

Could you get more from your forage by feeding an additive?

Turn on the forage tap

We spoke to a leading ruminant nutritionist and a Northern Ireland-based producer to find out more about a feed additive that helps to unlock forage – and cow – potential.

text Rachael Porter

Did you ever stop to wonder how much of the cow's diet can actually be used for milk and how much of the forage in the diet is put to good use? The answer might be lower than you think, according to Provimi's ruminant product manager Philip Ingram.

"It's worth remembering that dairy cow rations contain between 35% and 45% NDF (neutral detergent fibre) and this is, by far, the largest portion of the diet," he says. "The starch and protein we usually think of first are present in much lower proportions than NDF. However, out of all the nutrients, fibre is the most poorly used and the most variable. At best only 65% of fibre is digestible and available to the cow for milk production or maintenance, and at worst only 40%."

Forage focus

From an outside perspective, it must seem quite bizarre to allow around 40% of a cow's ration to be taken up by something that is variable in quality and generally poorly converted into milk. However, as we know, the ruminant's 'speciality' lies in using forage – a relatively low value, high NDF feed – to create high quality end products such as milk.

"The focus must be on forage this year," adds Dr Ingram. "Much of the milk yield increases seen in recent decades stem from the use of imported cereals. But, with the upward trend in cereal prices, we need to re-focus on what cows are designed for – getting energy from forage.

"Quite a few silages this year have looked good on paper, with normal MEs and NDFs, but they are not delivering the expected performance.

"The likely reason is that the makeup of the NDF in these silages may be poorer in quality and therefore less digestible than expected. Therefore, we need to

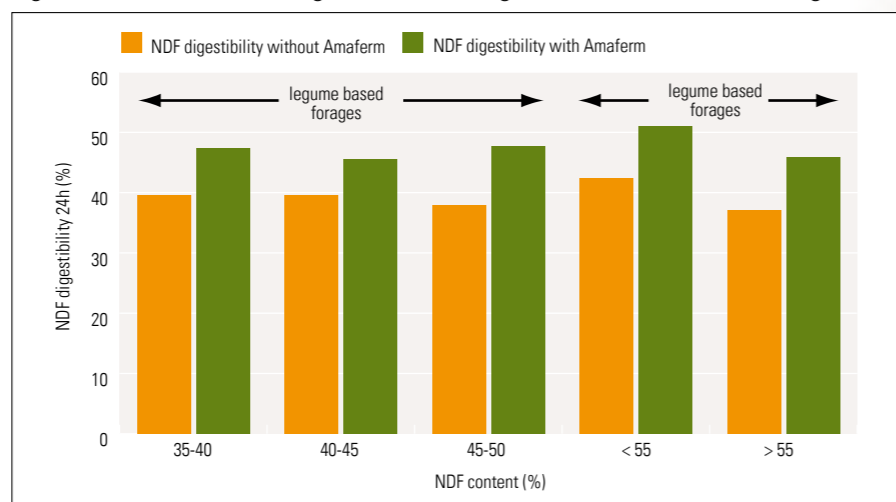
improve digestibility – particularly in recently calved cows where requirements are greatest."

At this stage in the season, what can we do to improve ability of the rumen to make better use of dietary fibre? One solution that's being used very successfully on dairy units is the natural feed additive Amaferm – a product developed to directly improve fibre digestion. It is the only feed additive in the EU that's registered as a digestion enhancer for dairy cows.

"The rumen contains bacteria, protozoa and fungi that all basically digest feed on behalf of the cow," explains Dr Ingram. "Rumen fungi are crucially important in fibre digestion, as they initiate fibre digestion and manufacture the most powerful enzymes for digesting fibre. And this additive works by providing rumen fungi with the nutrients they need to accelerate fibre digestion.

"It therefore boosts digestion in all types and qualities of forages and this has been confirmed in recent university trials."

Figure 1: Results from recent digestion studies using Amaferm (NDF = neutral detergent fibre)



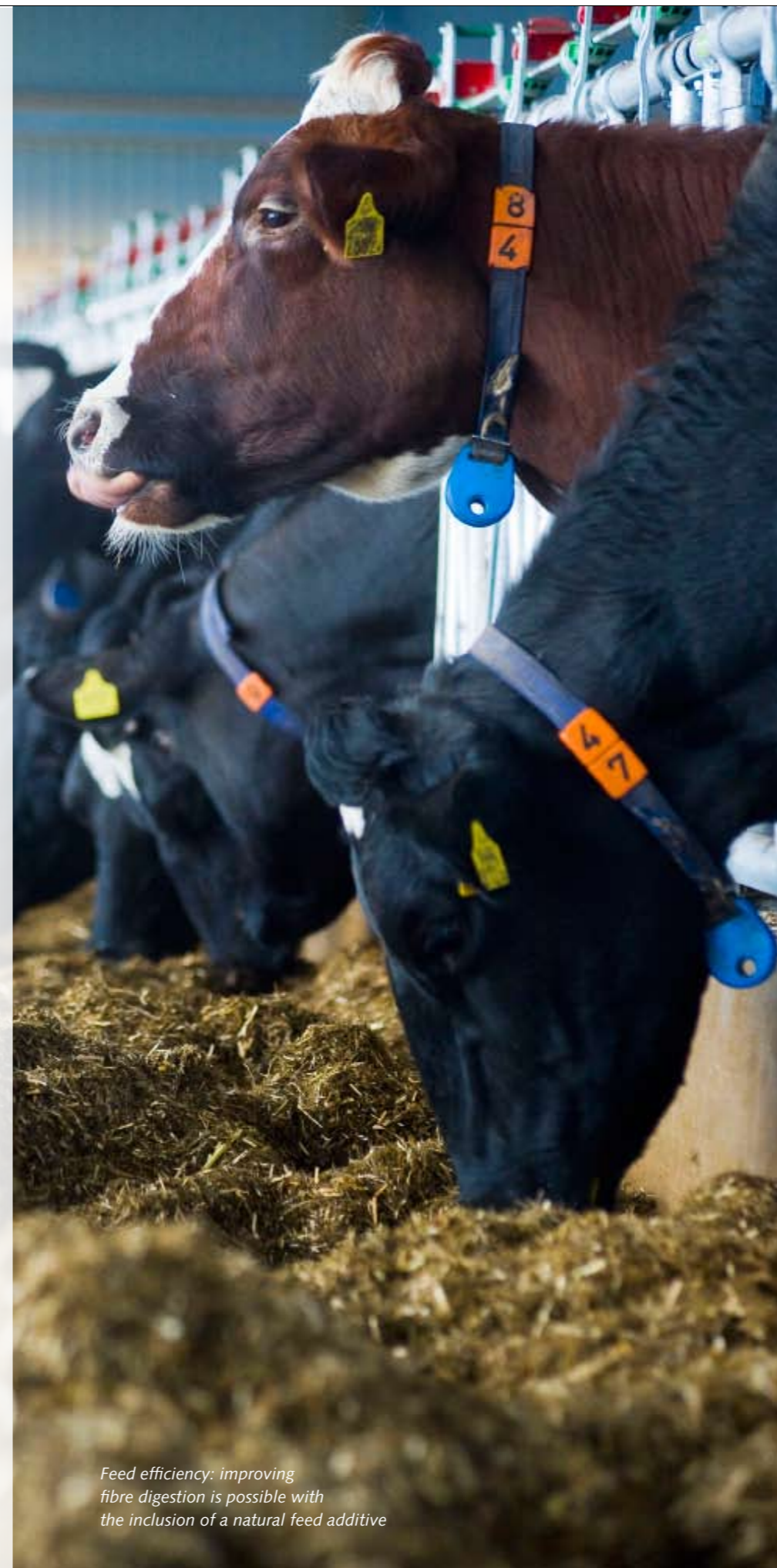
Andrew Adair: "I really do get more milk from the forage part of the diet"

Figure 1 shows experimental results from recent digestion studies. A large cross section of 150 forages were used in the study and grouped according to NDF content. Digestion was measured in situ using fistulated cows. Throughout the range of forage quality, Amaferm consistently improved NDF digestibility between 20% and 30%.

On-farm results

These results are being seen on farm too. Northern Ireland-based producer Andrew Adair runs a 140-cow Holstein herd in partnership with his father James in Ballymena. And this is the second winter that he's fed the feed additive to boost the milk produced from the herd's forage-based ration.

"The product was recommended to us by our feed rep in late 2010. I wasn't happy with the herd's feed conversion efficiency – I thought the cows should



Feed efficiency: improving fibre digestion is possible with the inclusion of a natural feed additive

be performing better on the TMR that we were putting in front of them," he says.

"Butterfats weren't great either and neither was cow condition. So I thought I'd give it a go. I had nothing to lose and everything to gain."

It wasn't long after he switched to a concentrate feed containing the additive – just a week or two – before he noticed an improvement in all three.

Butterfats peaked at 4.04%, compared to 3.96% prior to feeding the additive, and average yields rose by 1,000 litres to around 8,000 litres.

"I know that won't necessarily all be down to Amaferm, but it was certainly a major contributing factor. Milk from forage increased from 2,600 litres to around 3,200 litres – I wasn't simply adding more concentrate to the ration. "I really was getting more milk from the forage portion of the diet. It unlocked the forage's potential – and that of my herd."

He says that the cows are cuddling more and forage (grass silage mixed with chopped wheat straw) intakes have increase by around 2kg/head/day.

"I've easily off-set the cost of feeding the additive and that's why I've used it again this winter. It's added to the concentrate at the mill, because I think that's easier than measuring it into the mixer wagon. That does add a bit to the cost, but I know that it's worth every penny."

More milk

The additive has also been trialled in many locations across Europe and America with cows on various diets – from high forage to high concentrate systems.

Results from 18 separate published experiments, with cows in early, mid and late lactation, show an average increase in milk yield of 4.8%.

"Based on these results, by adding Amaferm farm pack at a rate of 100g/head/day to a ration based on one of this year's typical silages (50% NDF), producers should expect to increase fibre digestion by 26%," adds Dr Ingram.

Milk yield improvements of between 1.5 and two litres are typical of results seen on farms. "Ultimately, we should be striving to convert more of the ration to milk. In top quality rations more than three quarters is converted into milk. Taking measures – like including this feed additive – to improve forage quality, can vastly improve the proportion of feed used for milk." |