



We are writing to you with reference to your current Eat-Balanced campaign. The material presented as factual information on your website and paid advertisements includes serious errors and omissions that appear to be intended to mislead the public regarding the true impact of meat and dairy consumption on health, the environment and animal welfare. We note that you particularly ask participants to “try to avoid using close-up pictures of individual animals”¹. We would like to enquire into the reason behind this statement, as we can only presume that this is an attempt to hide the faces of the individual animals used and exploited as commodities in the industry. The deliberate attempt to mislead the public in this way leaves us highly concerned regarding the transparency and integrity of your business and marketing strategies.

In your overview you say that “there are many health and environmental misconceptions around meat and dairy production” and that as an “evidence-based organisation, AHDB seeks to present facts, to protect the reputation of the industry”². Yet, the argument that follows fails to provide a single supporting reference to counter the powerful evidence base behind the movement against animal-slaughter industries; most importantly the Special Report of the United Nations Intergovernmental Panel on Climate Change³. Far from providing “clear facts to help those reducing meat and dairy consumption to reconsider their choices and to promote a healthy and sustainable diet”⁴, we believe your campaign serves to confirm your industry’s short-sighted refusal to acknowledge the “significant shifts in consumer behaviour”⁵. These shifts reflect a desire for food to be genuinely sustainable, healthy, tasty, and free from harm to animals. It is disappointing that the AHDB attempts to play-down the almost universal acceptance of the landmark EAT-Lancet report⁶. By accepting and adapting to the change that is desired by consumers, UK agriculture could be the leader of a global movement to alleviate the burden that animal product consumption places on health services, the environment, biodiversity and our climate.

Whilst correctly declaring all the nutrients that meat and dairy provides⁷, you fail to mention that plants also provide every single one of these. We note that you avoid mentioning the total lack of fibre in animal products which is so vital to human health. In fact, the current UK recommendations stand at 30g/day for adults, which is only met by 9% of adults⁸; this means it is essential for the population to increase their intake of plant foods. In addition, the many diseases associated with increased meat consumption such as increase in “total mortality, cardiovascular disease, colorectal cancer and type 2 diabetes”⁹ has been omitted from your marketing.

You state that “we get a significant proportion of nutrients like iron and zinc from meat and meat products”¹⁰, and that “NDNS results show 49% of UK teenage girls have a low intake of iron”¹¹. These statements insinuate that meat is essential to avoid a lack of these nutrients. Whilst it is true that non-heme iron from plant foods is less well absorbed, and that lower ferritin concentrations have been found in vegan males, you fail to mention that in population studies, lower ferritin concentrations have

been associated with a lower risk of heart disease¹², and that iron status is a common issue for women whether they follow vegan or omnivorous diets¹³. In addition, SACN state in the preface to their document on Iron and Health (2010) that “reducing red and processed meat intake to the population average for adult consumers would have little effect on the proportion of the population with iron intakes below the lower limit of recommended intake”¹⁴.

Iron is an abundant mineral in plant foods including pulses and legumes, dark green leafy vegetables, tofu, nuts and seeds, with absorption increasing up to 6-fold with the addition of vitamin C (an abundant vitamin as part of a whole food plant-based diet)¹⁵. For this reason, it has been found that vegans are at no greater risk of iron deficiency anaemia than their meat-eating counterparts. In fact In the Oxford cohort of the European Prospective Investigation of Cancer and Nutrition (EPIC), estimated iron intakes among women (n=43,582) were 12.6, 12.8, 12.6 and 14.1 mg/day for meat eaters, fish eaters, lacto-ovo vegetarians and vegans respectively¹⁶. Several studies have also concluded that that men and women on a vegan diet, on average, meet or exceeded the standard recommended intakes for zinc¹⁷.

We agree that it’s important for “those considering a vegan diet to make sure it’s varied and balanced to ensure it provides all the nutrients needed, and to consider supplements and/or fortified foods”¹⁸. However, this is true for any dietary pattern, resulting in many of our most common foods being fortified for the general population e.g. iron in breakfast cereals. Vitamin D is another vitamin that is advised for all adults to supplement¹⁹, irrespective of whether they consume animal products, as food is not the main contributor to vitamin D status.

You assert that vegan choices are not automatically a healthier choice, with vegans needing to check labels to ensure foods are not high in saturates, salt or added sugars. Again, this is not specific to vegan diets; research shows that in UK adults, 54.3% of calorie intake is from ultra-processed foods²⁰ making intake of processed foods an entirely separate issue that includes all dietary patterns. In addition, the main contributors to saturated fat intakes were stated by SACN (2019) as meat and meat products, milk and milk products (about half from cheese) and cereals and cereal products (half from pizza, biscuits, buns, cakes, pastries, fruit pies and puddings). Fat spreads, including butter, provided a further intake of saturated fat²¹.

You correctly state that “well-balanced plant based diets can provide the nutrients the body needs to be healthy”²² and that “dietary patterns that include plenty of plant-based foods have health benefits”²³. You then however, go on to say that the evidence for vegan diets, particularly their effect on diabetes, is ‘limited’ and ‘observational’, and therefore cannot prove cause and effect²³. On the contrary, much work has been done in recent years using randomised control trials (RCT), therefore being able to prove cause and effect. For example in one RCT it was found that ‘glycaemic control was better with the vegan diet than with the conventional diet. Thus, the dietary guidelines for patients with T2D should include a vegan diet for the better management and treatment’²⁴. Another intervention study (BROAD study) found that a whole food plant based programme “led to significant improvements in BMI, cholesterol and other risk factors”²⁵. Similar findings have been noted in further RCTs^{26,27,28,29} one of which concluded that “meat meals are more likely to trigger oxidative stress in people the diabetes. This may lead to greater need for insulin”³⁰.

It is true that red meat is a source of protein. However, the World Cancer Research Fund (WCRF) state “Haem can trigger the formation of cancer causing compounds which have been shown to damage the lining of the bowel, which may cause bowel cancer”³¹. For this reason, the WCRF actively promotes the reduction of red meat, by encouraging alternative high protein sources such as Quorn and beans, as well as regular meat-free days.

You correctly state vitamin B12 as a key nutrient for human health, and that it is not ‘naturally’ present in a vegan diet. You will also know that vitamin B12 requires cobalt to be synthesised by bacteria in the gut of ruminant animals, and therefore animal feed is often supplemented with cobalt. Can you then still argue that it is less ‘natural’ to supplement the human diet with B12 than to supplement animal feed to produce it?³² You correctly state that vitamin B12 can be provided by fortified plant based foods, such as yeast extract, breakfast cereal, plant based milk, and supplements. Deficiency is commonly related to decreased absorption, meaning many people are required to take B12 supplementation despite consuming meat, for example older people³³.

We were pleased to see you referring to Public Health England’s Eat Well Guide (2016). Anyone familiar with this food guide will be well aware that, with no food group relying solely on animal products, the recommendations can be easily met through a 100% plant based diet. You may also be aware that the British Dietetic Association (BDA) state that well-planned vegan diets “can support healthy living at every age and life-stage”³⁴ and therefore meat is not a necessary component of the diet for any of the nutrients you have highlighted. In fact, as part of their One Blue Dot campaign, the BDA actively promote the reduction of animal-based foods including red and processed meat, stating that “a key part of a more sustainable diet is to consume more plant sources of protein in place of animal proteins... it is clear that shifting dietary patterns towards more plant proteins such as beans, pulses, nuts, and seeds will help reduce both the environmental and some of the health burdens we are currently facing.”³⁵

The emphasis on grass-fed cattle fails to mention that 20% of UK cattle are intensively farmed indoors³⁶ and therefore never see a blade of grass, or that almost all cattle spend the winter indoors being fed silage and hay with supplementation required. In 2017 more than 26% of antibiotics used in the UK were used for animal production³⁷ to keep the animals healthy in often-crowded and unsanitary conditions; this has led to dangerous levels of antibiotic resistant bacteria and the consequent highly concerning threat to human health^{38,39}.

You are very careful to state that “UK beef and lamb production does not contribute to Amazon deforestation as most of their feed is grass..... with very little soya”⁴⁰ but as you well know, 2 million tonnes of soya, 71% imported from South America, is used annually for animal feed⁴¹ - presumably you carefully state “beef and lamb”, because the feed is largely for pigs and chickens, meaning UK agriculture is directly linked to Amazonian deforestation.

The point is made that humans cannot eat grass and therefore putting sheep and cows on grassland makes it productive⁴². This fails to recognise that the grassland concerned is only there because farmers created it to graze cattle and sheep; grassland is not a natural British ecosystem. Much of the 60% of farmland that you say is grassland⁴³ will have adequate rain, and deep, moisture retentive soils - resources that could be used to grow crops for human consumption.

Globally 77% of farmland is used for animal production, producing just 18% of calories consumed; this means just 23% of farmland produces 82% of our calories through plants⁴⁴. If we did not have animal production, only a tiny percentage more, perhaps 7%, of the most productive land is needed to give us all our calories. This would leave 70% of the land currently being used for animal production to be re-wilded and managed for the benefit of biodiversity, climate control, human wellbeing, or crop produce for export to less productive countries. It could also improve our badly depleted topsoil or generate energy.

As you state, “livestock produces 5% of the total greenhouse gas emissions in the UK”, however it also produces 50% of the methane emissions (which, you state yourself, lasts in the environment for 10 years), a gas that has 25 times more greenhouse warming potential than carbon dioxide⁴⁵.

As far as carbon sequestration is concerned, all agricultural land has the potential to store carbon, via soil organic matter, not exclusively grazed grassland, as long as sound management practices are followed^{46,47}. Woodland would be far better at sequestration, which re-wilding would allow, and would also confer the best protection from flooding as well as amenity and conservation benefits⁴⁸.

Your failure to provide a reference makes it difficult to know which scientific study you are quoting when you say a “Swedish study shows lifelong vegans only have a 4% lower carbon footprint than meat eaters”⁴⁹. If it is the study we think you are referring to⁵⁰ then this in fact refers to switching to a vegetarian diet, not a vegan diet, so dairy and eggs would still be consumed. What is more, that study assumes the consumer would spend the money saved by eating a plant based diet on other consumer goods and adds the carbon footprints of these ‘imaginary’ goods to arrive at the supposed 4% reduction. Perhaps the convoluted nature of such an argument led to your decision to omit a reference? The IPCC report on Climate Change and Land suggests that the switch from an omnivorous to a vegan diet will give a 63% reduction in carbon footprint. Although UK farming might be amongst “the most sustainable in the world”⁵¹, a considerable improvement in sustainability could be achieved from everyone adopting a plant based diet⁵².

Although your campaign seeks to establish an intrinsic link between animal agriculture and crop production, growing plants does not rely on animal husbandry. The waste that you assume has to be disposed of as animal feed, like “wonky vegetables”⁵³ could be composted and used to improve soil condition. In fact the waste from animal husbandry can itself be a huge environmental pollutant^{54, 55}. Similarly some of the by-products of animal agriculture like cosmetics and glue⁵⁶ can be manufactured from other sources.

Any sort of farming provides a food supply and a source of income and employment so there is no reason to assume a switch to a plant based diet would cause a deleterious change to the rural economy. In addition, given that many past, present and future pathogens of pandemic potential originate from animal agriculture⁵⁷, including COVID19, our risk of future pandemics would be greatly decreased from adopting a plant-based diet.

Professor Walter Willet MD from Harvard⁵⁸ states that “Transformation to healthy diets by 2050 will require substantial dietary shifts. Global consumption of fruits, vegetables, nuts and legumes will have to double, and consumption of foods such as red meat and sugar will have to be reduced by more than 50%. A diet rich in plant-based foods and with fewer animal source foods confers both improved health and environmental benefits”.

We call on the AHDB to wholeheartedly embrace this difficult, but necessary step, by retracting the campaign to promote increased consumption of harmful meat using misleading and un-evidenced marketing. Concentrating on the crop production and horticultural aspects of your industry could provide a meaningful and beneficial contribution to our current global concerns of health, environment, and animal welfare.

Rosemary Martin BSc MSc RD

On behalf of Plant Based Health Professionals UK



References

1. Eat Balanced AHDB 2021 Having positive conversations about meat and dairy p8
2. Eat Balanced AHDB 2021 Having positive conversations about meat and dairy p1
3. IPCC (2019) Special Report: Climate Change and Land
4. Eat Balanced AHDB 2021 Having positive conversations about meat and dairy p3
5. AHDB (2020) Change programme and strategy 2021-2026 Growing British agriculture and Horticulture page 4
6. EAT-Lancet Report (2019) Willett W, Rockstrom J, Loken B, Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems Lancet 2019
7. AHDB Guides to Health Claims (2021)
8. National Diet and Nutrition Survey rolling 2014 – 2016.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/699241/NDNS_results_years_7_and_8.pdf
9. Int. J Vitam Nutr Res (2015) Health Risks Associated with Meat Consumption: A Review of Epidemiological Studies 85(1-2):70-8
10. Eat Balanced AHDB 2021 Having positive conversations about meat and dairy p16
11. Eat Balanced AHDB 2021 Eat Balanced free assets *Iron out the facts*
[https://projectblue.blob.core.windows.net/media/Default/We%20Eat%20Balanced/LPC%20assets/LPC%20-%20Iron%20\(Girls\).jpg](https://projectblue.blob.core.windows.net/media/Default/We%20Eat%20Balanced/LPC%20assets/LPC%20-%20Iron%20(Girls).jpg)
12. Salonen JT, Nyyssönen K, Korpela H, Tuomilehto J, Seppänen R, Salonen R. High stored iron levels are associated with excess risk of myocardial infarction in Eastern Finnish men. *Circulation* 1992;86:803–11.
13. Haddad, E.H et al (1999). Dietary intake and biochemical, hematologic, and immune status of vegans compared with nonvegetarians. *Am J Clin Nutr*: 586S-93S
14. SACN (2010) Iron and Health.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/339309/SACN_Iron_and_Health_Report.pdf
15. Hunt, J., Bioavailability of iron, zinc and other trace minerals from vegetarian diets (2003). *Am J Clin Nutr*; 78:633S-9S
16. Davey GK, Spencer EA, Appleby PN, Allen NE, Knox KH, Key TJ. EPIC-Oxford: lifestyle characteristics and nutrient intakes in a cohort of 33 883 meat-eaters and 31 546 non meat-eaters in the UK. *Public Health Nutr*. 2003; 6(3):259–269.
17. Rizzo NS et al. (2013) Nutrient profiles of vegetarian and non-vegetarian dietary patterns. *J Acad Nutr Diet*; 113(12): 1610-9.
18. Eat Balanced AHDB 2021 Having positive conversations about meat and dairy p16
19. NICE 2020. Vitamin D deficiency in adults - treatment and prevention -<https://cks.nice.org.uk/topics/vitamin-d-deficiency-in-adults-treatment-prevention/>
20. Rauber, F., Steele, E. M., Louzada, M., Millett, C., Monteiro, C. A., & Levy, R. B. (2020). Ultra-processed food consumption and indicators of obesity in the United Kingdom population (2008-2016). *PLoS one*, 15(5), e0232676.
<https://doi.org/10.1371/journal.pone.0232676>
21. SACN (2019) Saturated fats and health) -
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/814995/SACN_report_on_saturated_fat_and_health.pdf
22. Eat Balanced AHDB (2021) Having positive conversations about meat and dairy p17
23. Eat Balanced AHDB (2021) Having positive conversations about meat and dairy p16
24. Lee Y-M, Kim S-A, Lee I-K, Kim J-G, Park K-G, Jeong J-Y, et al. (2016) Effect of a Brown Rice Based Vegan Diet and Conventional Diabetic Diet on Glycemic Control of Patients with Type 2 Diabetes: A 12-Week Randomized Clinical Trial. *PLoS ONE* 11(6): e0155918. <https://doi.org/10.1371/journal.pone.0155918>
25. Wright, N., Wilson, L., Smith, M., Duncan, B., & McHugh, P. (2017). The BROAD study: A randomised controlled trial using a whole food plant-based diet in the community for obesity, ischaemic heart disease or diabetes. *Nutrition & diabetes*, 7(3), e256. <https://doi.org/10.1038/nutd.2017.3>
26. Mishra, S. et al. **Trusted Source** A multicenter randomized controlled trial of a plant-based nutrition program to reduce body weight and cardiovascular risk in the corporate setting: The GEICO study. *European Journal of Clinical Nutrition*, 2013.
27. Barnard, N. D. et al. **The effects of a low-fat, plant-based dietary intervention on body weight, metabolism, and insulin sensitivity. Trusted Source** *The American Journal of Medicine*, 2005.

28. Barnard, N.D. et al. [A Low-Fat Vegan Diet Improves Glycemic Control and Cardiovascular Risk Factors in a Randomized Clinical Trial in Individuals With Type 2 Diabetes](#). *Diabetes Care*, 2006.
29. Nicholson, A. S. et al. [Toward Improved Management of NIDDM: A Randomized, Controlled, Pilot Intervention Using a Low-Fat, Vegetarian Diet](#). *Trusted Source Preventive Medicine*, 1999.
30. Belinova, L. et al. [Trusted Source Differential Acute Postprandial Effects of Processed Meat and Isocaloric Vegan Meals on the Gastrointestinal Hormone Response in Subjects Suffering from Type 2 Diabetes and Healthy Controls: A Randomized Crossover Study](#). *PLoS ONE*, 2014.
31. World Cancer Research Fund. Red and processed meat and cancer risk - <https://www.wcrf-uk.org/uk/preventing-cancer/what-can-increase-your-risk-cancer/red-and-processed-meat-and-cancer-risk>
32. G Shepherd Animal Health. Cobalt deficiency in sheep and cattle - <https://www.gshepherdanimalhealth.co.uk/health-info/sheep-health-information/cobalt-deficiency>
33. Gille D, Schmid A 2015 Vitamin B12 in meat and dairy products *Nutrition Reviews* Vol 73 Issue 2 p106-115
34. British Dietetic Association <https://www.bda.uk.com/resource/plant-based-diet.html>
35. British Dietetic Association (2018) One Blue Dot: Eating Patterns for Health and Environmental Sustainability. A reference guide for dietitians. - <https://www.bda.uk.com/resource/one-blue-dot.html>
36. March, MD et al (2014) Current trends in British dairy management regimens *Journal of Dairy Science*. Volume 97, Issue 12, December 2014, Pages [7985-7994](#)
37. HM Gov. (2019) Joint report on antibiotic use and antibiotic resistance, 2013–2017 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/921039/Ted_Final_version_1318703-v45-One_Health_Report_2019_FINAL-accessible.pdf
38. Calvin Ho-Fung Lau, Kalene van Engelen, Stephen Gordon, Justin Renaud, Edward Topp (2017) Novel Antibiotic Resistance Determinants from Agricultural Soil Exposed to Antibiotics Widely Used in Human Medicine and Animal Farming *Applied and Environmental Microbiology*.
39. Yujie Ben, Caixia Fu, Min Hu, Lei Liu, Ming Hung Wong, Chunmiao Zheng, (2019) Human health risk assessment of antibiotic resistance associated with antibiotic residues in the environment: A review. *Environmental Research*, Volume 169, Pages 483-493, <https://doi.org/10.1016/j.envres.2018.11.040>. (<http://www.sciencedirect.com/science/article/pii/S0013935118304298>)
40. Eat Balanced AHDB 2021 Having positive conversations about meat and dairy p15
41. UK Roundtable on Sustainable Soya (2019), : Annual progress report www.efeca.com
42. Eat Balanced AHDB 2021 Having positive conversations about meat and dairy p17
43. Eat Balanced AHDB 2021 Having positive conversations about meat and dairy p15
44. Richie, H and Rosser, M (2019) Land Use in Our World in Data ourworldindata.org
45. IPCC Global Warming Potentials (IPCC Second Assessment Report) (2018)
46. DEFRA (2009) Best Practice for Managing Soil Organic Matter in Agriculture
47. Lugato, L et al (2015) *Potential Carbon Sequestration of European arable soil estimated by modelling a comprehensive set of management practices* *Global Change Biology* 20, [3557-3567](#)
48. Forest Research (2021) Environmental Benefits from Woodland. <https://www.forestresearch.gov.uk/>
49. Eat Balanced AHDB (2021) Having positive conversations about meat and dairy p17
50. Grabs, J (2015) The rebound effects of switching to vegetarianism. A microeconomic analysis of Swedish consumption behavior *Ecological Economics* Volume 116, Pages 270-279
51. Eat Balanced AHDB (2021) Having positive conversations about meat and dairy p14
52. IPCC (2019) Special Report: Climate Change and Land
53. Eat Balanced AHDB (2021) Having positive conversations about meat and dairy p20
54. FAO (2017) Water pollution from agriculture: a global review. Food and Agriculture Organization of the United Nations Rome, 2017 and the International Water Management Institute on behalf of the Water Land and Ecosystems research program, Colombo, 2017
55. FAO (2020) Emissions Due to Agriculture Food and Agriculture. Organization of the United Nations Rome.
56. Eat Balanced AHDB (2021) Having positive conversations about meat and dairy p17
57. Scientific American Observations (2020) One Root Cause of Pandemics Few People Think About : It's our insatiable desire to eat meat
58. Willett W, Rockstrom J, Loken B, (2019) EAT-Lancet Report Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems *Lancet* 2019