

Maximising feed efficiency is crucial this winter

# Cost benefits and healthier cows

Whether it's fine tuning rations, grouping cows or feeding individuals to yield, feed efficiency are the buzz words as we look to what we hope will be a more productive and profitable winter compared to 2012. Here is some food for thought to mull over as autumn approaches.

text **Rachael Porter**

**W**hether it's home-grown or purchased feed, maximising feed efficiency this winter will be crucial, according to Mole Valley Feed Solutions nutritionist Robin Hawkey.

"There are many benefits to be had from improving feed conversion efficiency. Less feed and/or more milk will, of course, provide cost benefits. But there are often significant benefits to be had from an improved forage/concentrate ratio, which will result in healthier cows and better milk quality," he says. "Improved forage utilisation is also important where stocks may be limited."

Recent costings (see Table 1) demonstrate the significant variation in feed efficiency on dairy units, with many producers missing out on significant cost savings. "But in order to achieve maximum efficiency, planning is crucial," says Dr Hawkey. "Two key factors must be considered. Firstly, home-grown feeds must be assessed for quality and quantity to

Table 1: Variation in feed efficiency

	top 25%	average	bottom 25%
yield (kg)	7,469	7,672	8,129
milk from forage (kg)	3,143	2,133	720
feed rate (kg/l)	0.26	0.32	0.37
feed cost/litre	6.91	8.85	10.66

(Source: Kingshay Annual Dairy Costings Focus Report to March 2013)



Robin Hawkey: "How you measure feed efficiency must be clearly defined"

plan ration formulation and supply. And, secondly, how you measure feed efficiency must be clearly defined." Depending on farm objectives this could be feed rate per litre, or milk from home grown forage, or litres milk per kg dry matter intake.

## Rumen health

Dr Hawkey also cites rumen health as the linchpin to feed efficiency and, to promote healthy function, balancing forages according to their nutritional content is vital.

"The careful choice of purchased feeds so as to compliment home-grown feeds and promote ration balance will maximise efficiency," he explains. "This will help target rumen health and efficiency." He emphasises the importance of looking at the ration as a whole and balancing accordingly. "For example, a cereal-based product might be recommended to promote milk protein, but if the silage has a high lactic acid content, acidosis may occur,

lowering the efficiency of fibre digestion. "Similarly, high levels of by-pass protein are often believed to be essential, but this is only when rumen microbial protein output has been maximised. Optimise rumen performance first," he stresses.

The quality and consistency of feed mixing and presentation is also important to prevent sorting and enhance feed efficiency.

"Although great effort may be put in to ration formulation, unless managed correctly at feed out you may not get the performance you set out to achieve," says Dr Hawkey.

He believes that Key Performance Indicators (KPIs) are a useful tool to

*Feed out: following best practice is vital to maximise ration and herd performance*



monitor how the ration is actually working and indicates the efficiency of feed utilisation. Some helpful KPIs include:

- Direct measurement of feed utilisation, such as feed rate per litre or milk from home grown forages
- Cow factors, such as rumen fill, cudging, dung consistency
- Feed factors, including intakes, assessment of TMR mixes using a Penn State Particle Separator
- Milk output and quality, including milk urea values.

“But without interpretation and subsequent management changes, monitoring is worthless,” he adds. |



## Protect profitability by feeding to yield

When cake is fed to cows in parlours without milk metering devices there is always a degree of over or under feeding. One solution, which will help to ensure that cows are only fed to yield, is to fit milk yield indicators. These measure the milk yield of each cow at each milking point and instruct – via associated software – the in-parlour feeders to automatically dispense the appropriate quantity of concentrate.

Greenoak milk yield indicators were recently launched to the market by Shropshire-based company Dairy Spares and it says, for an even better level of feeding accuracy, that parlours can also be retro-fitted with Greenoak in-parlour feeders, which measure feed rations out to within 100g of the requirement.

### Cost savings

“This tailored feeding approach will save on feed costs and prevent cows becoming over-conditioned when milk yields are not as high as perceived,” says the company’s Simon Marsh.

“Conversely, cows which are giving more milk than expected can receive the nutritional support they require to ensure production potential is achieved and avoid the problems that can be the result of a low energy status, such as ketosis and poor fertility.”

The milk yield indicator is operated via the Greenoak Parlour Server – a process management software system. Once installed on the farm’s computer, the parlour server processes the data it receives from the in-parlour meter manager sited by each milking unit.

Milk yield indicators are installed between the cluster and milk line for each milking point and they provide an accurate volumetric measurement of milk yield for each cow. The accuracy is within 5% of the total in the bulk tank. This information is recorded by the ‘meter manager’.

As each cow comes into a stall, her ID is entered into the meter manager in the parlour. Auto ID can be an optional extra. This information is relayed to the parlour server, which calculates the amount of concentrates to feed based on her yield at the last milking and her stage of lactation. The ration is displayed on the meter manager control box, and the feed is dispensed to the cow.

Cheshire-based producer Richard Hill installed milk yield indicators in his parlour three years ago. This has proved



beneficial. Cows in his 75-head herd currently averaging around 7,000 litres and are fed exactly what they require and this has saved on feed costs.

“I did have a few milk meters prior to these being installed, but they didn’t work very well,” says Richard. “We had some cows that were estimated to be giving a much lower yield than they actually were. So installing the meters means that I can ensure that they receive enough feed – but not too much – to support milk production,” he adds. “It eliminates the guess work.”

### Targeted feeding

Retro fitting the meters was easy to do and so far so good – they’re proving robust and reliable. And at a cost of £600 per stall for the cost for the meter manager control box and milk yield indicator (non-ICAR approved), Richard says the system is paying for itself. “We’re saving on feed costs. I’ve shaved 25% of my concentrate bill and the cake that we are feeding is being fed in a targeted way.”

Richard is also benefiting from the ability to programme in alerts, via the parlour server software, to flag up cows that need special attention or if milk is to be dumped due to antibiotic treatments.

“The alert is raised via a flashing light on the meter manager and needs a manual override before the cluster will operate and milking can continue. The system is helping with wider herd management and not just precision feeding.”