Ration rascals and computer cheats

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Introduced a few years ago, the Feed Into Milk rationing system that is used by many consultants and feed salespersons is a superb tool. It is an excellent system available on computer programme, and used correctly it is an accurate appraisal of a dairy diet. As an independent consultant, I am regularly asked by dairy farmers to comment on ration plans prepared on these computer programmes, by commercial salespersons. Unfortunately, the majority I see are less than ideal. At first inspection they look fine, but when scrutinised they can be underfeeding the cow by 10 litres. Worse still, in certain circumstances I feel this is deliberate to mask the energy levels of compounds.

There are three main ways this is done:

One way is to use a lower weight of cow when rationing. Every 50 kilograms (kg) of live weight increase needs an extra 5 megajoules (MJ) of energy for maintenance. Using a 600kg cow instead of 650kg saves 5 MJ, worth about 1 litre.

The next way is to ration for high weight loss in early lactation. Yes, cows will lose weight in early lactation, but if we programme in 0.5kg live weight loss per day we will achieve at least this and probably much more. It is better to programme for no weight loss to minimise the effect. All too often I see 1kg of live weight loss programmed into ration plans. The difference between this and no weight loss is 29 MJ, enough energy for 5 litres of milk.

Now we come to what I think is the worst of all. I believe the biggest crime is preparing a ration for, say a 40-litre cow and only rationing for the 25 litres from the outside mix of forages and concentrates. A comment is then scribbled on the bottom "Feed over 25 litres at 0.40kg/litre". This implies 6kg of cake for the extra 15 litres. This is wrong because the extra energy needed to produce the 15 litres cannot be supplied by cake alone.

- The energy needed to supply the difference between milk yields of 25 and 40 litres is 88 MJ.
- To feed at 0.40kg/litre the cake would have to be 17 ME. I do not know of any cake this high!
- Even at 0.45kg/litre, we still need the cake to be 15 ME. How many of those do we see?
- Feeding at 0.40 kg/litre would supply only 68 MJ if the cake is 13.0 ME. The 20 MJ shortfall is enough for nearly 4 litres of milk.

Summary of underfeeding

Manipulation	Litres underfed
Live weight 50kg lower	1
Weight loss 1kg/day	5
Not including cake in ration plan	4
TOTAL	10

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Add them all together and we have a 10-litre shortfall or 2kgs live weight loss per day. Think what a 2kg daily weight loss would do to your herd fertility!

The fact is, for high yielding cows we usually need to feed energy dense fat supplements, along with high-energy compounds to meet the energy needs.

So what can you do to ensure your cows are not being under rationed? Here are a few guidelines:

- Ensure all data is entered while you are watching. How many "advisors" actually sit with you and prepare the ration? Why not? What have they got to hide?
- Agree to the average weight of your cows
- Agree to what yield level your target cow is. Use a yield that a reasonable number of cows achieve. It is pointless rationing for a 35-litre cow when 25% of the herd achieve higher levels.
- Ensure the cake is included in the ration
- Do not allow for any more than 0.5kg of weight loss, preferably none at all.
- Enter realistic forage amounts. Ask yourself is it likely you can achieve intakes of dry matter of
- Grass silage only at 11kgs
- Grass silage plus maize OR whole crop at 12kgs
- Grass silage plus maize and whole crop at 12.5kgs
- Check total dry matter intakes are not massively over what the cow can eat. 1-2 kgs excess may be possible if forage and management

is top quality.

And finally, if you want to check the energy density of the recommended compound, ask to see the cake entered as 1.14 kgs fresh weight with nothing else in the ration. This is the same as 1kg of dry matter. (Compounds are 13% moisture). The M.E. of the compound will be shown on the screen. Let me know if it is anywhere near 17 M.E.

If you wish, I will happily check your diet plans for no charge. E Mail to me at Robert@cowfeed.freeserve.co.uk or ring my mobile 07966 987691.