

Briefing

English farmers are at risk of being left behind in tackling methane emissions



August 2024

Summary

Methane is a highly potent greenhouse gas. The UK needs to rapidly cut its methane emissions, including from agriculture, which is the source of over half of the country's emissions.

One of the simplest actions farmers can take to address this is to introduce methane suppressing feed products into the diet of their cows. Dairy cows are especially well suited to this, because they are typically fed indoors at least once a day and methane suppressants are most effective when fed to cows as part of each mouthful of food.

Farmers are increasingly discontented with the impact of unfavourable trade deals and price squeezing by supermarkets. But the government's lack of financial support for farms to use methane suppressants is another way British farmers are being left behind compared to their counterparts in other countries.

Methane suppressants are up to 60 times more cost effective as an emissions abatement measure than other farming interventions currently receiving government subsidies. The cost is low, around half a penny per pint of milk produced.

The government should support farmers to use methane suppressants through the existing Sustainable Farming Incentive programme.

Introduction

Methane is a potent greenhouse gas over 80 times more powerful than CO₂ over a 20 year period. Urgent action is needed to cut methane emissions if the world is to stay below 1.5°C of warming. Because methane is short lived, cutting methane emissions now can have a short term cooling effect, which reduces the risk of passing dangerous climate tipping points.

In December 2023, the Food Standards Agency [approved](#) the use of DSM's product Bovaer in Great Britain, meaning farmers in England, Scotland and Wales can now access this methane suppressant, which was previously available in Northern Ireland via the EU single market. It has been approved for use in Australia and the EU since 2022.

This is the only available feed additive with strong evidence that it reduces methane emissions significantly (20-80 per cent) if fed to cows regularly, and where there is [confidence](#) in its safety for animals and humans. Other additives and feed supplements could also play a role, including those based on seaweed, but further research on efficacy, and the ability to scale up production without wider environmental impacts, is needed.

These types of products are a significant part of the government's plans for tackling methane emissions and meeting legally binding carbon budgets, although the plans are still too weak. If Bovaer, or a similar product, was fed to all dairy cows, it could cut UK-wide methane emissions by four per cent.¹

English farmers risk being left behind

The Department for Environment, Food and Rural Affairs (Defra) wants to mandate the use of methane suppressants in England by 2030 and is developing a Dairy Demonstrator programme to test them in all four nations.

However, at present, no support is offered to farmers to use methane suppressants. The devolved nations also have no firm plans to incentivise their use, though the government of Northern Ireland is funding some further research [trials](#), and the Scottish government is considering subsidies. Meanwhile, farmers in Belgium and Slovenia are now able to receive subsidies, which cover up to 80 per cent of the costs of these products, through the new Eco-scheme agricultural payments.

Alongside supermarket price squeezes and unfavourable trade deals, this is another way that British farmers are being left behind. Some companies are taking unilateral action. Marks and Spencer is now paying farmers in its liquid milk supply chain to use Bovaer, and presumably passing the small additional cost on to customers. Other supermarkets have stated ambitions to reduce the emissions in their supply chains and will be searching for sources of dairy products with lower emissions.

If support for methane suppressants is only available to high end suppliers, and more widely subsidised European farmers, most British farmers will lose out.

Farmers' [responses](#) to the government's call for evidence into methane suppressants showed that whilst some perceive these products positively, most are unlikely to adopt them without support to make it cost neutral. Farmers cite costs as one of the biggest barriers to their use.

Methane suppressants are cheaper than other interventions

We estimate the cost of avoided emissions for a 100 per cent subsidy of Bovaer is roughly £45-50 per tCO₂e.² This could still fall short of actively encouraging farmers to adopt the feed additive, because there are no other direct benefits to farmers from using it. A subsidy that covered 110 per cent of the cost would

cost around £25 million per year to support 30 per cent of English dairy farms. A scenario where the use of Bovaer was mandated, and this cost was passed on entirely to the consumer, would increase the price of milk by only half a penny per pint.³

This is likely to be cheaper per unit of emissions reduction than other subsidies already available through the Environmental Land Management schemes. Only eight of the 23 measures in the Sustainable Farming Incentive (SFI) have the potential to reduce emissions, despite that being a goal of the initiative. One measure within the SFI will pay farmers to integrate grass leys into their field rotations. This has an estimated abatement cost of over £300 per tCO₂e. Another measure pays farmers to plant cover crops in their arable rotations, with an abatement cost of over £3,000 per tCO₂e.⁴

These are valuable interventions with positive impacts beyond just carbon abatement but they should be complemented with measures that support dairy farmers to cost effectively reduce methane emissions.

Recommendations

For the purposes of creating emissions inventories and tracking progress, impacts can be modelled using known efficacy rates and deployment records, and refined over time, while further research is conducted. This should be backed up by spot checks using modern tools for measuring methane emissions (eg the [GreenFeed](#) measurement device).

We recommend:

- New government subsidies are offered for English farmers to use methane suppressant feed additives through the SFI.
- Defra supports further research into other methane suppressants, including seaweed products, through the Centre for Innovation Excellence in Livestock (as it has done for [research](#) into lower methane sheep breeding).
- Trade associations and cooperatives should work with feed and supplement producers to roll out more implementation on farms across the UK.

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¹ Assuming a 30 per cent cut in enteric methane production (higher efficacy rates have been reported) and that dairy cows are fed total mixed rations or partial mixed rations with Bovaer mixed in, and not grazing for more than three hours in a row unsupplemented, as this would weaken the effects of the additive. This is an upper estimate because many dairy herds do graze more than this, although the exact fraction is not readily available. The enteric emissions from dairy cows are responsible for around 15 per cent of the UK's methane emissions.

² This assumes a cost of £60-70 per cow per year (as indicated by the manufacturer, DSM), and an average efficacy of 30 per cent. The emissions from enteric fermentation in the English dairy herd were around 177,000 tonnes of methane in 2021 according to the National Atmospheric Emissions Inventory. To supply Bovaer to 30 per cent all 1.09 million dairy cows in the English herd would cost around £20-23 million per year, reducing annual CO₂e emissions by around 0.45 million tonnes (using the standard comparison metric for CO₂ equivalent of GWP100 for methane of 28). Therefore, the cost is around £45-50 per tonne of CO₂e. The cost of Bovaer is likely to fall over time as manufacturing scales up.

³ This uses the high estimate of £70 per cow per year with the average milking cow producing 13,340 pints per year. At £60 per cow per year, this would cost approximately 0.4p per pint of milk.

⁴ Abatement costs are estimated in: R Mason et al, September 2021, *Farm-level interventions to reduce agricultural greenhouse gas emissions*, report by Eunomia, Innovation for Agriculture, Royal Agricultural University and Reading University.