

Livestock for reduced climate change impact?

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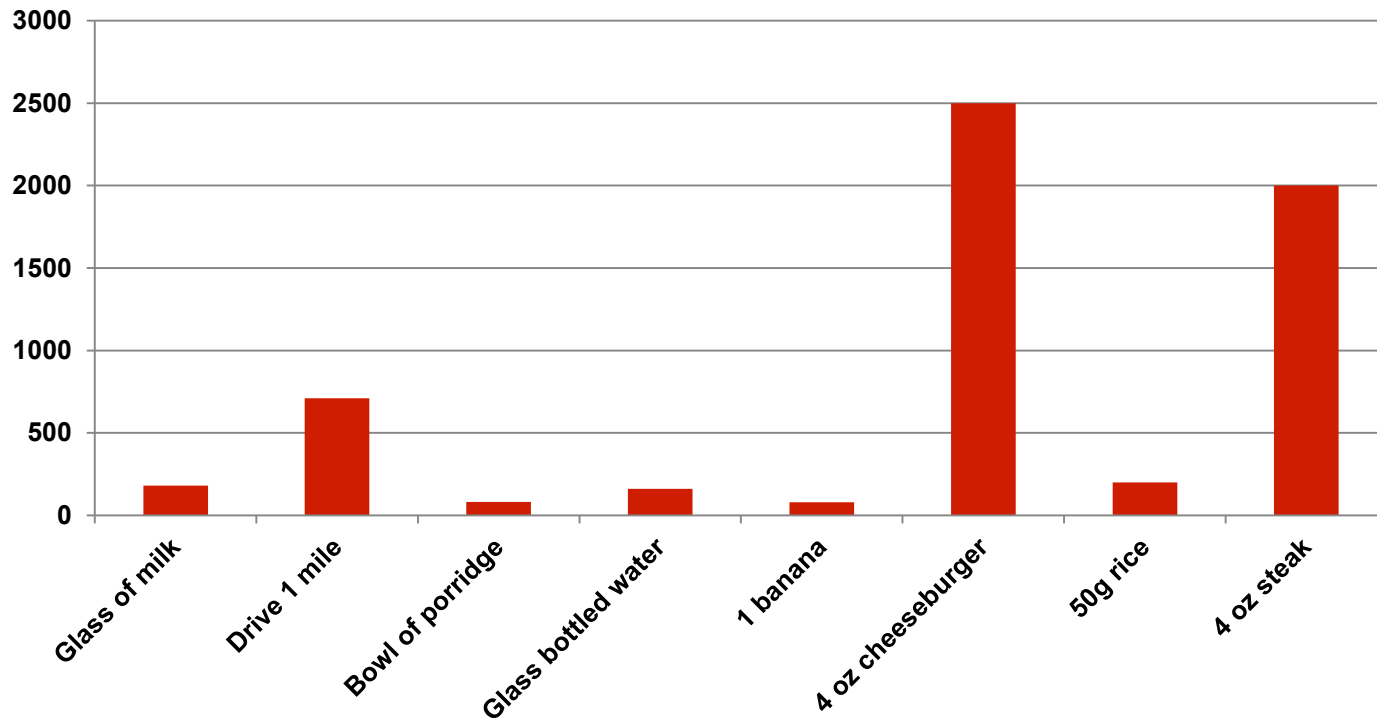
Outline

Focus on methane, sheep & beef cattle

- **Why worry about methane?**
- **Perceptions of methane**
- **Conflicting objectives**
- **A possible way forward?**



CO₂ equivalent emissions (g)



Source: Berners-Lee, 2010 How bad are bananas?
Profile books

Suggested mitigation methods

- **Improved efficiency**
 - **Genetic selection and management for improved growth rate and efficiency of feed utilisation, animal health & fertility**
- **Altering production of methane from rumen**
 - **Changing grass varieties, using feed additives or vaccination to change rumen bacteria to produce less methane**

Typical presentations of the issue – Agriculture as problem

The large amounts of methane produced by cows are now a cause of concern

Rearing cattle produces more greenhouse gases than driving cars

Are cows the cause of global warming?

Technology fosters unsustainable patterns of consumption

Eating less meat is good for the environment & your health

Cattle burp eco-menace

Perceptions of methane

We don't have any options of what to produce in the uplands

Do you want any food produced in the UK or not?

It's natural, it's not pollution

Transporting animals to slaughter – food to supermarkets is a bigger problem

Ruminants have always produced methane

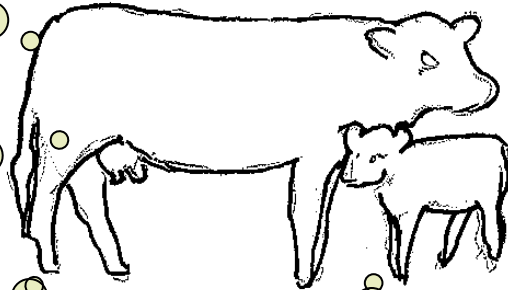
It's a plot by vegetarians to discredit animal production

I'm unsure, show me the evidence – they just eat grass

The people complaining drive cars and fly on foreign holidays

Farmers are an easy scapegoat

It's only a small effect





Farmers are not merely economic actors

“We could easily double, treble the size of the farm now, and farm it a lot harder, but that’s not what we want to do”

(beef farmer, supplying a supermarket)



Sheep and beef production in Scotland takes place in many different environments



Farmers have many different objectives

- **Efficient production of meat**
- **Providing food for humans from grass**
- **Good quality meat from natural sources**
- **Managing environments, particularly biodiversity**
- **Providing rural livelihoods**
- **Maintaining animal welfare**



Four broad response types

- **Specialist beef (and sheep) producers adopting a technical approach to production were already using some technologies (EBVs) and were amenable to using others – but largely on the basis of improved production efficiency**
- **Organic and conventional farmers selling direct to consumers perceived a conflict between measure to reduce methane and their customers' requirements for 'natural, quality' food. They preferred emphasis on grassland, soil management, planting trees.**
- **Farmers reliant on environmental payments felt unable to change either feeding regimes or grassland management as these were determined by biodiversity management**
- **Many farmers felt helpless in the face of the methane challenge, they feared technologies could only have a small impact on methane emissions and the only solution is to reduce livestock numbers, which would threaten their livelihoods.**

Potential conflicts

- **Food production vs. climate change**
- **Biodiversity vs. climate change**
- **Naturalness vs. efficiency**
- **Responsibility of farmers vs. responsibility of wider food chain and consumers**
- **Reduced animal production and social & cultural impact on rural populations**
- **Potential conflict between measures to reduce methane emissions and animal welfare**

A possible way forward?

- **Allow different farming systems to build on their strengths**
- **Emphasis on different ways of reducing methane emissions depending on individual circumstances**
- **A range of solutions could be more respectful of diversity of nature and provide resilience in the face of climate change**

Thank you for your attention

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Web site: <http://burpingsheep.org/>

Photos: courtesy of Donald Bruce



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