

FEED OPTIONS THIS SUMMER - WHICH IS BEST FOR YOU ?

Comparing Feeds

Dry conditions have increased the need for purchased feeds in most areas. With a huge range of options available, it is sometimes difficult to weigh up which feed will be the best value for your farm. Whilst some feeds may appear cheaper than others at face value, it is important to accurately compare feeds by taking into account values for Dry Matter (DM), Metabolisable Energy (ME), Crude Protein (CP) and Digestibility.

Maintaining production without pasture

Pasture is generally a fairly well balanced feed. Without pasture in the diet there are some other factors that need to be considered when purchasing feeds, in order to ensure that milk production is not compromised.

Digestibility is a measure of the content of feed that is retained in the animal.

For forages, *energy levels in a feed generally increase as digestibility increases*. Other feeds can have low digestibility, yet still measure a reasonable ME value. This is because the fat content of these feeds is contributing to their energy value.

Fat %: Fats contained in feed are generally a good energy source for dairy cows, however an excess of fat in the diet can adversely affect rumen fermentation. Generally *fat should not exceed 6-7% of the diet* (DM). If no supplementary bypass/protected fat is being fed, then the diet should probably be limited to a total of 5% fat.

Non-Fibre Carbohydrates (NFC): This refers to the highly digestible carbohydrates (i.e. starch, sugar, etc) found in a given feed. NFC's are a highly digestible energy source required by the rumen for effective fermentation. In general NFC levels should be between 35-40% of the diet (DM). A diet low in NFC will result in poor rumen microbial growth & digestion, and can reduce milk production, protein test, and body condition. If NFC levels are too high then acidosis may occur.

Wastage: When comparing feed costs it is also important to consider potential wastage, and also the time & costs involved with feeding each particular feed, as these are real costs and should be taken into account. Dispensing many feeds onto the ground in the paddock can incur waste of up to 30%.

The following table shows some average feed values for a selection of commonly available feeds:

Feed	Dry Matter % (DM)	Energy Mj ME	CP %	NDF %	Digestibility %	Fat %	NFC %
Wheat	90	13	11	11-13	78	2	70
Barley	90	12.5	11	17-18	73	2	65
Wheat Bran/Mill run	90	11.5	15-18	45	65	4 - 5	23
DDG	90	11.5 - 12.0	24	37	70	5	17
Palm Kernel Extract	90	10.5 - 11.0	16	65	55	10 -12	3
Grape Marc	55	8	11-14	55	45	7 - 8	18
Lupins	90	13	32	24	86	6	30
Wheaten Hay	85	10	9	55	70	2	30
Pasture	30 - 60	10-12.5	16+	35-45	75	4	17 - 20

Please talk with our nutrition staff for more information on calculating which feed is the best buy for you.

Important aspects to remember when lot feeding:

Acidosis: Acidosis is one of the most common problems that vets encounter in a dairy herd. As a rule of thumb it is safe to feed up to 50% of intakes as a **well buffered** grain/concentrate feed (there are situations where this level can be exceeded but you should seek advice from your nutritionist). Indicators of acidosis are :

* *Butterfat % lower than protein %* * *Very loose, brown, nasty smelling dung* * *Less than 30% of herd chewing cud* *

Trough Space: Ensure each cow has 600mm space at the trough (or wherever you are feeding out) to allow all cows access to feed.

Feed Wastage: Feeding large amounts of forage in the paddock can be costly in terms of feed wastage. It has been estimated up to 30% wastage can occur when feeding in a paddock. Even an off set hot wire along the fenceline can save a considerable amount of feed by preventing cows from trampling on it.

Forage Quality: Forage quality is always important, but in a year when protein supplements are likely to be expensive, it is worth looking at your forage conservation management, perhaps consider the use of a silage inoculant to ensure maximum nutrients are conserved in the silage you are making. Bought in fodder should ideally be purchased on the basis of a forage feed analysis = feed test.

Silage Spoilage: Old, uneaten silage in a feed trough can reduce cow intakes considerably by tainting the new feed put on top of it. Ensure that old uneaten silage is cleaned out of troughs at least once a week, preferably more often.

Water Quality: This is often overlooked. If you rely on ground water as your drinking water source it is worth getting it tested for salt and iron content annually. Water troughs should be cleaned regularly and water flow measured to ensure it is adequate for your herd size.

* *during January/February a cow can require up to 250 litres per day in hot temperatures* *

Calculating c / MJ & c / %protein

The best way to compare feeds on an energy basis is to convert them to a cost in cents/Megajoule. This puts all feeds on an even playing field when it comes to "bang for your buck."

For example:

consider a feed costing \$400/t (or 40c/kg) as fed,

With: dry matter content of 90%

energy of 13MJ ME.

A Crude Protein test of 36%

Cost on a DM basis: $40c/kg \div 0.9 = 44 c/kg DM$

Cost per Mj ME: $44 \div 13 = 3.38 \text{ cents / Mj DM}$

Cost per Unit Protein: $44 \div 36 = 1.2 c/\% \text{ ptn}$