Gastreferat

Exposé de l’invité

Ist Fleisch wirklich eine Gefahr für Gesellschaft und Politik? – eine kritische Betrachtung

La viande est-elle vraiment un danger pour la société et la politique? – un examen critique

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GOAL Sciences

Global Observatory for

Accurate Livestock Sciences

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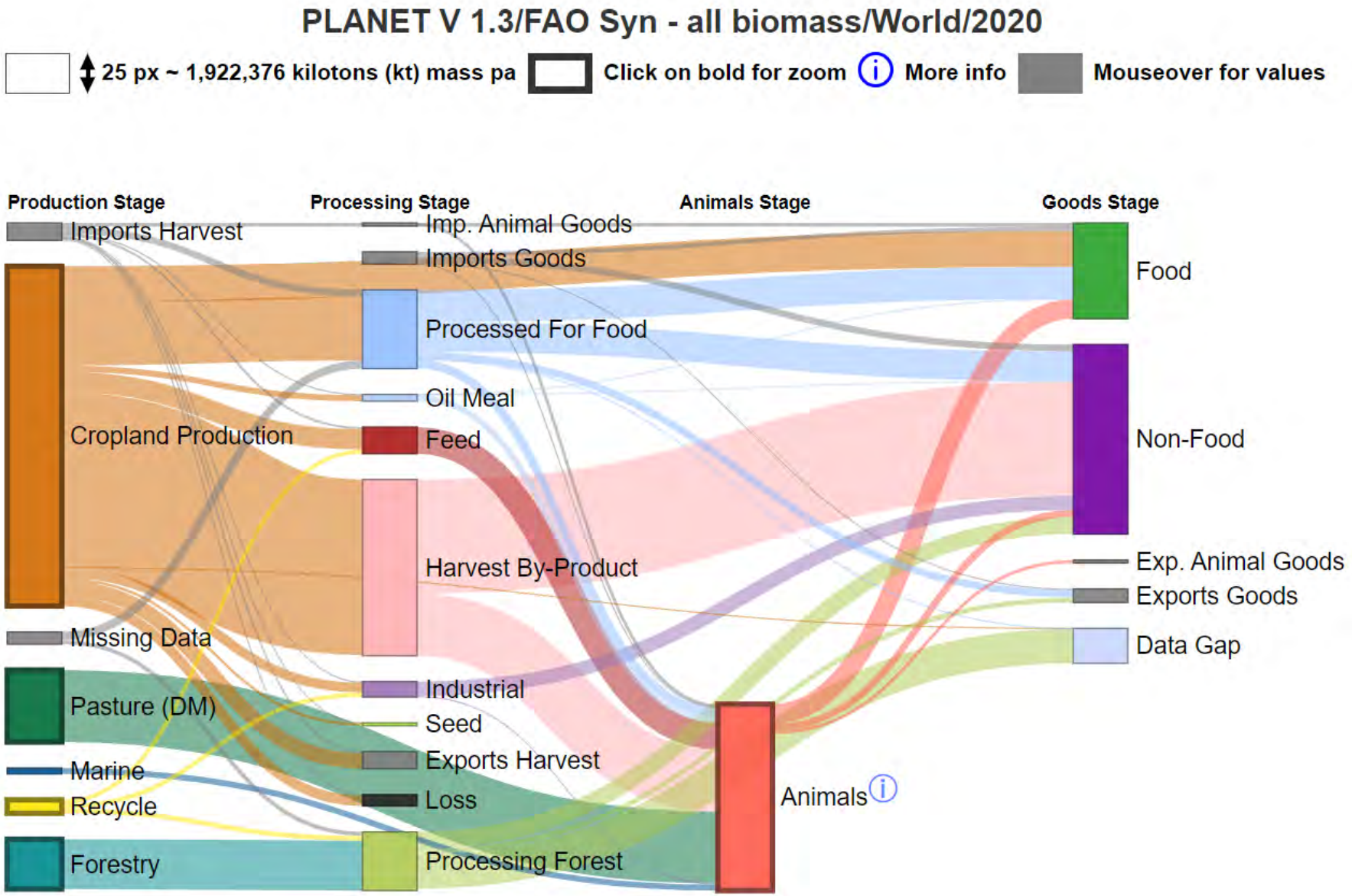
Biomasse weltweit 2020

Biomasse mondiale 2020



GOAL Sciences

Warum müssen wir genau schauen?

Pourquoi devons-nous y regarder de près ?

Die gesellschaftliche Rolle von Fleisch

Animal Frontiers – April 2023

Le rôle sociétal de la viande

System Summit final documentation on Sustainable Livestock, which we believe is a most appropriate statement to conclude this editorial piece. It reads: "*Human civilization has been built on livestock from initiating the bronze-age more than 5000 years ago toward being the bedrock of food security for modern societies today. Livestock is the millennial-long proven method to create healthy nutrition and secure livelihoods, a wisdom deeply embedded in cultural values everywhere. Sustainable livestock will also provide solutions for the additional challenge of today, to stay within the safe operating zone of planet Earth's boundaries, the only Earth we have.*"

Acknowledgments

This Special Issue of Animal Frontiers has been the product of 36 coauthors, and many more unnamed researchers who provided the groundwork for evidence and insights. We are more thankful than words can express for them to contribute their knowledge to this publication. Fourteen authors also presented their findings at the International Summit on the Societal Role of Meat, which was conducted on October 19/20, 2022 in Dublin. The Summit was hosted by Teagasc, the Irish Agriculture and Food Development Authority. Numerous helpers at Teagasc made the Summit possible, among whom we must especially single out the untiring organizational efforts by Dr. Kaye Burgess and Ciara McDonagh. We owe our sincere gratitude to them. At the Summit we were fortunate to welcome close to 200 leading decision makers from the global meat sector, hailing from public administration, associations, the meat and livestock production industries, and the sciences. Across four workshops, they provided invaluable feedback for refining the line of reasoning and avenues for further investigation. Almost 400 viewers watched the proceedings online. The sessions were skillfully moderated by Diana Rogers, Dr. Peter Ballerstedt, and Dr. Theo de Jager. A pre-workshop with around 50 participants for inviting feedback was organized by the Global Meat Alliance in Sacramento, California on September 2, 2022, under the masterly stewardship of Ashley Gray, Connor McGovern, and Kit Arkwright. Susan MacMillan has been an always-giving source of support in our communications. Our deep appreciation to all of you! We are also most thankful to the American Meat Science Association to give us the opportunity to provide their annual Special Issue of Animal Frontiers for our topic. The AMSA Managing Editor, Dr. Anna Dilger, and the Editor-in-Chief, Dr. James L. Sartin of Animal Frontiers, and their network of reviewers and production staff in the background have not only been most helpful and supportive, but also enormously patient and yielding to our many extraordinary demands on publishing this Special Issue. Dr. Marianna Behrends provided all coordination between the editors and the authors streamlining the process in an amazing manner. Their dedication to our science cannot be praised enough. As the two guest editors, we want to emphasize that this Special Issue as well as the International Summit in Dublin has been foremost the product of an incredibly dedicated team effort by six individuals, whose lives crossed paths first at the International Congress of Meat Science and Technology and Reciprocal Meat Conference leading us to this mission. Each member of the team already had a full plate of jobs and cleared the deck to make this effort possible. We therefore consider this Special Issue to be the work of all six members of the organizing team, who have as much claim to creatorship as us. Please therefore consider Collette Kaster (CEO, American Meat Science Association), Dr. Mohammad Koohmaraie (President, Meat Division, IEH Laboratories and Consulting Group), Dr. Rod Polkinghorne (CEO, Birkenwood International), and Dr. Declan Troy (Assistant Director of Research, Teagasc) as equal cocreators. And as last but never the least, we must express our thanks to dedicated team members behind the scenes: Urs Boesswetter, Dr. Holly Cuthbertson, Taras Iliushyk, Enrike Maree, and Alix Neveu who diligently supported all the planning, preparation, and execution throughout.

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Peer Ederer is founder and director of GOALSciences, the Global Observatory of Accurate Livestock Sciences, which has the mission to research and communicate scientific evidence about the role of animals in the global food system. He has an MBA degree from Harvard University, a PhD in financial economics and holds an adjunct professorship for innovation studies. He has extensive experience in strategy advisory to private companies and public bodies in the global food system and is a frequent presenter on related topics. He has been engaged in scientific research in cooperation with globally leading universities from around the world and is a member of the Scientific Council of the World Farmers Organisation. **Corresponding author:** peer.ederer@goalsciences.org

Frédéric Leroy graduated as a Bioengineer (Ghent University, 1998) and obtained a PhD in Applied Biological Sciences at the Vrije Universiteit Brussel (VUB, 2002), where he now holds a professorship in food science and (bio)technology. His research deals with food processing, human and animal health, and interdisciplinary food studies. He is a Board member of various academic nonprofit societies, that is, the Belgian Association of Meat Science and Technology (president), Belgian Society for Food Microbiology (president), and Belgian Nutrition Society. On a nonremunerated basis, he also serves on various Scientific Boards (e.g., the World Farmers' Organization and the FAO/COAG Sub-Committee on Livestock).

Die Dubliner Erklärung – Oktober 2022
La déclaration de Dublin – octobre 2022

The Dublin Declaration

START SIGN SIGNATURES ACTIVITIES | ENGLISH FRENCH PORTUGUESE SPANISH

simultaneously produce high-quality food. Ruminants in particular are also capable of valorising marginal lands that are not suitable for direct human food production. Furthermore, well-managed livestock systems applying agro-ecological principles can generate many other benefits, including carbon sequestration, improved soil health, biodiversity, watershed protection and the provision of important ecosystem services. While the livestock sector faces several important challenges regarding natural resources utilization and climate change that require action, one-size-fits-all agendas, such as drastic reductions of livestock numbers, could actually incur environmental problems on a large scale.

Livestock and Socio-Economics

For millennia, livestock farming has provided humankind with food, clothing, power, manure, employment and income as well as assets, collateral, insurance and social status. Livestock-derived foods are the most readily available source of high quality proteins and several essential nutrients for the global consumer. Livestock ownership is also the most frequent form of private ownership of assets in the world and forms the basis of rural community financial capital. In some communities, livestock is one of the few assets that women can own, and is an entry point towards gender equality. Advances in animal sciences and related technologies are currently improving livestock performance along all above mentioned dimensions of health, environment and socio-economics faster than at any time in history.

Outlook for Livestock*

Human civilization has been built on livestock from initiating the bronze-age more than 5000 years ago towards being the bedrock of food security for modern societies today. Livestock is the millennial-long-proven method to create healthy nutrition and secure livelihoods, a wisdom deeply embedded in cultural values everywhere. Sustainable livestock will also provide solutions for the additional challenge of today, to stay within the safe operating zone of planet Earth's boundaries, the only Earth we have.

For scientific evidence, please refer to presentation recordings from the 19/20 October 2022 International Summit on the Societal Role of Meat. Evidence will also be published in the March 2023 Special Issue of Animal Frontiers.

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SIGNATURES

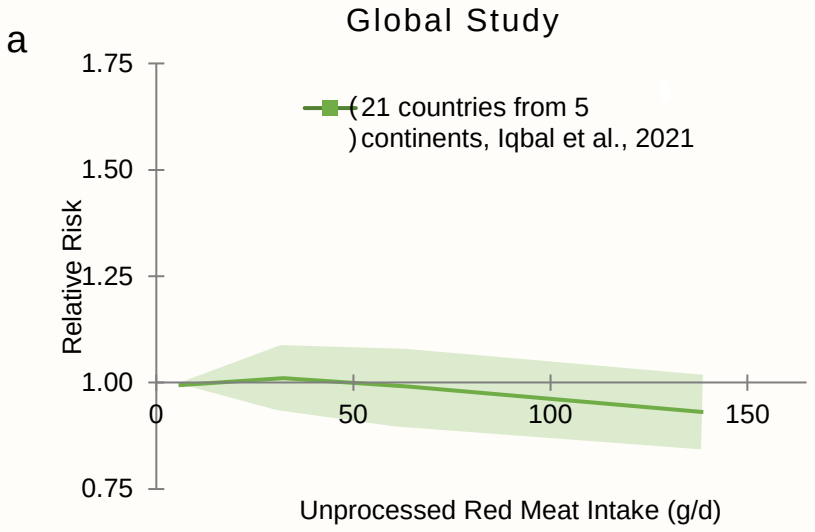
Prof Alice Stanton, Irland

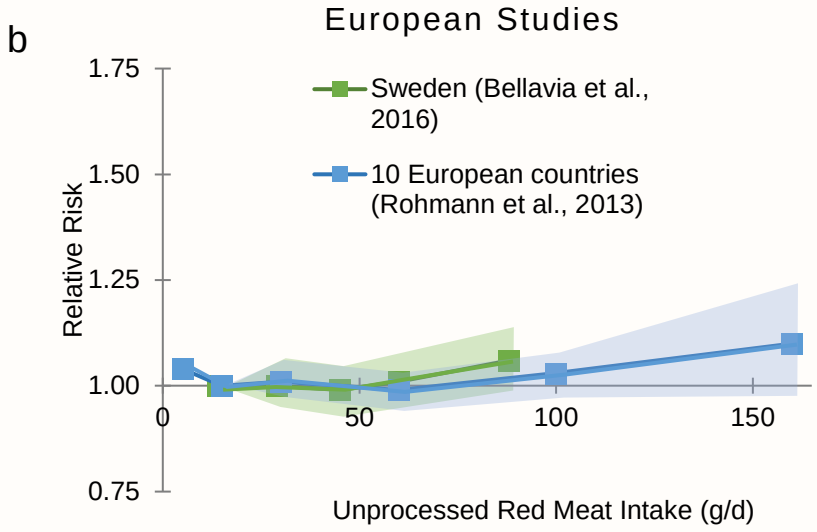
Wie viel rotes Fleisch ist gut für uns?

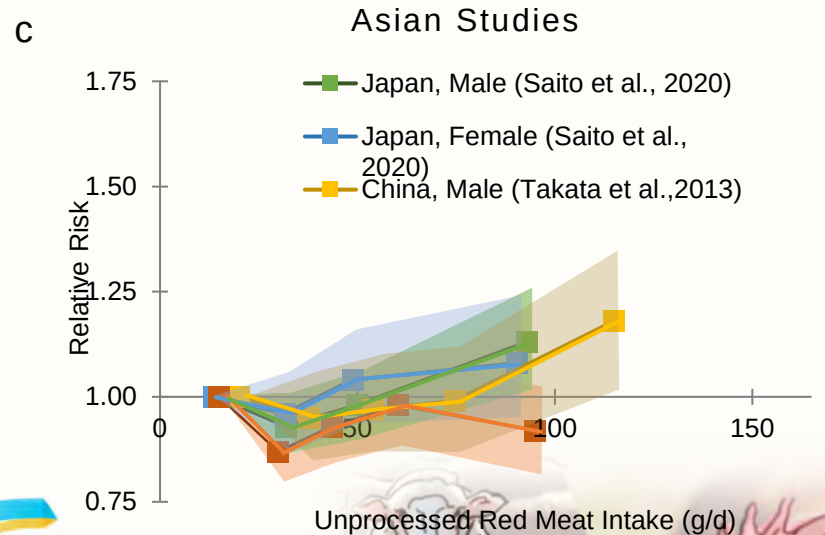
Quelle quantité de viande rouge est bonne pour nous ?

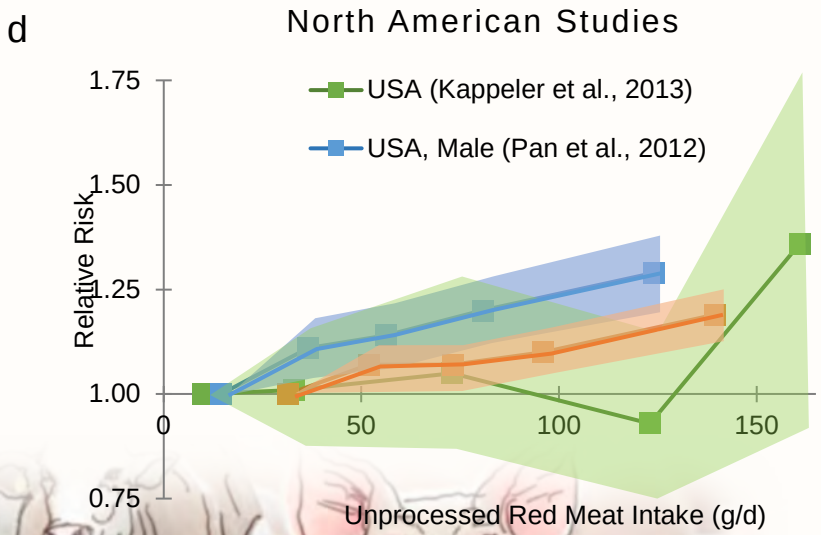
Fleisch und Gesundheit

Viande et santé









GOAL Sciences

Global Burden of Disease Study

Studie zur weltweiten Belastung mit Krankheiten

Etude sur la charge mondiale de morbidité

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Contributors

AAF prepared the first draft. KAF and KMC constructed the figures and tables. AAF and PJS developed models for dietary risks. CJLM provided overall guidance. JSS managed the project. AAF and ECM finalised the manuscript on the basis of comments from other authors and reviewer feedback. All other authors provided data, reviewed results, or reviewed and contributed to the paper.

Declaration of interests

JMG reports grants from Unilever. LJ reports personal fees from Mills Scientific Council. SL reports personal fees from Amgen, Berlin-Chemie, Merck Sharp & Dohme (MSD), Novo Nordisk, Sanofi-Aventis, Synlab, Unilever, and Upfield, and non-financial support from Preventicus. SL is also a member of the Scientific Board of the German Nutrition Society and a coauthor of the evidence-based guideline Fat Intake and Prevention of Nutrition-Related Diseases of the German Nutrition Society. WMá reports grants and personal fees from Siemens Diagnostics, Aegerion Pharmaceuticals, Amgen, AstraZeneca, Danone Research, Pfizer, BASF, Numares AG, and Berlin-Chemie; personal fees from Hoffmann LaRoche, MSD, Sanofi, and Synageva; grants from Abbott Diagnostics; and employment with Synlab Holding Deutschland GmbH. WMe is currently a program analyst for Population and Development at the Peru Country Office of the United Nations Population Fund-UNFPA, an institution that does not necessarily endorse this study. RMi reports grants from the US National Institutes of Health, Bill & Melinda Gates Foundation, and Unilever; and personal fees from World Bank and Bunge. DM reports research funding from the US National Institutes of Health and the, Bill & Melinda Gates Foundation; personal fees from GOED, DSM, Nutrition Impact, Pollock Communications, Bunge, Indigo Agriculture, Amarin, Acasti Pharma, and America's Test Kitchen; scientific advisory board roles with Elysium Health (with stock options), Omada Health, and DayTwo; and chapter royalties from UpToDate. In addition, DM is listed as a co-inventor on patents US8889739 and US9987243 issued to Tufts University (Somerville, MA, USA; unlicensed) for use of trans-palmitoleic acid to prevent and treat insulin resistance, type 2 diabetes, and related conditions, as well as reduce metabolic risk factors. CDR reports personal fees from Dairy Management Institute. AES reports personal fees from IEM, Novartis, Servier, and Abbott. AGT reports grants from National Health and Medical Research Council, Australia. All other authors declare no competing interests.

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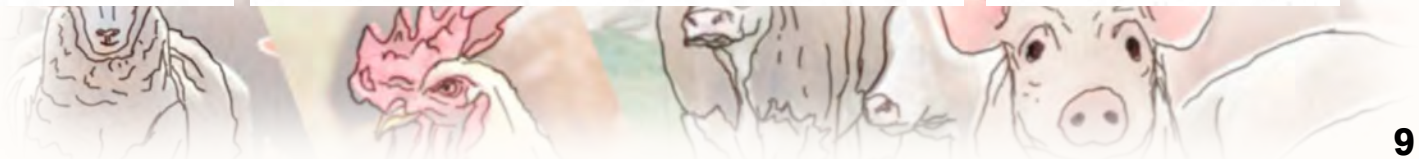
GOAL Sciences



36-fach höhere Schätzung der auf den Verzehr von rotem Fleisch zurück-zuführenden Todesfälle in der globalen Krankheitsstudie 2019: Ist dies zuverlässig?

Estimation 36 fois plus élevée du nombre de décès attribuables à la consommation de viande rouge dans l'Étude mondiale sur les maladies 2019 : est-ce fiable ?

THE LANCET

CORRESPONDENCE | VOLUME 399, ISSUE 10332, E23-E26, APRIL 02, 2022

36-fold higher estimate of deaths attributable to red meat intake in GBD 2019: is this reliable?

Alice V Stanton, Frédéric Leroy, Christopher Elliott, Neil Mann, Patrick Wall, Stefaan De Smet

Published: February 25, 2022DOI:https://doi.org/10.1016/S0140-6736(22)00311-7

Key Questions

- **Where are the peer-reviewed publications of their updated or new systematic reviews**, which;
  - Address the 27 item PRISMA Statement and the 20 item GATHER Statement checklists?
  - Provide the evidence for the changing of the red meat TMREL from 22.5g/day to 0g/day?
- Have the **additional deaths and illnesses, from iron deficiency anaemia, elderly fragility, child and maternal malnutrition,** that would result from imposition of a red meat TMREL of zero been included in the GBD 2019 estimates?

GOAL Sciences

36-fach höhere Schätzung der auf den Verzehr von rotem Fleisch zurück-zuführenden Todesfälle in der globalen Krankheitsstudie 2019: Ist dies zuverlässig?

Estimation 36 fois plus élevée du nombre de décès attribuables à la consommation de viande rouge dans l'Étude mondiale sur les maladies 2019 : est-ce fiable ?

THE LANCET

CORRESPONDENCE | VOLUME 399, ISSUE 10332, E27-E28, APRIL 02, 2022

36-fold higher estimate of deaths attributable to red meat intake in GBD 2019: is this reliable? – Author's reply

Christopher J L Murray on behalf of the GBD Risk Factors Collaborators

Published: March 21, 2022DOI:https://doi.org/10.1016/S0140-6736(22)00518-9

Admission of Errors

- "Clear protective relationship between red meat intake and haemorrhagic stroke"
- *"No evidence supporting a relationship between red meat consumption & sub-arachnoid haemorrhage."*
- "The strength of evidence regarding the relationship between red meat and various outcomes - including ischaemic heart disease - is relatively weak."
- *"Setting of the red meat TMREL to zero in the GBD 2019 analysis is not correct."*
- "Estimates of attributable deaths for red meat will be reduced in all future GBD analyses."

Immediate correction of all errors of fact is mandatory according to Lancet's guidelines, Committee on Publication Ethics (COPE) & International Committee of Medical Journal Editors (ICMJE).

Key Questions Unanswered

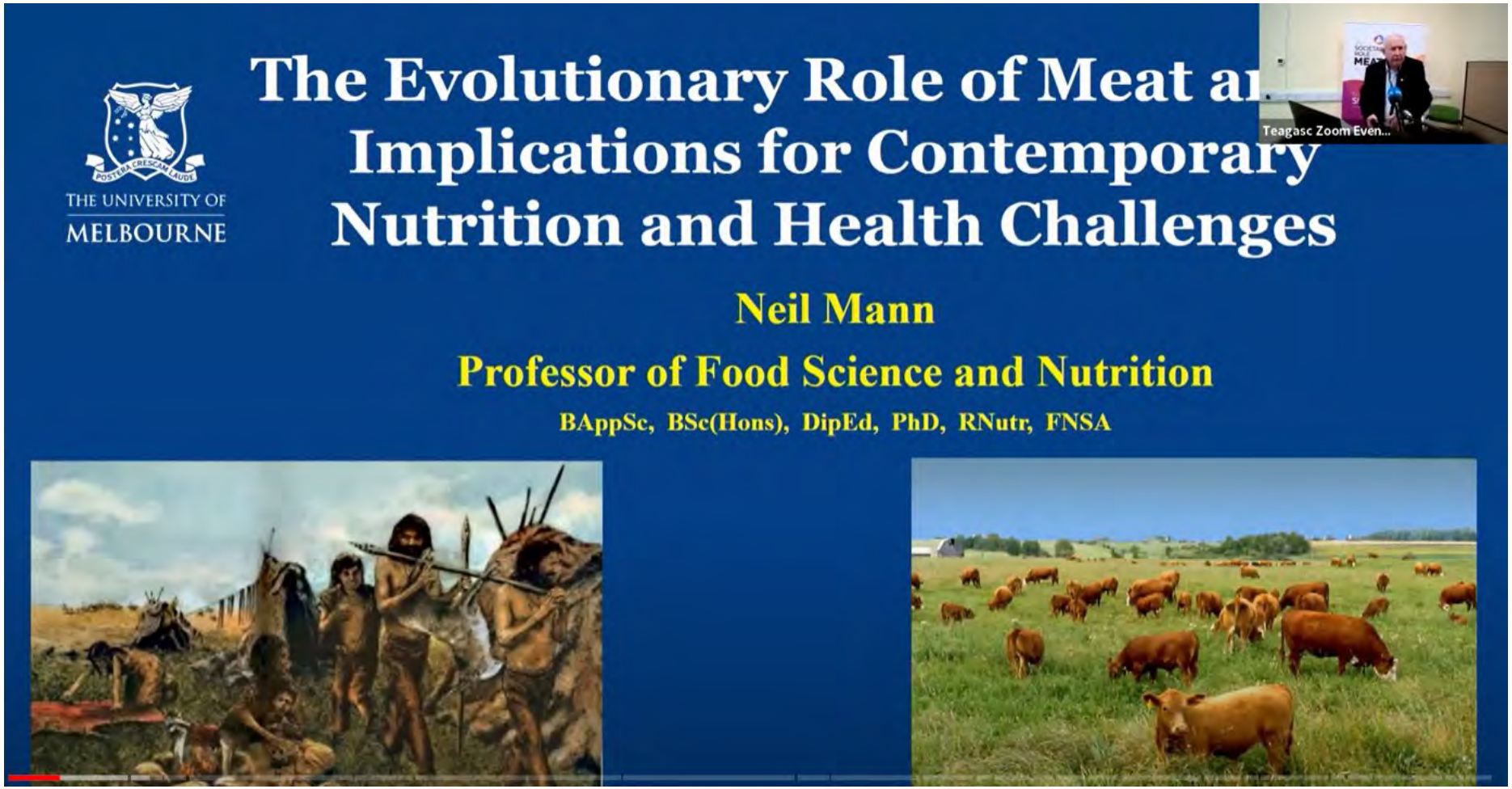
- GBD Collaborators unable/unwilling to provide peer-reviewed published evidence to substantiate their new systematic reviews - *Professor Murray has since confirmed that GBD 2019 is not PRISMA compliant.*
- GBD Collaborators do not intend to include the totality of nutritional effects of red meat in their analyses

GOAL Sciences

Prof Neil Mann, Australien

Die evolutionäre Rolle von Fleisch und dessen Auswirkungen auf die heutigen Herausforderungen in den Bereichen Ernährung und Gesundheit

Le rôle évolutif de la viande et ses implications pour les défis contemporains en matière de nutrition et de santé



GOAL Sciences

Dr Pablo Manzano, Spanien

Von welchen Ökosystemen sprechen wir?

De quels écosystèmes parlons-nous ?

What ecosystems are we talking about?

- Bond

Journal of Vegetation Science 16: 261-266, 2005
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INVITED PERSPECTIVE

Large parts of the world are brown or black: A different view on the 'Green World' hypothesis

Bond, William J.

Botany Department, University of Cape Town, Private Bag, Rondebosch, 7701, South Africa; Fax +27 216504041; E-mail bond@botzoo.uct.ac.za

Abstract. Climate sets the limits to plant growth but does climate determine the global distribution of major biomes? I suggest methods for evaluating whether vegetation is largely climate or consumer-controlled, focusing on large mammal herbivores and fire as influential consumers. Large parts of the world appear not to be at equilibrium with climate. Consumer-controlled ecosystems are ancient and diverse. Their distinc-

GOAL Sciences

Prof Jason Rowntree, USA

Wiederkäuer - Beitrag zu einer nachhaltigen Grünlandumgebung, es ist nicht so, wie es scheint

Ruminants - contribution à un environnement durable des prairies, ce n'est pas ce que l'on croit

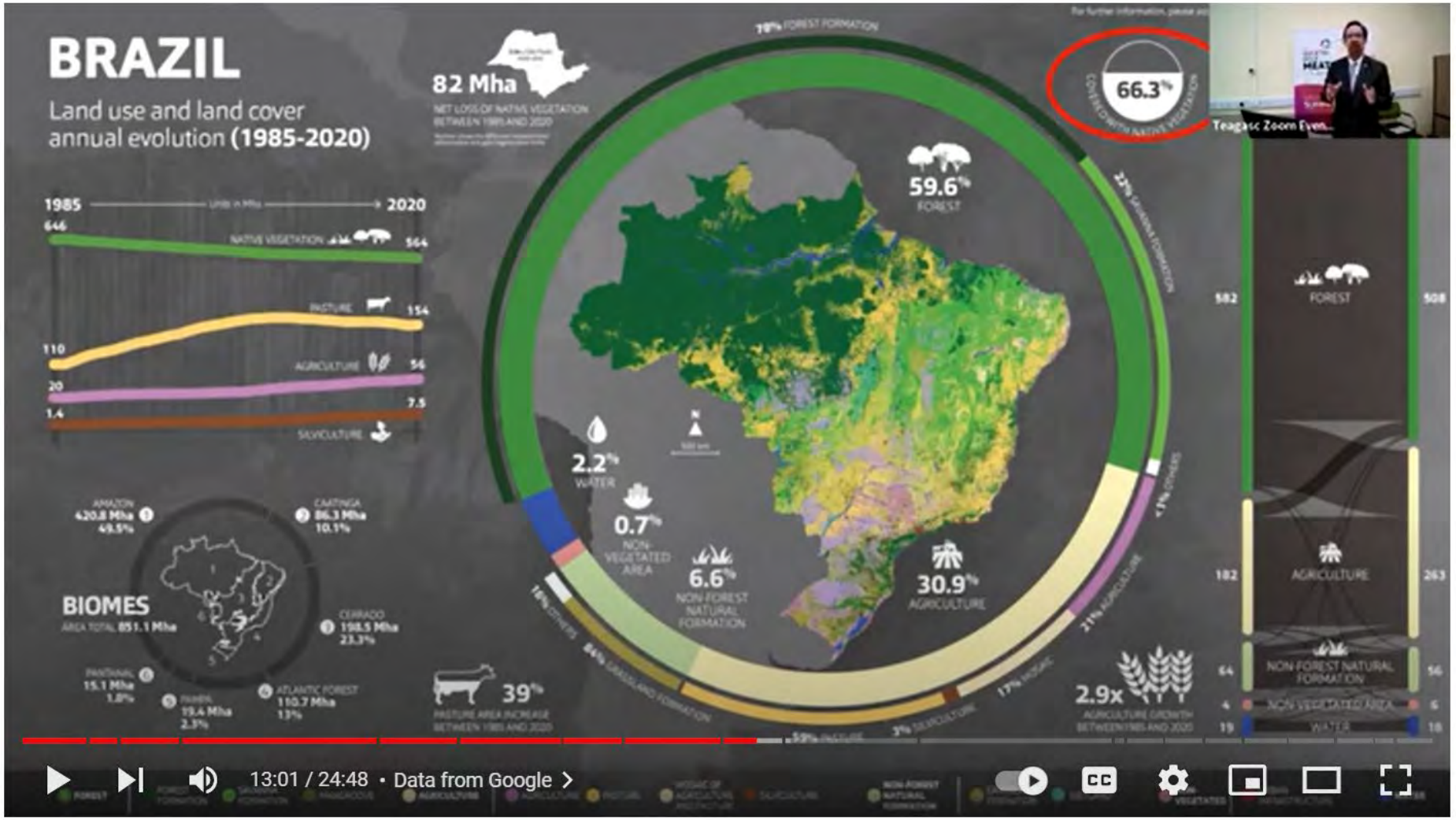
GOAL Sciences

Max Makuvise, Zimbabwe

Prof Celso Moretti, Brasilien

Kohlenstoffarme Landwirtschaft in Brasilien: Technologien und Nachhaltigkeit

Agriculture à faible émission de carbone au Brésil : technologies et durabilité



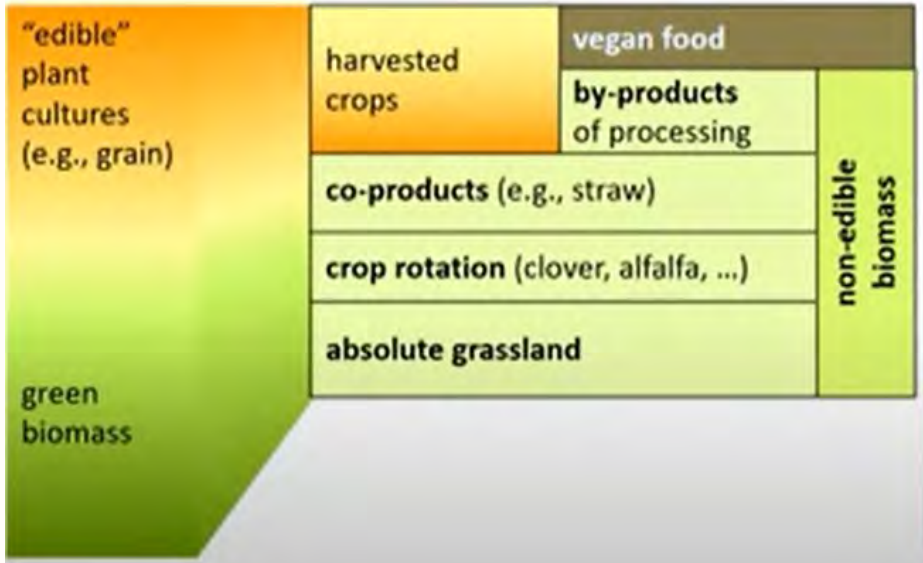
Low carbon agriculture in brazil: technologies and sustainability

Prof Wilhelm Windisch, TU München

Die Landwirtschaft produziert hauptsächlich nicht-essbare Biomasse

L'agriculture produit principalement de la biomasse non comestible

Agriculture produces mainly non-edible biomass



Absolute grasslands cannot be converted into arable land producing vegan food because of

- climate (too humid/dry, short vegetation period, ...)
- topography (too steep, periodically flooded, ...)
- conversion would release dramatic amounts of CO_2

Absolute grassland covers major proportions of total agricultural areas, e.g.,

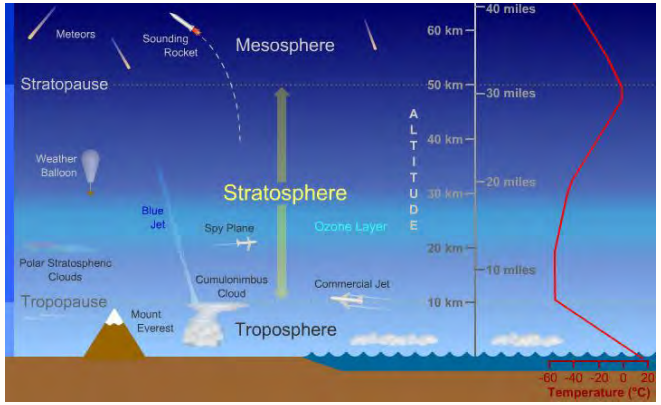
>70%	global agricultural area
40 – 70%	Alpine regions
ca. 30%	Central European areas with intensive plant production

GOAL Sciences

Lelieveld

Methan-Konzentration in Atmosphäre

Concentration de méthane dans l'atmosphère



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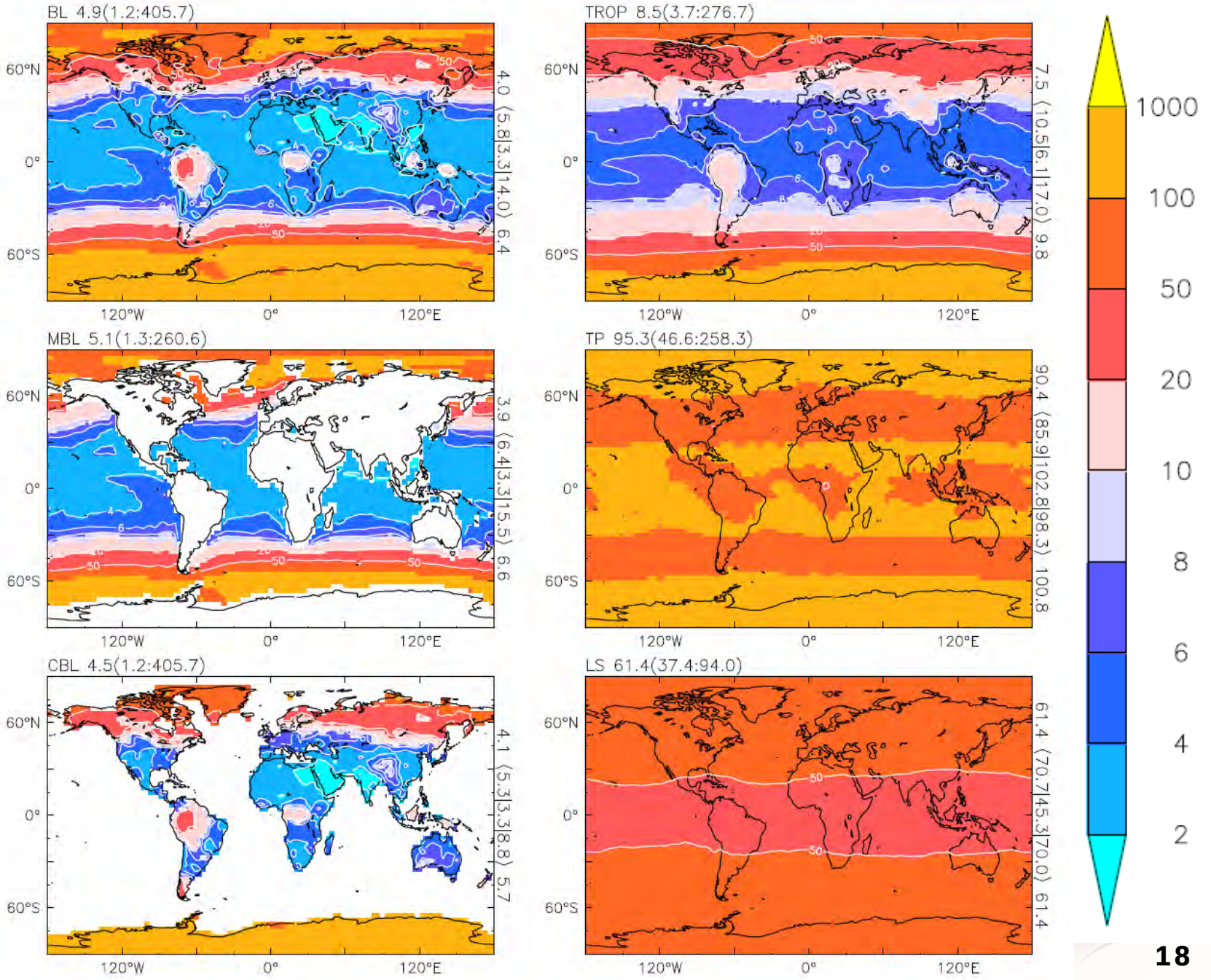
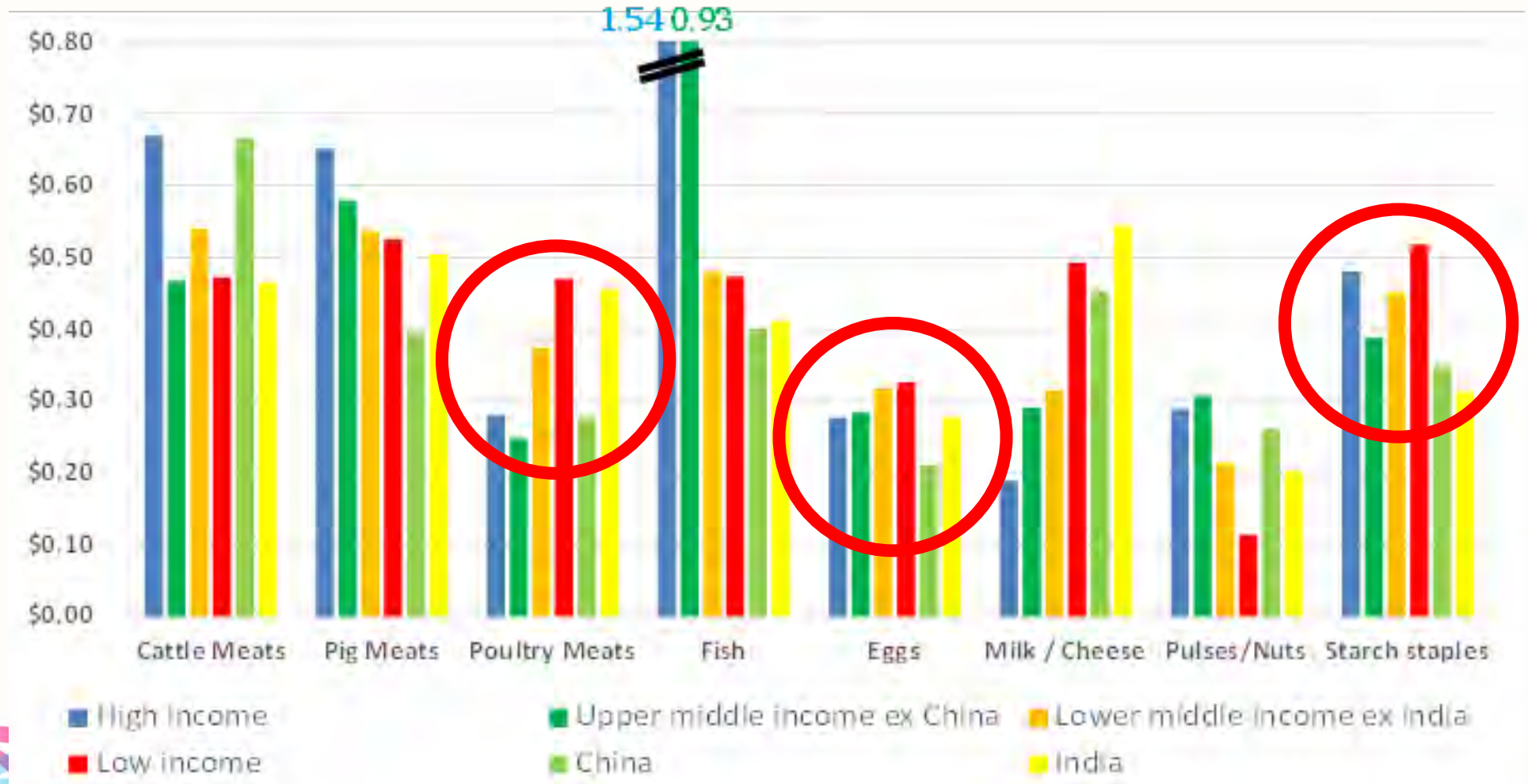


Tierische Proteine sind günstiger als Pflanzen
Les protéines animales sont moins chères que les plantes

PPP $ / 10 grams



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Source: Computations by GOALSciences on the basis of FAOStat and World Bank ICP data

Mehr hier / *plus ici*:

goalsciences.org

The Economics of Protein

PROTEIN

Economics of Protein -
a Documentary

by Peer Ederer

Olena Horodetska
Taras Iliushyk
Bohdana Kalinovska
Elna de Lange
Enrike Maree

of GOALSciences

March, 2023

Documentary # 01

GOAL Sciences

GOAL Sciences

Prof. Candace Croney, USA über Ethik
Prof Candace Croney, USA sur l'éthique

meat consumption could be morally justified and even regarded as ethically preferable as it not only offers a practical option, it also potentially reduces some forms of harm. This is particularly the case if the harms considered include the inequity of allowing those who are affluent, empowered, and food secure to constrain the dietary options available to those who are socially, politically, and economically disempowered.

Moving forward, we must be open to discussing what food availability and security means in the global context, how climate change will impact our natural resources and the food dynamic, and where the ethical boundaries are drawn with respect to what we eat and the multitude of factors that affect our choices and those of others. "Food shaming" in any form must be avoided in discussions of what we eat given the constraints on food security, quality, access, and affordability faced by many who are often the subjects of and rarely the agents of public discussions and decision-making. To that end, we must also be open to discussing current and future natural resource limitations and pro-actively seek solutions that are scientifically sound and ethically supported. This includes actively engaging or discovering new methods to produce high quality food, including meat and not just foods perceived to hold the "moral high ground". Finally, we must be pro-actively prepared to face the possibility that life-sustaining natural resource scarcity like water may force choices, both social and political, that may cause a reduction or phase-out of using animals to produce some foods, including meat and water intensive crops.

Conflict of interest statement. None declared.

About the Author(s)

Dr. Candace Croney is director of Purdue University's Center for Animal Welfare Science and professor of animal behavior and well-being in the departments of Comparative Pathobiology and Animal Sciences. Her animal-focused research, teaching, and outreach efforts include enhancing the welfare of companion and agricultural animals through developing and refining noninvasive metrics of welfare, including animal behavior, cognition, and health, and translating these into standards and guidelines. Her scholarship and outreach on the human dimensions of animal welfare examine public perceptions of animal agriculture and welfare, bioethical considerations relating to animal care and use, and their socio-political and practical implications. **Corresponding author:** ccroney@purdue.edu

Dr. Janice Swanson is a professor in the Departments of Animal Science and Large Animal Clinical Sciences at Michigan State University. Her area of focus is social responsibility in the food system as it relates to farm animal welfare. Dr. Swanson is a member of the MSU Animal Behavior and Welfare Group which conducts research into problems and issues of farm animal behavior and welfare. Her leadership and outreach efforts include the development of evidence-based food industry and commodity level animal welfare policies, standards and guidelines, public policy, and educational programming for the public and other stakeholders in the food system.

Literature Cited

Archer, M. 2011. Ordering the vegetarian meal? There is more blood on your hands. The Conversation. https://theconversation.com/ordering-the-vegetarian-meal-theres-more-animal-blood-on-your-hands-4659 (accessed December 7, 2022).

Baltzer, K. 2004. Consumers' willingness to pay for food quality—the case of eggs. Acta Agric. Scand. C Food Econ. 1:78–90. doi:10.1080/16507540410024506

Botonaki, A., K. Polymeros, E. Tsakiridou, and K. Mattas. 2006. The role of food quality certification on consumers' food choices. Br. Food J. 108:77–90. doi:10.1108/00070706610644906

Burini, R.C. and W.R. Leonard. 2018. The evolutionary roles of nutrition selection and dietary quality in the human brain size and encephalization. Nutrire. 43:19. doi:10.1186/s41110-018-0078-x

Campbell, C.S., and J.M. Hare. 1997. Ethical literacy in gerontology programs. Gerontol. Geriatr. Educ. 17(4):3–16. doi:10.1300/j021v17n04_02

Chamanara, S., B. Goldstein, and J.P. Newell. 2021. Where's the beef? Costco's meat supply chain and environmental justice in California. J. Clean. Product. 278:123744. doi:10.1016/j.jclepro.2020.123744

Council for Agricultural, Science and Technology. 2018. Scientific, ethical and economic aspects of farm animal welfare. In: C.C. Croney, J.A. Mench, and W. Muir, editors. Task Force Report R-143. https://www.cast-science.org/publication/scientific-ethical-and-economic-aspects-of-farm-animal-welfare/ (accessed December 9, 2022).

Croney, C.C., and R. Anthony. 2010. Engaging science in a climate of values: tools for animal scientists tasked with addressing ethical problems. J. Anim. Sci. 88(suppl_13):E75–E81. doi:10.2527/jas.2009-2353

Croney, C., and R. Anthony. 2014. Food animal production, ethics, and quality assurance. In P.B. Thompson, and D. Kaplan editors. Encyclopedia of food and agricultural ethics. New York, NY: Springer; p. 1–10.

Croney, C.C., B. Gardener, and S. Baggott. 2004. Beyond animal husbandry: the study of farm animal cognition and ensuing ethical issues. Essays Philos. 5(2):391–403. doi:10.5840/eip20045213

Croney, C., W. Muir, J.Q. Ni, N.O. Widmar, and G. Varner. 2018. An overview of engineering approaches to improving agricultural animal welfare. J. Agric. Environ. Ethics. 31(2):143–159. doi:10.1007/s10806-018-9716-9

Davis, S.L. 2003. The least harm principle may require that humans consume a diet containing large herbivores, not a vegan diet. J. Agric. Environ. Ethics. 16:387–394. doi:10.1023/a:1025638030686

Dawkins, M.S. 2016. Animal welfare and efficient farming: is conflict inevitable? Anim. Prod. Sci. 57(2):201–208. doi:10.1071/AN15383

De Backer, C.J., and L. Hudders. 2015. Meat morals: relationship between meat consumption consumer attitudes towards human and animal welfare and moral behavior. Meat Sci. 99:68–74. doi:10.1016/j.meatsci.2014.08.011

de Boer, J., H. Schösler, and H. Aiking. 2017. Towards a reduced meat diet: mindset and motivation of young vegetarians, low, medium and high meat-eaters. Appetite. 113:387–397. doi:10.1016/j.appet.2017.03.007

De Vries, M., and I.J.M. de Boer. 2010. Comparing environmental impacts for livestock products: a review of life cycle assessments. Livest. Sci. 128(1–3):1–11. doi:10.1016/j.livsci.2009.11.007

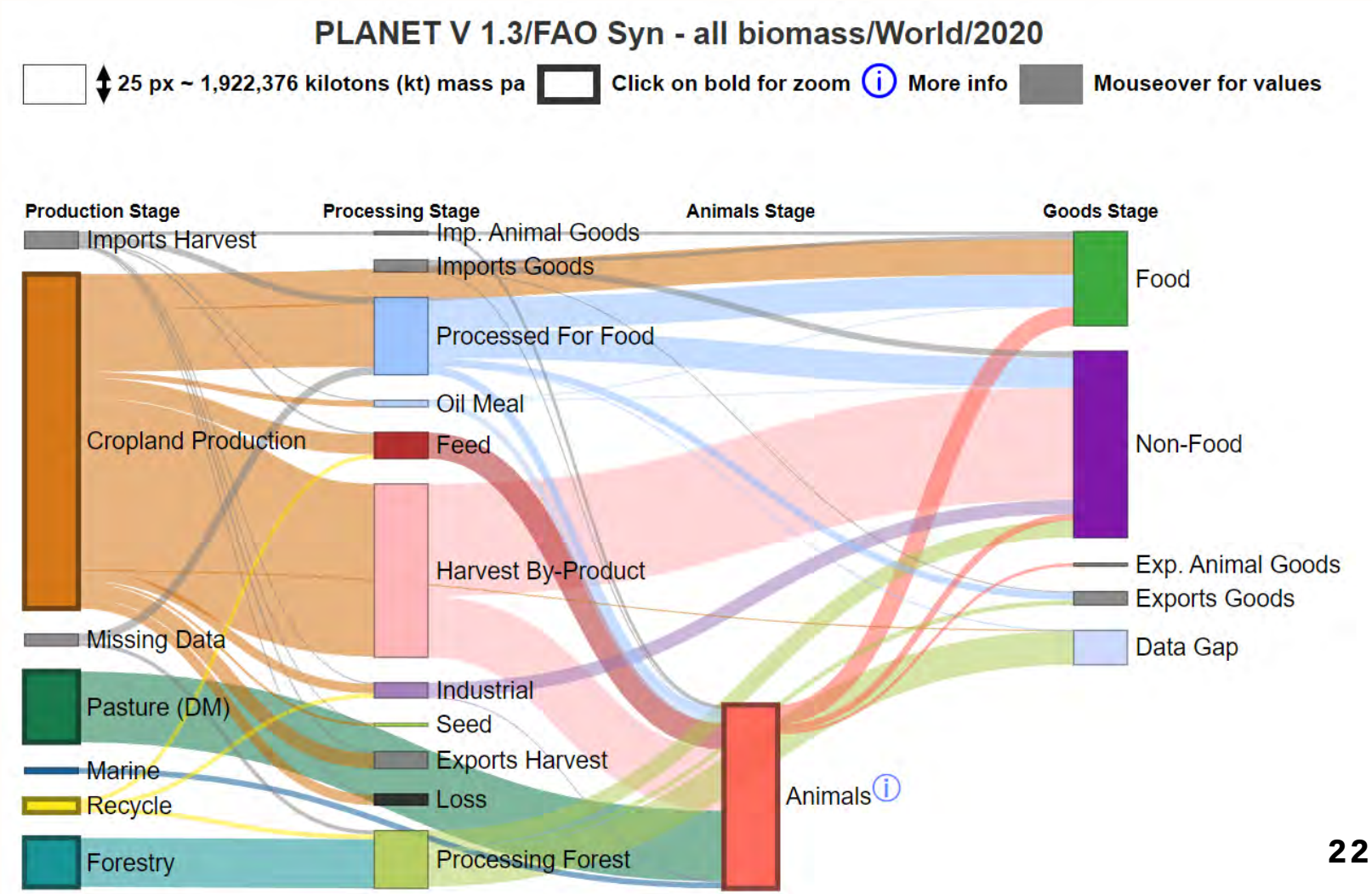
Delgado, C.L., N. Wada, M.W. Rosegrant, S. Meijer, and M. Ahmed. 2003. Fish to 2020: supply and demand in changing global markets. International Food Policy Research Institute and WorldFish Center. WorldFish Center Technical Report 62. https://www.worldfishcenter.org

Ederer, P., S. Tarawali, I. Baltenweck, J.N. Blignaut, and C. Moretti. 2023. Affordability of meat for global consumers and the need to sustain investment capacity for livestock farmers. Anim. Front. 13(2).

Ernstoff, A., Q. Tu, M. Faist, A. Del Duce, S. Mandlebaum, and J. Dettling. 2019. Comparing the environmental impacts of meatless and meat-containing meals in the United States. Sustainability. 11(22):6235. doi:103390/su11226235

FAO. 2021. The state of food security and nutrition in the world. Food and Agriculture Organization of the United Nations. https://www.fao.org/state-of-food-security-nutrition/2021/en/ (accessed December 7, 2022).

Fischer, B., and A. Lamey. 2018. Field deaths in plant agriculture. J. Agric. Environ. Ethics. 31:409–428. doi:10.1007/s10806-018-9733-8

Francione, G. 2022. Letters to the Editor. Animal welfare and society - part 1. Viewpoints of a philosopher. Anim. Front. 12(1):43–47. doi:10.1093/af/vfac006

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