Abstracts

Session 2

What do key Australian industry, government, civil society and research stakeholders think about meat reduction? A framing analysis

Luke Spajic [1], Alexandra E Sexton [2], Hubertus Jersmann [1], Phil Baker [3]

[1] Adelaide Medical School, University of Adelaide
[2] Oxford Martin School, University of Oxford
[3] Institute for Physical Activity and Nutrition, Deakin University

Researchers have called for a 'transformation' of food systems for health and sustainability. This transformation is considered to involve reductions in meat and dairy consumption in developed countries such as Australia. However, little is known about the views of key Australian food system stakeholders (industry, researchers, government, civil society) about calls for meat reduction. Therefore, this study aimed to identify the frames used by these stakeholder groups in relation to animal-source food consumption.

36 semi-structured key informant interviews of average length 55 minutes were conducted with key Australian industry, government, civil society and research stakeholders. Framing analysis was conducted to identify how stakeholders interpret and portray (i.e. frame) animal-source food consumption.

Animal-source food consumption was highly contentious. Industry stakeholders described the EAT-Lancet Commission as 'folklore' and 'misinformation'. However, industry stakeholders agreed that the environmental footprint of livestock must be reduced, although only via greater efficiency of production practises. Commonly referenced was the Australian red meat industry's plan to achieve carbon neutrality by 2030. Veganism was described as an attack on farmers, Australian culture and individual freedoms.

Researchers and civil society groups largely described health and environmental benefits to reduced animal-source food consumption in Australia. However, effort was still made to distance from veganism. The views of government stakeholders were highly varied.

Regenerative agriculture was supported by many stakeholders across sectors. Interestingly, beliefs about whether producers should be encouraged to follow such practises were related to stakeholder's beliefs about the importance of individual freedoms.

Contestation on Twitter around meat consumption and dietary options in response to the 2019 IPCC Report on Climate Change and Land

Mary Sanford [1]; James Painter [2]; Taha Yasseri [1,3], and; Jamie Lorimer [4]

[1] Oxford Internet Institute, University of Oxford
[2] Reuters Institute, University of Oxford
[3] Alan Turing Institute for Data Science and AI, School of Sociology, University College Dublin
[4] School of Geography, University of Oxford

In August 2019, the Intergovernmental Panel on Climate Change (IPCC) published its Special Report on Climate Change and Land (SRCCL), which generated extensive societal debate and interest on mainstream and social media. Using the Correlation Explanation method (CorEx), we examined more than 6,000 English-language posts on Twitter computationally to establish the relative presence of different topics, and then to assess their levels of toxicity and sentiment polarity as an indication of contestation. We found that much of the Twitter discussion reflected the dominant messaging from the IPCC which centred on land options and solutions to tackle climate change. However, a common topic new to social media discourses around IPCC reports focused on meat consumption, animal agriculture, and dietary options. This topic showed similarly high levels of contestation to previous disputes about the credibility of the IPCC and its science. Our results support the view that climate conflicts may have partly shifted from the direct denialism of climate change to the rejection of the science behind various solutions such as meat production and consumption.

Tweets from both those defending meat eating and the meat and dairy industries, and from those attacking them for not changing their diets towards more plant-based options, included violent and toxic language aimed at their antagonists. A reduction in meat consumption was only one of many climate solutions discussed in the SRCCL, but it gained disproportionate attention on Twitter. Our analysis suggests that the prominence given to it by some of the mainstream media prompted a volume of discussion beyond the IPCC's main messages about the SRCCL, and fed into an already polarized debate around meat eating and climate solutions.

Macroeconomic impacts of carbon taxation against ruminant agriculture

Taro Takahashi [1,2], GA McAuliffe [1], MRF Lee [3]

[1] Rothamsted Research, UK
[2] University of Bristol
[3] Harper Adams University

As a means to curb GHG emissions associated with ruminant agriculture, a number of recent studies have suggested introduction of a carbon tax against beef and dairy products. This concept is quantitatively supported by modelling studies, which predict a weaker consumer demand for taxed products post-intervention. These forecasts, however, are derived under the partial equilibrium framework, under which interactions between the agri-food market and the rest of the economy are assumed to be negligible. While this condition is largely satisfied for consumers who often set aside a fixed proportion of income for food expenditures, its validity on the production side is not as straightforward. A shrinkage of the ruminant industry, for example, could invite knock-on effects on land use and employment structure beyond agriculture, including rural communities that support and depend on business with farmers.

To test this hypothesis, we simulated macroeconomic consequences of carbon taxation under a computable general equilibrium modelling framework, wherein the separability assumption is not required. An ad valorem purchase tax on beef and dairy commodities was imposed in the UK market at the rates identical to Springmann et al. (2017), a partial equilibrium study that found carbon taxation to be an effective policy instrument to mitigate GHG emissions. Within the ruminant sector, our results were largely in agreement with existing partial equilibrium studies, with substantial GHG savings (~2.5 Mt CO2e/year) achieved nationally. However, the economy suffered from large losses due to forced reallocation of resources, such as transfer of land and labour from livestock farms to arable farms and non-agricultural industries. The size of losses (£242M/year) was approximately three times the monetised benefit of climate change mitigation, evaluated at the same carbon price used by Springmann et al. (2017). This finding indicates that literature supporting carbon taxation may be underestimating the socioeconomic value of grasslands.

"A steak by any other name" - Cultured Meat, Transformative Biotechnologies and their Regulations through Trademarks

Mariela de Amstalden, and Burkhard Scafer

University of Edinburgh

Beef without cows are now a reality, with current estimations forecasting cultured meat to be available for sale directly to consumers as early as 2021. While it may not yet pass a blind taste test with livestock meat, this may not matter, if a "good story" about its other benefits, for consumer, animals or society, can be told. Cognitive science on the other hand tells us what marketing knew for a long time – arose by any other name may not smell quite as sweet, and market uptake of these new products will depend crucially on how the consumer will perceive them, the "narrative" that will be used to introduce them, and with that also how it will be called and labelled. Legislation on product labelling is already adopted across legal jurisdictions to protect the trillion-dollar market of livestock-based meat. Yet little attention is being paid to trademark rights as a possible means to advance the inevitable naming battles of what actually constitutes meat. We will use narrations as a lens to explore some of the legal issues that cultured meat is bringing to the regulatory regime. Promoted as an environmentally more sustainable alternative to farmed meat, research into cultured meat has gained new urgency in response to the climate catastrophe. Nonetheless, the regulatory push back from established market players is already noticeable. Our analysis will thus focus on the question of trademarks for cultured meat. We will show that this question raises some of the deeper philosophical issues, and how the new food will call itself, or be allowed to call itself, will have significant impact on its market acceptance. Cultural and anthropological practices around meat and its consumption add another layer of difficulty, especially for international legal regimes.

Meat alternatives: How they are perceived?

Yeliz Vural, Danielle Ferriday and Peter J. Rogers

Nutrition and Behaviour Unit, School of Psychological Science, University of Bristol

Meat production and consumption have adverse impact on health, the environment and animal welfare. Nevertheless, there is little quantitative research investigating how consumers perceive meat substitutes. In this study, we explored consumers expectations of the taste of meat substitutes (cultured meat and plant-based 'meat') and the role disgust may play in their acceptance. Meat and non-meat eaters (N=200) were shown pictures of six meat and dairy food products (meals), including chicken nuggets, beef burger, and cheese sandwich. For each food there were slightly different images counterbalanced with three labels (e.g., 'conventional' 'plant-based' and 'cultured' for beef burger) with a short supporting narrative. Participants rated expected taste pleasantness, fullness, satisfaction, healthiness, willingness-to-pay and disgust on 0 to 100-point scales for each image. Results showed that conventional beef burger was rated disgusting by non-meat eaters when they were asked to compare it with a cultured beef burger (mean ± SD: 66±37 vs 48±38, $p=.044$). In contrast, omnivores found cultured beef burger more disgusting compared to a conventional beef burger (mean ± SD: 42±32 vs 18±24, $p< .001$). In terms of comparison between conventional beef burger and plant-based burger, meat eaters did not report any significant difference in disgust scale ($p=.832$) while vegans and vegetarians reported disgust towards conventional beef burger compared to plant-based alternative (mean ± SD: 78±35 vs 16±22, $p< .001$). In the light of these results, we suggest that plant-based alternatives are a suitable option to reduce meat consumption.