Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Animal - Science Proceedings 13 (2022) 1–119

Contents lists available at ScienceDirect

Animal - Science Proceedings

journal homepage: www.elsevier.com/locate/anscip

Proceedings of the British Society of Animal Science Annual Conference 2022

1. Livestock Science Matters for Human and Planetary Health

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The COVID-19 pandemic has created a new conversation among scientists, policy makers, politicians and the public. It has also emphasised the role of science and innovation in addressing global challenges. The COVID-19 response has seen innovation in vaccine technology, rapid diagnostics and new means of preventing disease transmission, including interventions, legislation and human behaviour. Success has been a result of an integrated, multi-disciplinary, and funded approach, focussed on populations of people. Infectious disease has been a major focus of livestock scientists over many decades and longer, and novel vaccines, diagnostic testing and disease control programmes, including nutrition, management and breeding have been successfully developed and applied to herds, flocks and populations of animals. This has underpinned much success in preventing, reducing and controlling disease which has resulted in i) improved animal health and welfare, ii) better biological efficiency and reduced waste, thus contributing to Net Zero initiatives, and iii) food security while maximising sustainable agriculture globally - a “win-win-win” for livestock science. Scientific evidence for many approaches to controlling disease is currently available and the focus must now be on knowledge exchange and uptake of existing technologies, essential for impact globally. There is however, the need for much more to be done - reducing the risk of emerging, zoonotic, and food-borne pathogens, developing alternatives to anti-microbial drugs and chemicals, and preventing disease in both intensive and extensive farming systems of the future, in both developed and developing countries. Animal scientists have a key role in providing new research outputs across many disciplines, not only for the scientific community itself, but to provide evidence for policy makers, politicians and society generally. This will be essential if we are to continue to improve the lives of animals while also increasing understanding of the role of animals in human and planetary health.

2. It is not as simple as just eating less meat: how healthy and environmentally sustainable are the alternatives?

J. Macdiarmid

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The consumption of meat and dairy is at the center of most debates about sustainable diets because of the high environmental impact of livestock production. In the Climate Change Committee Sixth Carbon Budget report (2020) one of the actions proposed to put the UK on a pathway to achieve Net Zero by 2050 is to reduce consumption of meat and dairy by 20% by 2030, raising to 35% cut in meat by 2050. Eating less meat, especially red and processed meat, can also have health benefits, such as lowering the risk of some non-communicable diseases. However, these health and environmental benefits need to be assessed in the context of the foods that are replacing meat and the overall composition of the whole diet. Plant-based foods and meals cover a very wide spectrum in terms of healthiness, and while many of the alternatives are healthy increasingly there is a greater availability of highly processed products. Much of the research around meat reduction has focused on finding protein replacements, which have included pulses, insects and cultured meat. However, the emphasis on protein, both in research and the food industry, has had the unintended consequence of some people believing that reducing their meat consumption could lead to a protein deficient diet. This is not the case as the majority of people in high income countries eat more protein than they require, regardless of whether they eat meat or not. From a nutritional perspective, greater attention is needed on micronutrients to avoid a diet with an inadequate quantity of micronutrients. Meat and dairy are good sources of micronutrients, such as iron, zinc, calcium and iodine, and the bioavailability of some of these is higher in meat than plants. In this presentation I will explore some of the nutritional, environmental and social implications of switching to a more plant-rich diet.

3. Animal source foods in sustainable and healthy diets

F. Leroy

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Over the last decade in particular, the position of animal source foods in food systems has become increasingly controversial. While being a fundamental component of traditional diets worldwide and providing important essential (and conditionally essential) nutrients, especially in vulnerable populations,