
FALSE CLAIMS AND MIRACLES FROM THE NEW VEGAN RELIGION

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A global voice for sustainable food and health

GRASSLAND PRODUCTIVITY

- **Claim:** "Though roughly twice as much land is used for grazing worldwide as crop production it provides just 1.2% of the protein we eat: George Monbiot¹
- **Reality:** The source.² It adds that this applies only to animals exclusively fed on grass.
- **Reality:** The UK currently produces just under 20g protein per person per day from grass (25.6% of UK average 76g) of ruminant protein from grass, rising to 24g (31.5%) when inedible crop waste is included.
- **Claim** in Apocalypse Cow that sheep in the UK provide just under 1% of our calories was correct, but they provide 2% of our protein from meat, and it is more complete and micronutrient dense than all other proteins apart from beef.
- **Fact:** Cattle use 0.6kg of human edible protein to produce 1kg of higher quality animal protein. Intensive chicken need over 5kg of human edible protein to produce 1kg of animal protein (FAO Report)

1. Monbiot, G (2018) The best way to save the planet? Drop meat and dairy. The Guardian 8 June 2018. 2. Garnett T et al. (2017) 'Grazed and Confused' p.18 FCRN

GRASS PRODUCTIVITY CALCULATIONS

- UK beef and produce 901,000 and 307,000 tonnes respectively.
- $901,000 \text{ beef} \times 70\%$ (conversion factor previously relied on by George) = 631,000 tonnes saleable meat
- $307,000 \text{ lamb} \times 75\%$ (conversion factor previously relied on by George) = 230,000 tonnes saleable meat
- Equals 861,000 tonnes of saleable beef and lamb, divided by 67 million people, divided by 365 days = 35.2g per person per day
- 1g beef or lamb = .23g protein. Therefore, $35.2 \text{g meat} = 35.2 \times .23 = 8.096 \text{g protein per person per day}$
- 70% of beef and sheep dry matter intake (DMI) is grass. Therefore grass produces = 5.67g of meat protein per person per day
- UK produces 14.954 billion litres milk annually
- 1 litre of whole milk contains 30g protein = 18.4g protein per person per day
- Average dairy cow system 75% of DMI comes from forage
- $18.4 \times 75\% = 13.8 \text{g}$
- Therefore UK grass produces about $13.8 + 5.67 \text{g}$ human edible protein per person per day or 19.47g per day.

BEEF VS. FLYING

- **Claim:** “Carbon cost of eating 4 kg beef is equal to a flight to New York and back.”³
- **Reality:** The figure quoted in the film is an average global figure, not a UK figure. It is also based on the carbon opportunity cost. Although this is briefly mentioned it is not explained. In addition, the carbon benefits of planting woodland would take decades to develop. The carbon cost of flying is immediate. Based on a more widely recognised source,⁴ previously used by George, the claim exaggerates by between 4 and 22 times.
- **Calculation:**
 - 4kg of beef = 4 x 220 g = 880g protein
 - Carbon cost of 1kg beef protein is between 91kg and 500 kg¹
 - Therefore, 4kg beef has a carbon footprint of between 91 x .88 and 500 x .88 = **80kg to 440kg CO2 eq.**
 - Flight from Heathrow to JFK Airport New York and back = **1,800 kg CO2 eq.** (My Climate carbon calculator)

3. ‘Apocalypse Cow’, Channel 4, 8 Jan 2020

4. Poore J and Nemecek, T (2018) Reducing food’s environmental impacts through producers and consumers, *Science*, **360**, 987-992

GWP* VS. GWP¹⁰⁰

- **You made similar claims in *The Guardian* in 2015. Is it just a coincidence that the number of international air flights from the UK has increased by a massive 20% over the last 4 years?**
- But the carbon footprint of beef and lamb is mostly related to methane anyway.
- Using GWP*, the more precise way to assess ruminant methane – because methane is a short-lived gas, the methane from the UK's stable population of ruminants is not actually adding to global warming at all.⁵
- And all the carbon in ruminant methane is recycled carbon, unlike the fossil methane lost to the atmosphere when fossil fuels are extracted. In total this is about 125% greater than ruminant methane and is not even included in most flight carbon calculations.

5. Allen M R et al. (2018) A solution to the misrepresentation of CO₂-equivalent emissions of short-lived climate pollutants under ambitious mitigation, *npj Climate and Atmospheric Science* **1**, 16 (2018) doi:10.1038/s41612-018-0026-8

SOYA MEAL

- **Claim:** “90% of soya is fed to livestock.”⁶
- **Reality:** In the UK, only 39% of imported soya is fed to livestock but including embedded soya in imported chicken and pork this increases to 57%. However, all this is soya meal, the by-product of soya oil extraction for processed foods.
- **Calculation:**
- In 2017/18 the UK imported 1,871,038 tonnes of soya bean meal, 735,095 tonnes whole soya beans, 179,231 tonnes of soya bean oil, = 2,785,364 tonnes soya beans and products. (AHDB statistics)
- We fed 1,084,000 tonnes to livestock, and about 500,000 tonnes was embedded in imported meat: a total of 1,584,000 tonnes or **57%**. The rest was used as flour improvers and an ingredient in many processed foods – vegan and meat-based, pet food, paint, ink, pharmaceutical and other industrial uses.

6. 'Apocalypse Cow'

SOYA DRINK VS. COWS MILK – 2017/18

- **Claim: Vegans assume soya drink uses less soya than cows milk.**
- **Reality: In the UK between 90 and 169 litres of milk are produced for every 1 kg of the residue soya meal fed to dairy cows. (AHDB data)**
- **But 1kg of whole soya beans makes 7.5 litres of soya drink. Soya drink uses at least 12 times more**
- **In Europe as a whole, only 30 litres of milk are produced per kilo of soya meal fed.**
- Calculation:
- UK produced 14.7 billion litres of milk in 2017/18.
- Between 8-15% of soya is fed to dairy cows (Defra pers comm 2017)
- 1.084 million tonnes of soya meal fed to livestock = between 86,720 and 162,600 tonnes or 90-169 litres per kg

PALM KERNEL MEAL

- **Claim:** ‘Feeding palm kernel meal to livestock is contributing to rainforest destruction’⁷
- **Reality:** This confuses palm oil (widely used in processed foods, vegan and non-vegan, with palm kernel products. Palm kernel meal is a by-product of palm oil production, but with little other use than in livestock feed. The palm kernel oil, which is mostly used in detergents and other industrial uses, has already been extracted. A small amount of palm kernel oil is used in some low-priced foods.
- In 2017 the UK imported 426,507 tonnes of palm oil predominantly for use in processed food.
- The only way to reduce demand for palm oil is to go back to eating animal fats.

7. ‘Apocalypse Cow’

LIVESTOCK IN THE UPLANDS: A CARBON OPPORTUNITY COST?

- We do need more trees, but meeting climate targets does not require total afforestation - increasing woodland cover from 13 to 17% of UK land area is compatible with net zero aims (CCC, 2019).
- *"While land can make a valuable contribution to climate change mitigation, there are limits to the deployment of...afforestation. Widespread use at the scale of several millions of km² globally could increase risks for desertification, land degradation, food security and sustainable development. Applied on a limited share of total land, land-based mitigation measures that displace other land uses have fewer adverse side-effects and can have positive co-benefits."* IPCC, 2019
- Better option is to integrate more trees into farmland, especially more hedgerows and hedgerow hardwoods in all hedgerows, especially oaks, as this brings multiple benefits

AGROFORESTRY AND GRAZING MANAGEMENT – SEQUESTRATION POTENTIAL

- Agroforestry:
 - global technical potential of up to 5.7 Gt CO₂e p.a. by 2050 – enough to offset all direct livestock emissions (IPCC, 2019)
 - UK potential of 4.5 Mt CO₂e p.a. by 2050 – enough to offset half of UK agricultural emissions* (CCC, 2019)
- Globally, improved grazing management has a carbon sequestration potential of over 16 Gt CO₂e by 2050 – enough to offset all AFOLU emissions combined. This is partly contingent upon adoption of GWP* and no further increases in ruminant numbers.
- Bottom line – grazing livestock can continue to play a central role in UK agriculture and still be compatible with achieving net zero

LIVESTOCK AND BIODIVERSITY

- An increase in native woodland would be hugely beneficial for biodiversity in the UK. But many of our most important and culturally valued habitats (e.g. calcareous grassland) and species (e.g. ground-nesting waders) require, or at least benefit from grassland and appropriate grazing management.
- For commercial reasons most reforestation in the UK is likely to be with conifers which are very poor for wildlife and only remove carbon for a short period of time c/w native hardwoods.
- Overstocking, where it still occurs and single-species grazing, especially sheep without cattle is not ideal for biodiversity, but there are increasingly also cases where under-grazing is now a problem and reducing grassland diversity and wildlife. Mixed species grazing tailored to local environmental conditions is the ideal.
- Should also remember the immense cultural value of grazed upland landscapes.

MIRACLES

- Turning thin air into protein.
- And presumably turning water into wine?



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