

Forage is key to dairy farming profitability

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In today's uncertain farming climate and with the shock of last year's sky high input costs still reverberating and the recent decreases in the milk price throughout Europe, those determined to ride out these tough times must seek ways to improve profitability.

With the high costs of bought-in feeds, it should come as no surprise that the top dairy farmers are achieving more milk from forage.

Recent figures from the Kingshay Farming Trust Dairy Manager (Table 1) show that the top 25% of herds are achieving 75% more milk from forage than average with no decrease in milk yield, resulting in increased margins.

To do this the forage must be of the highest quality and there must be enough of it, whether it be fresh grass or conserved silages made from various crops.

The 2008 season was a very difficult one in the UK due to the atrocious weather at the crucial silage making times.

Those that got their first cut grass in early were the lucky ones as the bad weather continued right through the summer into the autumn, affecting our other main conserved crops, whole crop cere-

	Average	Top 25%*
Milk yield (litres/day)	24.9	24.7
Yield from all forage (litres/day)	4.5	7.9
Concentrate use per litre (kg)	0.37	0.32
All purchased feed cost per litre (p)	8.3	6.8
MOPF per litre (p)	19.9	22.9

*based on margin over purchased feed (MOPF) per litre

Table 1. Kingshay Farming Trust Dairy Manager figures for Nov 2008.

	Grass silage		Maize silage	
	2008	2007	2008	2007
DM (%)	31.1	31.7	28.1	29.6
ME (MJ/kgDM)	10.6	10.5	10.8	11.3
CP (g/kgDM)	13.0	13.0	7.9	8.0
'D' value (%)	66.3	65.7	68.3	71.7
Starch (g/kgDM)	-	-	24.5	30.7

Table 2. Average results for UK grass and maize silage analyses (Frank Wright Trow Nutrition International).

als and maize, badly too.

Not surprisingly, silage nutritional quality is not good (see Table 2).

Although grass silage is similar to last year, 2007 was another poor year, so intake prediction is just 95.6%. Maize silage has also suffered with DM, ME, digestibility and starch all low.

Poor dairy production figures this winter have brought home to many farmers just how important high quality silage is to profitability.

Buffer feeding and early housing due to the bad weather has meant silage stocks on some farms are low and having to be eked out.

weather but you can do a number of things to make the best out of what you have and this is where a silage additive can help.

Forage DM intake is important but so is getting the most out of each mouthful and this will be determined to a large extent by the forage digestibility. Cows produce more milk from silage that is easier to digest because they can access a greater proportion of the crop's nutrients and faster particle breakdown results in increased rumen throughput, promoting higher intake. A one unit increase in digestibility can be expected to

increase DM intake by 1.5%, leading to an extra 0.37kg of milk per day.

As grass matures it becomes more fibrous, the 'D' value falling by about 0.5 units per day after heading, with additional reductions in protein content. Harvest date is therefore always a compromise between quantity and quality.

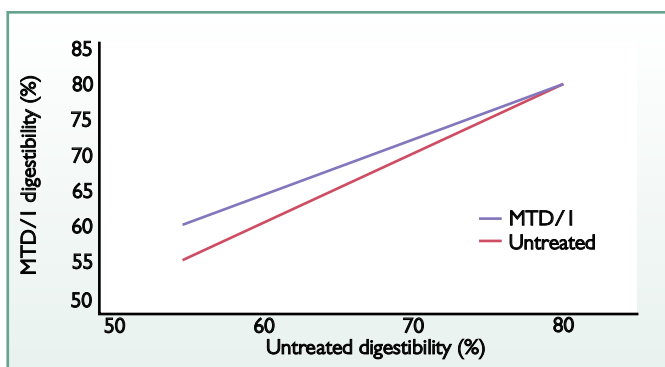
If you can produce higher digestibility silage you could either get more milk from the same amount of forage (same harvest date with a higher digestibility) or more forage could be produced from the same area of land (later harvest date with the same digestibility).

Silage digestibility is determined mainly by the stage of growth of the crop at ensiling but it will decrease during ensiling due to loss of soluble nutrients, which increases the fibre concentration. A poor fermentation leads to larger losses and reductions in digestibility.

Silage additives that improve the efficiency of fermentation and reduce losses can therefore result in higher silage digestibility.

Silages made using inoculants containing the MTD/1 strain of *Lactobacillus plantarum* have been found to have an average three units higher digestibility compared to untreated silages (Fig. 1) as well as achieving 5% higher DM intakes which helps explain the average 1.2 litres/cow/day extra milk found from 15 independent dairy trials (Fig. 2).

Fig. 1. Regression analysis of the 26 in vivo digestibility trials shows an average of 3 'D' units higher with MTD/1 treatment, the effect being even bigger at lower crop digestibilities.



You cannot do much about the

Fig. 2. Regression analysis of the 15 independent dairy trials shows MTD/1 consistently produces more milk over a wide range of crops and dry matters.

