

Formulation of rations crucial

The importance of ration formulation cannot be underestimated as consistency is key to achieving good rumen function and, therefore, efficient production of milk.

Independent nutritionist Hefin Richards, of Rumenation Nutritional Consultancy, explains the cow's rumen is essentially a 'huge anaerobic fermentation vat'.

"The rumen – the most important of a cow's four stomachs – is about 200 litres in capacity for an adult Holstein. It is about 90 per cent water, is slightly acidic with a pH of 6, and where bacteria break down what she eats into the components she can use."

Any inconsistency in a ration resulting from poor mixing, such as clumps of grass silage or clusters of concentrate can upset rumen pH. This has a knock-on effect on the bacteria's ability to process feed-stuffs efficiently and impacts on milk yield."

James Woolway, of machinery

distributor Opico which has recently been demonstrating the Strautmann self-propelled diet mixers, says getting a consistent ration in front of cows is a challenge for all producers, mainly because the variation in forage quality across a clamp face is often considerable. Dry matter can range from 23 per cent at the top to 33.6 per cent at the bottom accounting for a swing in daily milk yield of up to seven litres/cow, according to industry studies.

Extraction

Spoilage resulting from the method of extraction can exacerbate this further. For example, block cutters are used commonly in the UK but are suggested to be more wasteful than mill-type headers seen on some larger diet feeders favoured by larger mainland EU dairy units.

There is also the issue of weighing feed ingredients, with farm staff often having to 'guesstimate' ingredients until they have sight of a mixer wagon's weigh screen at the point of loading.

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PICTURE: SIMON WRAGG

Past studies have suggested a 5 per cent error per ingredient was common and milk yield varied by up to 1.5 litres/cow/day as a result.

Mr Richards says ration consistency demands a lot from both man and machine.

"Incorporating just 150g of min-

eral evenly to 50kg of forage per cow was a task in itself.

"Often I hear a farmer say one of his staff takes longer to fill the feeder than another. But if they are making a better job of it that extra 10 minutes [£2.16 at £13/hr] is money well spent in my book."