Don't gamble with feed quality

Do you really know what you are buying? Is this feed good value for money? These are critical questions. Some quick number crunching can help make you confident that you are buying good quality and good value feed. Don't roll the dice on feed quality.

Use your senses and experience first

When assessing a feed to buy, the first thing to check, if possible, is its *physical* quality, making sure that you have a representative sample. What does it look like? Is it too wet or too dry, too fine or too coarse? Does it have an unusual odour?

The feed's physical characteristics should be compared with the applicable feed purchasing standards (see Fact Sheet 10).

When checking the physical quality of a feed at the time of delivery, don't accept delivery if it does not meet your standards.

Key tips

- Visually assess a feed's physical quality first.
- Look beyond the price tag – crunch the numbers using feed lab analysis results.
- Use yardsticks to determine value per unit energy and protein.

It's not what you pay for your feed, it's what you get for your money that counts.

Table 1

Feed type	Things to look for
Whole grains, grain mixes 	Excessive small grains, which may result in poor feed digestibility and wastage if your grain crusher isn't up to scratch. Visual signs of weather damage or mould, which can increase the risk of fungal toxins (mycotoxins). Excessive whole grains, which may result in poor feed digestibility and wastage. Poor uniformity of mix, which may lead to uneven animal intakes and performance.
Pelleted feeds	Loads delivered still warm, which may lead to development of mould during silo storage. Excess dust level, which may result in excessive feed wastage.
Hays 	Visual signs and odours that may indicate hay was baled at too high a moisture level, or has been weather damaged, which can reduce nutritional value and increase the risk of fungal toxins (mycotoxins). Leaf content, which will influence nutritional quality.
Silages 	Dry matter too high or too low for good fermentation. Excessively long chop length, which may result in sorting by cows and excess wastage. Off odour, which indicates an unstable fermentation. Mould, which indicates poor sealing, or black strips of silage material (butyric acid silage).
Co-products 	An unusual appearance or inconsistency between deliveries or seasons. Material too wet or too dry. Any contaminants or foreign materials, which may reduce nutritional value or cause digestive problems. Signs of mould, which can increase the risk of fungal toxins (mycotoxins).

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Look beyond the price tag

There is more to checking out quality than simply checking out physical characteristics. It is really the nutritional content that you are buying – the energy, protein value etc., that determine the feed's value.

Go beyond the feed's price tag ($XXX per tonne) and see how it stacks up in terms of its relative cost per unit Metabolisable Energy (ME) and Crude Protein (CP) versus alternative feeds (energy and protein are the two major nutrients that determine the milk production potential of any feed in a cow's diet).

The calculations are straightforward:

Garry says: "I used to be pretty focused on price per tonne. But I think I'm a much sharper and more confident feed buyer now that I can quickly compare feeds offered to me on a cost per unit energy and protein".

Value per unit Dry Matter (DM):

	multiplied by 10 divided by		=	
$/tonne as fed		% DM		**cents/kg DM**

Value per unit Metab. Energy (ME):

	divided by		=	
		MJ ME/kg		**cents / MJ ME**

Value per unit Crude Protein (CP):

	divided by		=	
		% CP		**$ / kg CP**

Here's an example:

You can buy a concentrate for $440 / tonne with the following specs: 90% dry matter, 12.5 MJ ME / kg DM and 15% crude protein (DM).

Value per unit Dry Matter (DM):

$440	multiplied by 10 divided by	*90%*	=	*49*
$/tonne as fed		% DM		**cents/kg DM**

Value per unit Metab. Energy (ME):

49	divided by	*12.5*	=	*3.92*
		MJ ME/kg		**cents / MJ ME**

Value per unit Crude Protein (CP):

49	divided by	*15*	=	*$3.27*
		% CP		**$ / kg CP**

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Which one would you buy?

1

FOR SALE:
Good pasture hay 5 X 4 rolls $59 each plus GST.
Phone 1234 5678

2

FOR SALE:
Quality pasture hay 5 X 4 rolls $75 each inc. GST.
Phone 8765 4321

Garry was looking to buy 250 rolls of pasture hay and saw these two ads in the local paper. Allowing for GST, Hay 1 was still $10 cheaper per bale, and he was tempted to make a snap decision in favour of Hay 1.

"But with a serious amount of money involved, I decided to do a careful comparison."

The first thing Garry did was to visit each seller and physically check each hay. He satisfied himself that they both looked okay, with good leaf content, no weather damage, mould or anything else to worry about.

Garry used to happily buy hay by the bale, but he's much smarter now. So he arranged with each seller to run a truck load of bales over the local weighbridge.

"It turned out that the Hay 1 bales weighed 50kg less than the Hay 2 bales (330kg/bale vs 380kg/bale). Knowing both the bale prices and weights, I then worked out that while Hay 2 was $10 extra per bale, including GST, it was actually the same price per tonne!"

Here are Garry's calculations:

Hay 1 = $65 / bale X 1000 divided by 330 = $197 / tonne.

Hay 2 = $75 / bale X 1000 divided by 380 = $197 / tonne.

Garry then obtained feed lab reports on representative samples of each hay. Here are the results:

Table 2: Feed lab results.

Hay 1	Hay 2
86% DM	89% DM
9 MJ ME/kg	10.5 MJ ME/kg
11.5% CP	15% CP

Using these lab results, and the calculation methods on the previous page, Garry did some quick calcs to compare their value per unit dry matter, energy and protein. This is what he discovered:

Table 3: Feed value for money.

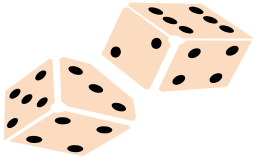
Hay 1	Hay 2
$197/tonne as fed	$197/tonne as fed
22.9 cents/kg DM	22.1 cents/kg DM
2.54 cents/MJ ME	2.11 cents/MJ ME
$1.99/kg CP	$1.48/kg CP

So, on a value per unit DM, ME and CP, Hay 2 turned out to be the far better buy, even though it had a similar price per tonne to Hay 1.

Garry bought the 250 rolls he needed from hay seller 2.

Garry says: "The time and effort I put into checking out these two hay sources was well worth it. If you buy feed sight unseen and without a lab analysis, you're a bloody idiot!"

The strategy you develop will depend on your attitude to risk



Take the short cuts, don't use feed lab tests, buy on the price tag.

Check the feed's physical quality. Do the feed value calculations. Know what you are getting for your money.

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Buying energy and protein – check out per unit value

If you intend buying feed primarily to provide energy to your cows' diet, select a feed commonly bought as an energy source, such as wheat, work out its cost per unit of energy and use this as your value yardstick.

- Using the equation on the previous page, if wheat currently costs $235/tonne (90% DM, 13 MJ ME/kg DM), this means that at this price, every MJ ME costs 2 cents. If you were looking to buy another feed primarily to contribute energy to the diet, you need a sound reason to pay significantly more than this.

  It also means that every 1 MJ difference in ME is worth $20/tonne. For example, an 11 MJ hay is worth $20/t more than a 10 MJ hay in energy value. This is what you could afford to pay extra, provided you had feed analysis results.

If you intend buying feed to provide protein to your cows' diet, select a feed commonly used as a protein source, such as lupins or a protein meal. Work out its cost per unit of protein and use this as your value yardstick.

- Using the equation on the previous page, if lupins currently cost $290/tonne (90% DM, 32% CP DM), they cost $1.00/kg CP. This means that at this price, every 1% difference in CP is worth $10/tonne. For example, a 13% CP hay is worth $10/tonne more than a 12% CP hay.

  Having a $ figure like this for every 1% difference in CP is handy when comparing the value of feed with varying protein levels.

  Note: The differential values associated with energy and protein are additive.

How reliable are the feed analysis results you use?

Be sure that you use reliable feed analysis results for your value assessments.

See Fact Sheets 6 and 7 for tips about collecting feed samples and interpreting results.

Benchmark values of energy and protein vary on a sliding scale with the prevailing price of the feeds you choose to use as your energy and protein value yardsticks, so re-calculate these regularly.

For example, if the price of wheat was to go up from $235 to $300/tonne, every MJ ME would cost 2.6¢ rather than 2¢. This means that every 1 MJ difference in ME would be worth $26/tonne rather than $20.

Garry says: "Thinking about whether you are buying feed for energy, protein or some other specific purpose is a good way to approach it."

For more information go to www.dairyaustralia.com.au

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