the first 6 months of the study (April to September 2010), increasing N application rates from 0 to 1.5 kg N/ha/day resulted in a 35% increase in DM, and further increasing N application to 3.0 kg N/ha/day resulted in a further 10%. The benefits of high N application rates diminished over time however, with no benefit from increasing N above 1.5 kg N/ha/day in the second year of the study. This indicated that an economical response to high N rates is possible when there are low levels of available soil N but as total soil N increases annual N rate can be reduced, with a more economical response to N occurring at lower N rates. Surprisingly, during the last 6 months of the study (October 2011 to March 2012) there was only a 6% increase in DM between the 0 to 1.5 kg N/ha/day treatments, however this was due to changes in botanical composition. Under zero N application, ryegrass cover declined rapidly to around 20% by 6 months, while white clover cover increased to around 55%. In contrast, while ryegrass cover did decrease below 1.5 kg N/ha/day, it was maintained at much higher levels and white clover cover did not exceed 30%.

For further information please email Lydia Turner: [Lydia.Turner@utas.edu.au](mailto:Lydia.Turner@utas.edu.au)

## Autumn 2013 Seasonal Checklist

By Tammy Negus, Agronomist & RFDG coordinator

### ✓ Nutrition

- Soil test paddocks early to check nutrient statuses, pH and other conditions of soil health
- Plan your lime, dolomite and or gypsum applications
- Look at Autumn fertiliser strategies especially for phosphorous and potassium
- Consider whole farm nutrient mapping
- Make sure your spreader is calibrated and is operating efficiently

### ✓ Seeding

- Plan which paddocks need reseeding
- Check seed numbers and quality in paddocks that were let to set seed from 2012
- Prepare early germination paddocks first utilising irrigation on the shoulder of the season
- Look at your seed requirements, if you have residual seed from last year, make sure it has been stored correctly to ensure viability
- Match the pasture variety to the season length, soil type and purpose of the pasture
- Longer season pasture and crop varieties need to be sown in an earlier window
- Check recommendations for seeding rates as they vary depending on variety
- Seed wet paddocks early so that you can get onto them and avoid the bog, also to give the plants a chance to establish before heavy rainfall
- Consider monocultures for some paddocks (one type of plant) for the ease of weed control
- Consider legumes in with ryegrass for diversity
- Plan to delay grazing as many paddocks as possible to allow establishment of pastures. Set up some sacrifice paddocks to help with this and avoid the temptation to graze too early

### ✓ Weed Control

- Consider herbicide knockdowns for weedy and problem paddocks. Wait for suitable germination and growth prior to application

- Consider a double knock for particularly weedy paddocks. This can also include physical and chemical methods of control
- Adding a "spike" such as oxyfluorfen can dramatically increase weed uptake of the glyphosate, increase efficacy of kill and speed up the desiccation and "brown out" prior to seeding
- Use adequate rates of herbicide the size and variety of weeds present
- There may be an opportunity for late summer weed control if they are small and have not set seed yet and depending on the variety. However, usually by autumn the damage has been done and the mature vines of melons can cause tangling in seeding machinery.
- Make sure the spray boom is properly calibrated and is working effectively, use water rates of at least 100L/ha and adjuvants as required

### ✓ Insect Control

- Consider pasture seed coated/treated with insecticide which can be effective for early season protection from insects such as red legged earth mite (RLEM)
- Insecticides such as cypermethrin, alpha-cypermethrin, dimethoate and chlorpyrifos in with the herbicide knockdown can be effective on early hatchings of insects
- Be prepared for African Black beetle attacks on plant roots under the surface. They often reoccur on sites especially kikuyu dominant areas
- Bifenthrin as a post seeding but pre-emergent bare earth application can be highly effective residual control against some pests
- Use correct insecticide label rates for targeted species
- Make sure the spray boom is properly calibrated and is working effectively, use water rates of at least 100L/ha for good coverage

Good luck for the 2013 growing season and let's hope the weather is favourable for growing good quality, high yielding pastures and crops for farmers. For any further questions please contact Tammy Negus 0448 532 028 [tammy.negus@gmail.com](mailto:tammy.negus@gmail.com)

# Flexible Feeding Systems WA project - Findings to date

By John Lucey, DAFWA

The Flexible Feeding Systems WA (FFS-WA) project, which is linked to the FFS project at Ellinbank Research Centre in Victoria, is well into its monitoring of 13 Partner Farms as part Phase 1 of the process of identifying management factors that contribute to more efficient integration of concentrates into dairy systems.

We need to emphasise the FFS-WA project is not about proving that Total Mixed Ration (TMR) systems are better than in-parlour grain feeding systems. Simply, we will be able to identify how producers can make both systems more efficient and profitable and at the same time provide producers with a process that enables them to evaluate if the investment in a TMR system will be profitable.

While Phase 1 will not finish until May 2013, there has been some valuable learning for the broader industry from our monitoring to date:

- **Dairy feeder calibrations** – must be done regularly, particularly after a ration change or new delivery, to ensure no under or over feeding of expensive concentrates.
- **Grazing management** – pasture utilisation is optimised by grazing at an interval corresponding to 2 to 3-leaf ryegrass and grazing to a residual of 5 cm ( as per our Greener pastures recommendations [www.agric.wa.gov.au/greenerpastures](http://www.agric.wa.gov.au/greenerpastures) ).
- **Record keeping** – good comprehensive records, i.e. number of cows being milked and what is being fed in terms of feed quality and quantity, weight of silage bales etc, are essential to manage inputs to your system for optimal performance
- **Ration formulation** – farmers have expressed an interest in a suitable ration formulation program that they can use in conjunction with their nutritionist to better manage their feeding inputs (the

FFS-WA DAFWA team are working on making the Rumen8 program developed by Martin Staines and Richard Morris more user friendly).

- **System complexity** – the amazing variability between farming methods begs the questions; how simple is too simple and how complex is too complex? There is no best system, but there are best management practices that drive each system.

While these management practices may seem simple and essential, when we get busy we often take our eye of the ball and some of these basics get overlooked.

Further FFS-WA information from John Lucey 0429 889 083 [john.lucey@agric.wa.gov.au](mailto:john.lucey@agric.wa.gov.au)



*Dairy cow consuming her ration on one of the project partner farms*

## FORAGE OPTIONS FOR WA DAIRY PRODUCERS

Michael Gout, Agricultural Economist & Director Seed Force Pty Ltd

Western Australian dairy producers are facing similar cost pressures to other dairy producers around Australia. Whilst lobbying for changes in industry pricing may eventually result in increased prices to realistic levels, producers must also look to reducing their costs of production in the immediate term to maintain viability. That does not necessarily mean choosing the cheapest options, rather looking to more efficient alternatives. It should come as no surprise that the main cost of production is the feed base presented to the dairy herd. In WA this is typically made up of ryegrass for grazing and hay, cereal grain or pellets fed in the dairy and in some cases summer crops such as maize, forage sorghum or millet.

### Forage Trials at Boyanup

In the case of feed base options for the WA dairy industry, Boyanup producer Victor Rodwell has again laid his farm open to test a range of new ideas against existing options. A large demonstration trial was set up by Seed Force there in 2010 to evaluate ryegrass options. This was expanded in 2012 to evaluate annual, Italian and perennial ryegrass with other grass options such as cocksfoot, tall fescue, hybrid festuloliums and prairie grass. Victor has also looked to a new crop option in fodder beet as another high yielding, high quality feed option in the same vein as maize.

The aim of the trials is to evaluate options that can improve profitability of milk production in the south west region. These trials will run over a three year period and were sown by the DAFWA team from Manjimup, who are also running a perennial grass trial for Seed Force as well as a Joint Venture sub clover breeding site at HRI Manjimup. The trial at Boyanup was set up by Seed Force researcher David Wisewould and is being assessed by Dardanup Rural proprietor Les Becker.

Of the options being evaluated on the Boyanup site, some are already offering benefits, whilst others will need a longer evaluation period. The three way blend of oats, ryegrass and Pacer leafy turnip has produced more winter feed than all other options without compromising ryegrass production and quality later in the year. Forage brassicas are the most winter water-use efficient option and by mixing Pacer with oats will add necessary fibre to the sward with ryegrass doing its job as the other two species transition out during the year. And feed quality testing of the

blend has highlighted the high ME and NDF levels close to 35% required for optimum rumen function important to maximize milk production.

One of the key learnings to date has been to address the slow start of alternative perennial grasses to provide more winter feed and make them competitive against winter germinating weeds. The use of a small amount of oats or Pacer can provide quick feed competitive to weeds that will transition without impacting the density and longevity of the new pasture. The trials will also evaluate whether the 10-20% reduction in first year production may be worthwhile if summer water use efficiency, feed quality and pasture longevity can all be improved.

Fodder beet is an option that will take some time to develop. In New Zealand it is now replacing winter brassicas to feed dry cows for 2 months. Yields are 2.5 to 3 times those of brassicas meaning that producers have more pasture freed up to produce a feed wedge. In Warrnambool Seed Force research agronomist and consultant David Wisewould has fine-tuned the fodder beet management program to suit his area and managed to produce a crop of 40tDM/ha on 400mm rainfall and 100mm irrigation. He is working closely with Victor and others around Australia to get it right locally. Whilst the crop at Boyanup has not yet achieved its potential, it has given Victor enough confidence to work through the teething problems to make it work. The crop loves salt and can be grown using effluent water for feeding cows 5kg/hd/day over autumn whilst newly sown pastures are getting away.

Whilst none of us either on farm or in the agricultural service industries are enjoying the current low in dairying in Australia, we only have two choices; give up or get better! These challenges will continue to face us and it will be producers such as Victor and others like him in WA Dairy that will continue to improve milk production efficiency such that all will be better off when prices do improve.

We aim to provide updates on the various options over the course of the trial as well as hold field days twice a year to look at how the options are progressing. For further enquires contact Michael Gout [mikegout@seedforce.com](mailto:mikegout@seedforce.com)

# Accu Spread Demonstration Days

## Saving money on fertiliser through improved calibration

Fertiliser costs are always on the rise and make up a high proportion of total farm operating cost. March 2013 will see a series of FREE DEMONSTRATION DAYS to help farmers achieve best practice fertiliser calibration.

The South West Catchment Council (SWCC), in collaboration with DAFWA is staging a series of Accu Spread Demonstration Days across the region;

Day	Date	Region	Location	Co-ordinator
Monday	11th March	Ellenbrook	TBA	DAFWA
Tuesday	12th March	Waroona	Murray River Farms, Thallathalla Road	SWCC
Wednesday	13th March	Harvey	Stuart Maughan, 302, Government Road, Stockfield	SWCC
Thursday	14th March	Dardanup	Phil Depiazzi, 'Joyetta, Dowdells Line Road	SWCC
Friday	15th March	Busselton	Vasse Research Station	SWCC
Monday	18th March	Cowaramup	Bob and Jacqui Biddulph, 270 Ellensbrook Road	SWCC
Tuesday	19th March	Margaret River	TBA – subject to change	DAFWA
Wednesday	20th March	Scott River	TBA	DAFWA
Thursday	21st March	Manjimup	TBA	DAFWA
Friday	22nd March	Denmark	TBA	DAFWA

Accu Spread is a programme that involves the independent testing and accreditation of fertiliser spreading equipment for accuracy and evenness of spreading in Australia. The benefits of Accu Spread;

- Accuracy of fertilizer placement
- Increased nutrient uptake by plants
- Less opportunity for excess fertiliser to leach into the waterways
- Ability to spread a greater bout width
- Less fuel usage

Russell Nicholl and Larry Marchant (WA) are both Accu Spread testers that will be in attendance and presenting for the day. A total of five fertiliser spreaders at each venue will be calibrated using Accu Spread methodology. Russell will explain the fertiliser spread pattern and width of spread enabling operators to make adjustments to machinery to optimise the machines performance and productivity, for the operator and farmer. The day will provide skills for the farmers and contactors to take back to their farm.

To register interest and to RSVP for the SWCC days please contact Jenny Rowbottom by the 6th March on 0448 939 308 or jenny.rowbottom@swccnrm.org.au

For the DAFWA days please contact Peta Richards 0428 945710 or peta.richards@agric.wa.gov.au)

## 2012/13 Harvest Grain Prices for Dairy Farmers

Alan Peggs, Alan Peggs Rural, Nedlands

Since August grain prices, in general, have moved higher in response to below average crops in the United States, Russia, the Ukraine and Australia. A dry year in the eastern margins of the Western Australian wheat belt has significantly reduced the size of the state's crop this year. In general the quality of the grain produced and delivered has been of high quality – one of the reasons for the very small differential now between APW wheat and ASW and GP1 wheat. It remains to be seen if recent rains in the Eastern and South Eastern Wheat Belt and the Great Southern result in an increase in feed wheat supply as a consequence of low falling numbers. At the time of writing (9 December) it was difficult to find grain producers whose wheat was being downgraded to feed (FED1).

The table right outlines the best prices available to grain producers in August, the best available to them now and what the current price is for grain delivered to dairy farmers in the South West.

Wheat	Screenings	Aug 12	Dec 12	Landed SW
Grade		\$/t	\$/t	\$/t
APW	<5%	334	344	350
ASW	<5%	319	341	345
GP1	5-10%	304	334	335
SOFT 1	<5%		328	330
SOFT 2	<5%		323	325
FED 1	15>%		296	300
Feed Barley		281	290	285
Triticale			290	295
Oats-Milling		208	263	270
Lupins		315	350	375

For those dairy farmers who prefer wheat the best option remains Soft 2 (SFT2) wheat at \$325/t delivered. This is wheat which has a protein between 8% and 9.5%. (SFT1 has protein 8% and below.) It has screenings 5% and below.

Feed barley is relatively plentiful and should be available at c. \$285/t delivered.

There is very little triticale available. Most is grown on acid soils in the Eastern Wheat Belt. Yields this year have been well below average. What is available is priced at \$295/t delivered.

Oats still remain a good buy – even if their price has risen substantially since August. Remember the oats you want are the low lignin varieties – Mitika, Kojonup and Quoll. Under no circumstances buy Wandering oats – you may as well feed your cows' card-board; it would do just as good a job !!

Lupins are in short supply and where they are available – the Northern Wheat belt – the freight cost is high \$50/t-\$60/t. Feed millers are paying \$350/t landed Perth. So expect to pay \$365/t to \$375/t landed in the South West.

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Previous issues of the Feedtrough are available at [www.westerndairy.com.au](http://www.westerndairy.com.au)  
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