A balanced view on methane inhibitors

Lowering carbon footprint in a profitable way

What is methane (CH4) and why is it produced?

In ruminants, methane is produced mostly by enteric fermentation where microbes decompose and ferment plant materials, such as celluloses, fibre, starches and sugars, in their digestive tract or rumen. When hydrogen (H) is produced through fermentation this joins with carbon (C) to produce CH4. Enteric methane is one by-product of this digestive process and is expelled by the animal through burping.

Why do we need an inhibitor?

There are two key approaches when it comes to reducing methane output on farm. The first involves a holistic approach to reducing carbon footprint per kg fat protein corrected milk (FPCM). This can be done in several ways such as reducing age at first calving (AFC) and reducing replacement rates to reduce total amount of feed required, number of animals needed and therefore enteric emissions. The second is by including a methane inhibitor in the diet to block or reduce methane production. Depending on the production level of a given farm and the scope for holistic improvement the most likely scenario is a combination of improving management practises and the addition of methane reducing additives.

8 key points for consideration when choosing a methane reducing additive

Will this bring you more profit?

From milk payments or from sustainability incentives – it is important to ensure that any additive is profitable to your business.

Are there additional benefits?

Some additives provide no additional benefit, others can lead to increased milk production, reduced inflammatory response and increased feed efficiency.

Does the additive have a proven lifecycle assessment showing the effect on carbon footprint per kg FPCM?

It is important that methane reducing effects can be verified according to IPCC rules and that these effects can be proven under specified conditions; not all products have proven benefits.

Can the effects be captured in carbon footprinting models?

Approved additives can be captured in footprinting models. However, not all additives meet legislative or scientific standards, so it is important to ensure the one being used meets certain criteria.

What are the long-term effects of feeding an additive?

Double check that long-term studies when feeding an additive have been carried out to ensure we know the effects of methane inhibition or conversion over time and potential interactions within the diet to ensure that performance is not compromised.

Are you pollution swapping?

Did you know nitrate is a methane inhibitor, but it diverts H+ from methanogenesis and creates extra ammonia which is also a pollutant?

Does this have an effect on DMI (Dry Matter Intake)?

Whilst current methane reducing additives appear to have no negative impact on DMI, time of day and DMI can have a big impact on methane produced per cow per day.

How can the product be fed? Does it work in your current system?

Some methane inhibitors or reducing additives are required to be fed continually in every mouthful to have an effect. There is still a gap in the market for animals out at grass, which should be noted.