

## Milk Fat Depression – Milk fat losses can be put right



Professor Adam Lock: Milk Fat Depression can cause income losses but it can be managed through balanced nutrition

We've all seen it. The milk fat component in the daily tanker report starts to slide during autumn and doesn't pick up again until after the flush of spring pasture.

It's called [Milk Fat Depression](#) (MFD) and it can cost anywhere between \$67,000 and \$220,000 in a 500 cow herd.

What can be done about it? Professor Adam Lock from the Michigan State University USA, who visited Australia recently, has researched the phenomenon of Milk Fat Depression. He has some solutions.

"Recent breakthroughs have advanced our understanding of the links between dietary components, digestive processes in the rumen, and the regulation of mammary synthesis of milk fat," Prof Lock said.

One of the common causes of MFD is an increase in fat in the rumen and/or changes in rumen pH. This fat increase comes from a higher intake of polyunsaturated fatty acids, faster rumen throughput and changes to the fermentation process in the rumen.

"In pasture based systems pasture with little fat is replaced by young lush high fat, low fibre pasture in autumn," Prof Lock said. "The effect is magnified by the application of nitrogen."

When autumn pasture is combined with feeding large quantities of fast fermenting grains like wheat, the rumen pH is reduced and the risk of MFD increases. These changes in pH impact the microbial populations in the rumen and while these changes can be quite subtle they can bring on MFD.

"In terms of pasture management the correct point to graze in order to limit fatty acid intake coincides with what is generally regarded as the correct point of grazing for optimal agronomic outcomes. That is at the three-leaf stage in ryegrass," said Prof Lock.

Part of the solution to the MFD problem is to ensure grazing rotations are managed so that cows are not getting onto pasture before the three-leaf stage, particularly where nitrogen has been used to stimulate growth.

"At this point fatty acid intake will be compounded by a lack of effective fibre in the pasture," Prof Lock said. "It turns out grazing at the correct point is good for the fat test as well as for cows and for land use outcomes."



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The other element of the feeding regime that has an impact on the rumen environment is the type of supplements that are fed.

"There are a variety of opportunities for different farmers," he said. "Feeding less wheat and more corn or barley will slow the rate of fermentation."

Where there is a price differential among the different grain options, an analysis of cost per tonne, available from Dairy Australia's Hay and Grain Report, will give dairy farmers a better idea of the potential return from making these grain changes.

"Cows are very responsive so you can try different combinations. Following a diet correction it will take 10 to 14 days to rescue milk fat synthesis but usually you will see a movement by seven days."

It is easier to control and change rumen fermentation and the rumen environment by changing the grain mix fed to the cows than it is to control fatty acid intake from pastures in a pasture based system.

MFD is an important focus area for profitability and getting your dairy nutritionist to advise you is highly recommended.

"Getting a balance of less fermentable grains into the ration is the number one opportunity to manage MFD in pasture based herds," Prof Lock said.

Follow these links to read Dairy Australia's fact sheet on [Milk Fat Depression](#) and [Dairy Australia's Hay and Grain Report](#).