



FEED TROUGH

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MAKING THE MOST OF THIS SEASON'S CONSERVED FODDER

By Rob LaGrange, WA Dairy Industry Specialist

Farmers remember their fodder harvest seasons either with satisfaction or with frustration. Top prize is a good yield of good quality silage and hay but this is often elusive. The quality of both silage and hay has significant impact on cow response both in terms of weight gain and milk production. Not having enough good quality silage/hay might mean having to purchase fodder in, and if most farmers are in the same boat, as is often the case, then the price of the feed is high. Having plenty of low quality fodder could result in the need to purchase more grain.

Going by the pasture from space data, this season has done well in terms of growth as Figure 1 suggests.

WA Average PGR - Rain Fed

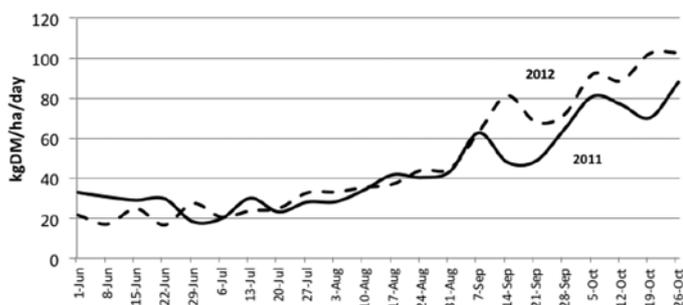


Figure 1. Pastures from space data for pasture growth rates in Western Australia

In terms of what has been harvested some farmers have reported that they have not harvested as much fodder this season but generally have been happy with the quality of the silage. This is welcome news given the expected increase in the grain price. Some farmers suffered adverse weather for some of their hay crops and this would have affected quality.

As an example of the significance of quality when it comes to silage, assume that 2.5 t DM silage was harvested/ha. With a ME (metabolisable energy) level of 10.5 MJ/kg DM, this equates to 26250 MJME/ha. If the energy content was 9.5 MJME/kg DM then 23750 MJME would have been harvested. The difference of 2500 MJME/kg DM would be about 460 litres/ha if it all went to milk production. For a non-irrigated business with 300 cows feeding silage through summer and autumn, this could be 58000 litres worth \$27000 or \$214/ha/1 ME difference.

However it is not only the energy content that matters. The protein content between a good and a poor silage could mean

having to add protein to the diet at considerable cost. Then there is the NDF (neutral detergent fibre) content. Low quality silages can have higher NDF values assuming the actual silage making process was not the issue. Higher NDF values can result in lower dry matter intakes and a drop in milk production. Reducing the amount of silage fed and increasing the grain content will compensate for yield but will add to the cost of that litre of milk.

The same issues apply to hay although not to the same extent as less hay would be in the ration compared to silage. However hay is often added to the milking ration to bring effective fibre levels up for a safer feed. Here the quality of the hay will be significant as it will influence the total intake of feed.

The important question is 'What is the quality of my fodder?' Farmers feel that this season's silage is good quality but that is only a guess. The significance of feed testing can't be overstressed. FEEDTEST results show an enormous range in silage and hay quality as Table 1 indicates for silage.

Table 1. FEEDTEST silage quality results 2010/2011 season (330 samples)

	Dry Matter (%)	Crude Protein (%)	ME (MJME/kg DM)	NDF (%)
Mean	47.6	13.8	10.2	54.7
Range	19-79.3	4.4-26.9	7.1 - 12.6	28.8-77.2

Source: www.feedtest.com.au

Purchasing fodder without having it tested could cost lots of dollars but knowing the quality of your own fodder is vital for feeding decisions. Top producers at their peak will need the best quality to give you the best returns to feeding. Sampling your silage in batches based on when and/or where it was harvested could allow you to choose the silage you want to feed to which cows. If your silage stacks or pits differ in quality you can make informed decisions on how best to feed the silage.

It is important to sample your fodder correctly for the best results. The link http://www.feedtest.com.au/feedtest_sampling_instructions.htm has useful instructions on how to do this. There are several companies who offer feed tests and they can differ depending on equations used and testing methods. Accredited labs can be trusted and it pays to use the same company to have a consistency across your samples. Feed tests do cost but the potential savings on purchased fodder are well worth it and the same can be said for sampling your own fodder.

Summer Feeding Tools and Guidelines

By John Lucey, DAFWA Dairy Team Leader

There are a number of excellent decision tools and fact sheets available on the Dairy Australia website www.dairyaustralia.com.au to help you manage your summer feeding program. With the high cost of grain this season, it is even more critical that you feed budget and test your silage and hay to identify what supplements you need to purchase to develop nutritionally balanced cost effective summer rations.

Dairy
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My Grains2Milk Feed Report; helps you turn your feed test results into decisions and actions for your farm. It will put your results in context of what's high and low quality for that particular feed and help you decide which feeds are the best buys. You'll get tips on how to balance this particular feed in a diet for milking cows. The report will also highlight what to consider when buying, storing and feeding that particular feed to your herd.

Grains2Milk Fact Sheets

An excellent range of Fact Sheets that provide guidelines on how you can maximise profitability from supplementary feeding:

2. Plan for Profit – Feed budgeting

How to develop a feed budget to ensure that you know what quantities of each feed you need to buy each month to produce the monthly volumes of milk you require to generate budgeted milk income and profit.

3. Plan for Profit – What can you afford to pay?

What you can afford to pay for each feed you need to buy to meet your target milk yield and milk income.

4. Don't gamble on feed quality

Provides a simple template for you to assess and compare different feeds options in terms of relative cost per unit Metabolisable Energy (ME) and Crude Protein (CP).

14. Feed –don't waste it

If you've done a great job through planning and buying your feed, don't increase its cost through high feedout wastage. Feed wastage rates vary from over 30% to under 5% for different feed-out methods. Generally the higher feed wastage rates are associated with low capital cost methods, however careful management and attention to feed quality and palatability can reduce wastage even with basic feeding systems.

2012/13 HARVEST GRAIN PRICES FOR DAIRY FARMERS

By 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 below 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.

Grain Grade (Wheat)	Screenings	Aug 12 \$/t	Dec 12 \$/t	Landed SW \$/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.

These prices and update is current as of 9 December 2012. If you would like to discuss grain prices and availability please contact Alan Peggs on 0428 932 717

LOOKING AT LEGUMES IN FEEDBASE SYSTEMS

By Tammy Negus, Western Dairy Regional Feedbase Development Group coordinator

Over the last decade the amount of pasture legumes sown and grown in dairy pastures especially has declined. The focus on monocultures of ryegrass varieties has taken a strong hold due to various reasons such as driving high production systems, intensive nitrogen use and rotational grazing. With the swing towards ryegrasses and possibly away from a mix with legumes, what is our fodder and stock missing out on? What are the advantages and disadvantages of growing pasture legumes in with our grasses and cereals in a dairy farm system.

The WA Regional Feedbase Development Group (RFDG) ran some demonstrations this season to showcase various common, unusual and interesting pasture legumes. The aim was to see how the species grow in some typical, local environments and inspire dairy farmers to add some creativity with variety in their pastures either for grazing or fodder conservation. One site was at Witchcliffe and another at Coolup in larger scale plots. During the season assessments were made on tolerance to pH, aluminium toxicity, waterlogging, insects, weed competition, nodulation, establishment, growth rates, yield, feed quality, suitability for grazing and practicality for making silage or hay.

The plot with most success and popularity overall in weighing up the data and observation parameters was the mix of tetraploid ryegrass and common vetch. Pure clover legume stands of Persian and Balansa yielded slightly higher however issues with pure stands of clover for animal health, high moisture and difficulty drying for fodder conservation makes it less appealing.

The interesting western Mediterranean Sulla (*Hedysarum coronarium*), a biennial legume with succulent stems and pinnate oval leaves struggled to establish in the local sites. As did the Lucerne the Sulla didn't tolerate the early waterlogging well and yielded poorly. However, these two species have shown decent post silage cut regrowth at Clunes and may show some decent autumn-winter production in 2013. Sulla has proved to be a high quality producer of 12 -18t DM/ha in other countries, however it has specific requirements for high biomass production which may be difficult to achieve under our local conditions. The plots with lower soil pH, higher aluminium toxicity and higher insect pressure established and yielded worse than those with sufficient levels.

Feed Test results to assess feed quality showed that including a pasture legume into the ryegrass can help in boosting protein levels of the fodder. The vetch and ryegrass mix compared to the ryegrass alone gives available protein levels of 18.8% vs. 10.9% with similar yield and energy levels.

The "Common Vetch" (*Vicia sativa* L.) is possibly an underutilised pasture variety in our WA dairy feedbase systems. It has a similar growth habit to field peas but is fairly adaptable to a wide range of our local soil types and sowing time windows. Its fit seems best as a mixing partner with grass species to increase quality of silage and hay on the lighter grazed run off blocks. Heavy grazing on the intense milking paddocks will set vetch back so white or subterranean clovers maybe more suitable.

Your choice and requirement of pasture legumes will vary depending on your location and feedbase system so seek advice specific to your farm. There are many advantages and disadvantages of adding in pasture legumes and many of which were highlighted in the RFDG demonstration work in 2012. The points below show that growing pasture legumes requires certain factors for consideration, management strategies and specific agronomy that is often very different to growing grasses.

Advantages and disadvantages of including legumes in your pasture system:

Advantages	Disadvantages
Nitrogen fixation into the soil	Reduced broadleaf weed control options
Increased organic carbon	Highly susceptible to insects
Reduced requirement for nitrogen fertiliser, cost savings	Seed needs inoculation of specific bacterial strain
Fodder quality, protein levels	Grazing management, sometimes lighter or deferred grazing required at establishment
*Increased grass weed control options with pure legume crops	More susceptible to pH, aluminium toxicity
Species variety for animals grazing	*Lower dry matter/high moisture and difficulties drying for hay
Extraction of certain minerals from the soil	*Animal health issues, bloat with some varieties
Microbe population diversity	Specific legume diseases and some susceptible to bacterial scorch

**When growing pure or crops with a high % of legume*

For more information on the RFDG demonstrations or information on pasture legumes please contact Tammy Negus 0448 532 028

Feedbase Field Walk – considerations & planning coming into summer

Late September the Regional Feedbase Group (RFDG) ran a field day at the Noakes family farm in Forest Grove. The day attracted a good attendance of keen dairy farmers and industry members who braved the rain and wind to listen to the latest information on water use efficiency, summer forage options and nutrient management as we come into the summer period. Planning what, when and how you're going to grow your crops is essential for success.

Tilwin Westrup (DAFWA) spoke about the More Dollars Per drop project that aims to improve water use efficiency in agricultural industries including dairy. Whether farmers were considering setting up irrigation or looking at assessing their current system some useful advice was given on end gun use, nozzle size and type, water quality, pumping efficiency and the size of your area. Dairy farmers were encouraged to take up the free water use efficiency checks which include an initial survey to assess your farm in terms of irrigation scheduling practices, the crops water needs, and your irrigation skills.

Whether you have an irrigation system or not there are so many options for summer crops to increase your fodder production and add variety to your cow's diets. David Wisewould (SW agronomy and Seedforce) spoke on summer forage options and their suitability in the local region. Millet, sorghum, maize, brassicas, fodder beets are

just some options that all require different agronomy management. Remember that in addition to adequate moisture these crops with a high yield potential also require planning in terms of nutrition and regular fertiliser applications to maximise their potential and you're investment.

For more information on the More Dollars per Drop project please contact Tilwin Westrup twestrup@agric.wa.gov.au



Photograph features the RFDG field day where dairy farmers are listening to Steve, Heather, Brad and Ian Noakes as they discuss the features of their centre pivot irrigation system and plans for summer and perennial crops.

Summer Weeds – Optimising control

Sam Taylor, agVivo

While recent late rains has been beneficial for late maturing pasture varieties, it has also bought a germination of summer weeds, some of which are difficult to control if left to grow, or end up causing problems at seeding time.

Control of weeds while they are still small is important as it achieves several benefits.

- Utilises weed growth for feed by spray grazing
- Minimises nutrient loss from the soil
- Prevents vine build-up and residue management problems at seeding
- Control options are cheaper when weeds are small

If you are considering growing a cereal crop next year in a paddock with summer weeds in it now, these points mentioned above are even more pertinent.

With the conditions for spray application often being less than ideal in summer months, consider the following application points before applying any herbicides. Pay particular attention to the herbicides that you are considering to use, what chemical group they belong to and if there are any restrictions surrounding their use in your area. Group I herbicides are often used for summer weed control. Restrictions regarding their use may exist and permits required if sensitive crops are being grown in your area.

Read the Department of Agriculture and Food Farmnote 61/99: Hormone Herbicides for more detail. http://www.agric.wa.gov.au/objtwr/imported_assets/content/pw/chem/f06199.pdf

Spraying tips

- Coverage can be poor in thick stubbles- use high water rates (100L minimum) to penetrate the canopy and set the boom at the correct height if dealing with a false target (ie stubble higher than weeds).
- Always use Sulphate of Ammonia. 1% spray grade granules or 2% liquid will greatly improve efficacy in warm conditions, although this is only to a certain degree. Spray early in the morning or late afternoon. See information below on Delta T.
- Add 1-2% spray oil in warm or windy conditions.
- Use the next nozzle size up behind the wheels of the sprayer to help chemical penetrate the dust stirred up by the wheels.
- Avoid spraying weeds with dusty leaves, as efficacy will be reduced. Spray after a light rain or heavy dew for better results
- Don't mix Amines and Glyphosate; only use Ester formulations of 2,4D products.

- Always keep a ratio of two parts Glyphosate to one part Ester when controlling grass and broadleaf weeds in a tank mix.
- Observe advised spray droplet size information on product labels and set up boom sprays accordingly.
- Ensure correct identification of weed species as this can cause costly failure.
- Don't hesitate to ask your agronomist for advice on mixtures; as spikes may be preferable for certain situations.

Delta T

When summer spraying it is important to monitor and know the current Delta T (T) reading. T is the difference between wet and dry bulb temperatures. It is used as a measure of the relationship between temperature and relative humidity. The survival of spray droplets is determined by temperature and humidity. For example, survival of a 50-micron droplet will be reduced from 5.2 seconds at a delta T of 6 to 3 seconds at a delta T of 12. This effectively reduces the distance the droplet will travel before it disappears from 20cm to 10 cm.

At a T reading of 8 or higher, the amount of spray solution reaching the target will be compromised and spraying should be avoided in these conditions. To understand more about Delta T, nozzle selection, droplet size and managing spray drift, follow this link: http://www.grdc.com.au/uploads/documents/GRDC_FS_Spray.pdf. To find the current Delta T reading for your area, look at the latest observations page and check the Delta T column for your location. <http://www.bom.gov.au/wa/observations/waall.shtml>. Alternatively you may subscribe to a commercial service such as Spraywise Decisions (Nufarm) or Syngenta Agricast for more specialist spraying weather information.

Weed or Feed

Many graziers see summer weeds as valuable source of fodder for their stock. While there is some nutritional value in these weeds, animals will often burn more energy seeking out weeds than they actually consume from the weeds, resulting in a loss of condition. Some weeds also bring other problems with them. For example, afghan melons left uncontrolled will form large vines which foul sowing equipment at seeding time and mintweed can leave toxins in the soil preventing desirable pasture species from germinating following opening rains. Summer grasses such as couch and kikuyu can form impenetrable mats at the soil surface, causing cloddy soil surfaces and delays at seeding time.

Carefully consider the consequences of leaving summer weeds uncontrolled. A dollar saved on a summer spray early in the season may cost a lot more to control later in the Autumn.

The Feedtrough is published by Western Dairy and edited by Western Dairy's Regional Feedbase Development Group coordinator Tammy Negus.

Previous issues of the Feedtrough are available at www.westerndairy.com.au
To contribute to the Feedtrough please email Tammy at tammy.negus@gmail.com



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