



Call for evidence response

Methane Suppressing Feed Products: Call for Evidence

Department for Environment, Food and Rural Affairs Consultation

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Background

1. Methane is a greenhouse gas with a global warming potential 25 times higher than carbon dioxide and a lifetime of around 12 years. This means that action taken to reduce methane emissions has the potential to have a greater impact in limiting planetary warming than reducing the emissions of other greenhouse gases. Ruminant livestock methane emissions account for 50% of all UK methane emissions ¹.
2. To explore how these emissions could be reduced, the UK government and devolved administrations have launched a call for evidence into the use of methane suppressing products as a feed additive. The additives can be natural (such as seaweed) or synthetic (such as 3-NOP). The call for evidence seeks to gather industry perceptions of feed products and potential barriers to their introduction.

Key points

- The CLA strongly supports investment into research which investigates the potential of feed additives to reduce methane production in ruminant livestock.
- This must include an assessment of:
 - the impacts on animal health and welfare
 - the impacts on productivity
 - the cost effectiveness at a national and farm level
 - the reliability and consistency across systems and seasons
 - any unintended consequences
 - consumer/market acceptability in order to build producer confidence.
- Ultimately the adoption of feed additives to reduce methane emissions will be dependent on confidence in the research and its cost-effective applicability in practice. This will require a programme of knowledge exchange and incentives.

Introduction

3. CLA members are responsible for managing around half the land in England and Wales, and many are involved in livestock production businesses. These businesses produce food, create rural employment and maintain many of the nations' treasured landscapes and communities.

¹https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/957887/2019_Final_greenhouse_gas_emissions_statistical_release.pdf

4. The CLA and its members are committed to meeting the challenges associated with climate change and to reducing the impact farming and land management can have on the environment. The CLA is supportive of research and development which mitigates ruminant emissions and improves the overall sustainability of the sector, which should be prioritised over policies that cut livestock numbers, so that the nation's food can be produced with less environmental impact. As plans to reduce livestock emissions develop, it is important that the government works closely with livestock keepers to provide sound evidence, dispel myths and build trust and knowledge.
5. In this submission, the CLA sets out key points on introducing methane additives into livestock feed.

Industry Concerns

Livestock Health and Welfare

6. Livestock health and welfare is a fundamental priority for livestock keepers and is underpinned by requirements set in law and marketing standards. The risks that the introduction of methane suppressing feed products into livestock diets could present is a major concern. Nitrates (such as 3-NOP) are converted to nitrites in the digestion process, which are toxic to cattle at high levels. If nitrite accumulates in the rumen, it can result in livestock health and productivity issues, or death in extreme cases ².
7. The decision to incorporate the additive into a feeding regime will vary depending on the specific additive and its impact on livestock. If additives are approved, information should be readily available on which businesses manufacture the additive, where they are manufactured, and how they are produced, for traceability and to ensure livestock keepers have confidence in the additive.
8. There must be well-funded, independent research into how methane suppressing feed products work to inhibit emissions during enteric fermentation, and its impacts on ruminant gut biomes, as well as wider welfare impacts. Studies should use in vivo testing to build confidence in their safety.

Impacts on Productivity

9. Existing research into the impact of introducing methane suppressing feed products on animal productivity show varying results, depending on the type of additive and the quantity used. A study on the use of 3-NOP as a methane suppressing feed product found that there were small but positive impacts on animal production ³, while other research suggests that the use of nitrates as an additive can lead to lower feed intake, resulting in lower productivity ⁴. Livestock keepers must be confident that the introduction of methane suppressing feed additives will have a neutral or positive impact on animal productivity.

² <https://www.ndsu.edu/agriculture/extension/publications/nitrate-poisoning-livestock>

³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8697901/#sec7-animals-11-03540title>

⁴ <https://cielivestock.co.uk/expertise/net-zero-carbon-uk-livestock/report-april-2022/>

Efficacy of Methane Reduction

10. Ruminant methane emissions are just one source of agricultural greenhouse gas emissions; others include nitrous oxide and carbon dioxide from the manufacturing of artificial fertilisers and the use of fossil fuels in farm machinery. It is important that a comprehensive programme of measures is introduced across the agricultural sector to ensure that all businesses have a choice of viable options to reduce their emissions.
11. Research into mitigation strategies for ruminant greenhouse gas emissions found that considering emissions at a whole farm level, rather than by individual activities or gases, gave better insights into the effectiveness of individual emission reduction strategies⁵. The efficacy and monitoring of methane suppressing feed products therefore needs to be considered at a farm level. This is important from a whole industry monitoring perspective, as well as an individual farm business perspective. Existing carbon accounting mechanisms factor in on-farm emissions, including those from ruminant livestock. However, they will need to be sufficiently sophisticated to also include the impact of methane reducing feed additives.
12. Any efficacy claims made by feed additive manufacturers must be supported by independent research, to ensure there is robust evidence to demonstrate the genuine impact on reducing methane emissions and build confidence amongst livestock keepers.

Farm Diversity

13. There is a variety of farm production systems across the United Kingdom. It is important that this is given consideration in terms of how feed additives can be administered to livestock, particularly given the move to regenerative farming methods incentivised by the new domestic land management schemes in England and Wales, which will encourage more grazing based systems.
14. Depending on the farming system, controlling animal feed intake is more or less simple, and in vivo research needs to test a variety of situations. Closely controlling animal feed intake is simpler when animals are housed, for example with indoor dairy systems. In such instances any methane abatement will be easier to quantify. At the other extreme, livestock in extensive systems can live outdoors year round, presenting practical issues regarding the monitoring of feed additive intake and the consequent impact on methane emissions. In between, there are systems where livestock are outdoors for the spring and summer months, and indoors for winter. Ensuring the uniform monitoring of feed intake and impact across the spectrum of farming methods presents a challenge.
15. If financial incentives are used to encourage the uptake, there is a risk of disincentivising pasture based farming systems, which have many environmental benefits. Focussing solely on the reduction of methane emissions without considering broader environmental impacts could have unintended negative consequences.

⁵ [A-farm-level-approach-to-define-successful-strategies-for-GHG-emissions-from-ruminant-livestock-systems.pdf](#)

Regulation of Feed Additives

16. The existing regulatory approval process of feed additives by the Food Standards Agency sets a high standard for a proven safety record. The regulations are adequate but must continue to be applied rigorously after Retained EU Regulation 1831/2003 is revoked, to ensure continued confidence in the safety of additives.

Adoption and Knowledge Exchange

Cost of Adoption

17. The use of additives should remain a decision for individual businesses to make, with uptake appropriately incentivised. Implementation plans should be made with consideration of the cost implications for farm businesses and how this may affect their ability to compete with other producers not using additives.
18. If the cost of the feed additive is passed to consumers, it could result in an increase in purchases of cheaper imported products, leading to the offshoring of carbon emissions. Should any domestic regulations be introduced around the usage of methane suppressing feed products, they must be backed up by supportive trade policies to prevent offshoring.

Knowledge Exchange

19. Effective knowledge exchange plays an important role in the adoption of greenhouse gas mitigation strategies in agriculture⁶. Livestock keepers should be able to access relevant research to ensure understanding of what the feed additive is and how it works to inhibit methane emissions during enteric fermentation, in order to build confidence and dispel myths. There needs to be coordination between the scientists and researchers developing new products and the farmers that can utilise them. Technical support organisations, such as the Agriculture and Horticulture Development Board will have an important role to play in facilitating the adoption of approved products.

For further information please contact:

Cameron Hughes
Land Use Policy Adviser
CLA, 16 Belgrave Square
London SW1X 8PQ

Tel: 020 7235 0511
Email: cameron.hughes@cla.org.uk
www.cla.org.uk

⁶ <https://cielivestock.co.uk/expertise/net-zero-carbon-uk-livestock/report-october-2020/>