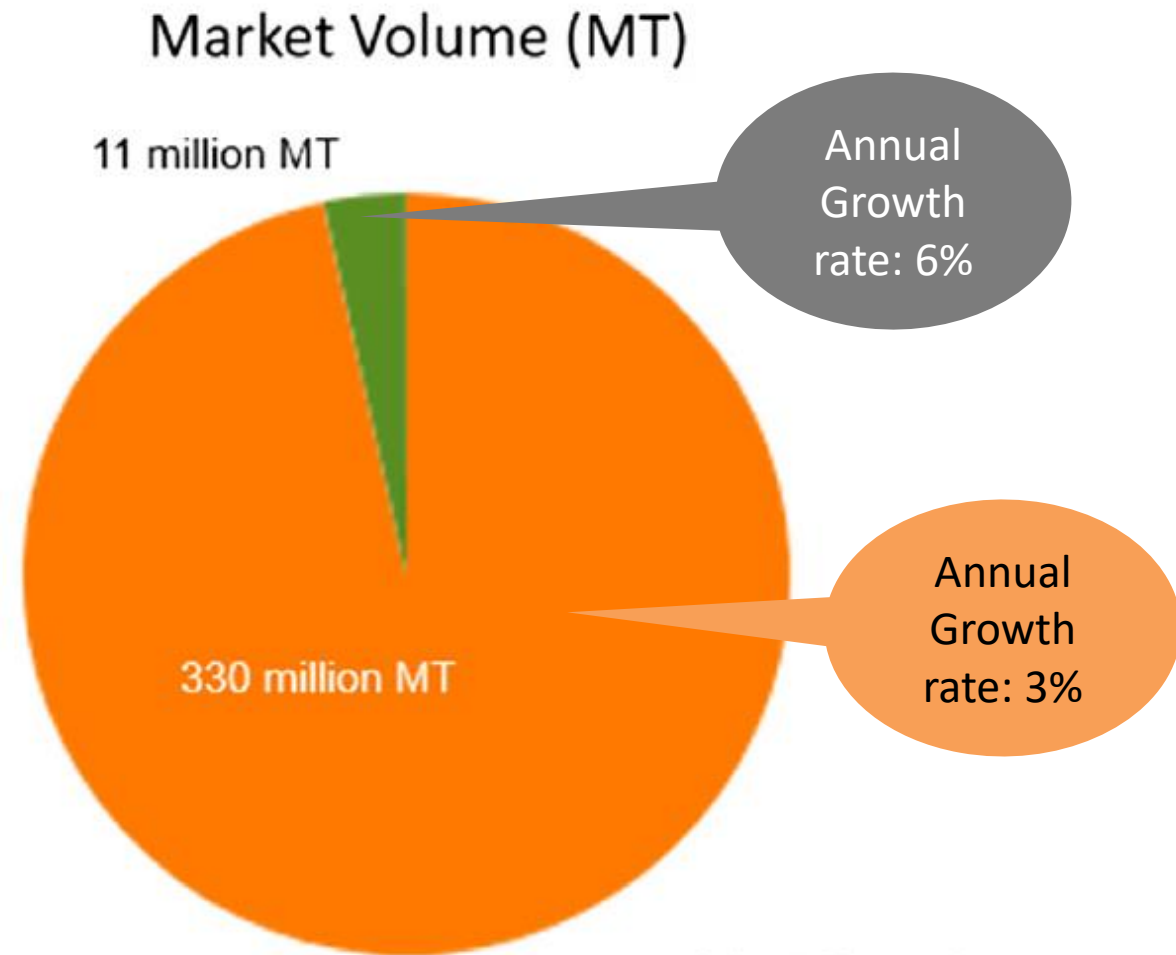
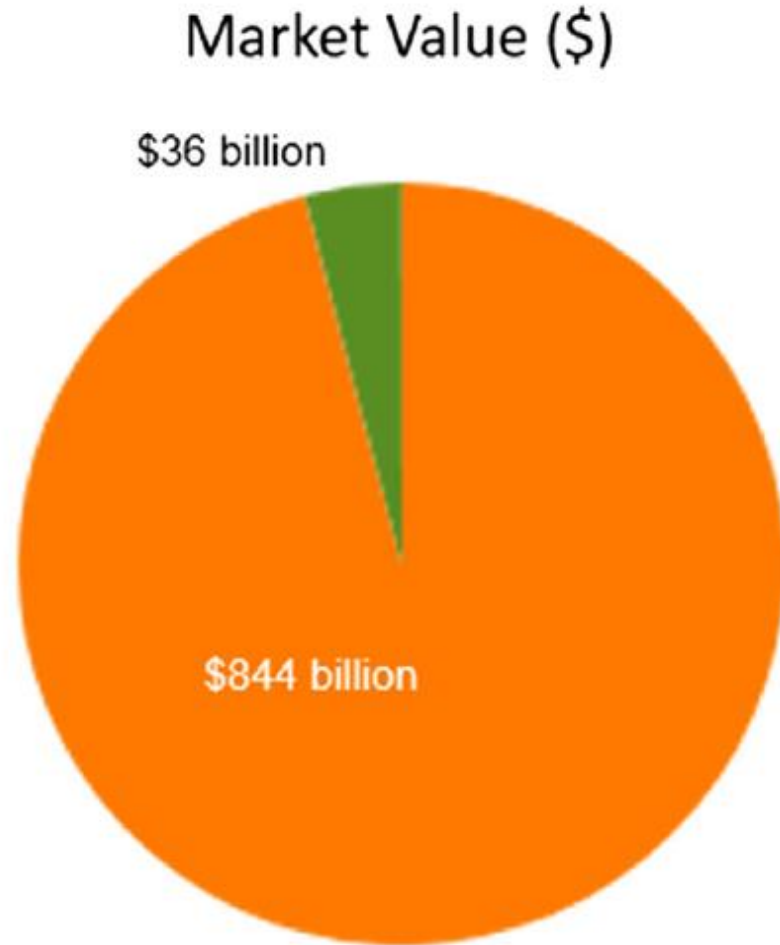




The myth of alternative meats

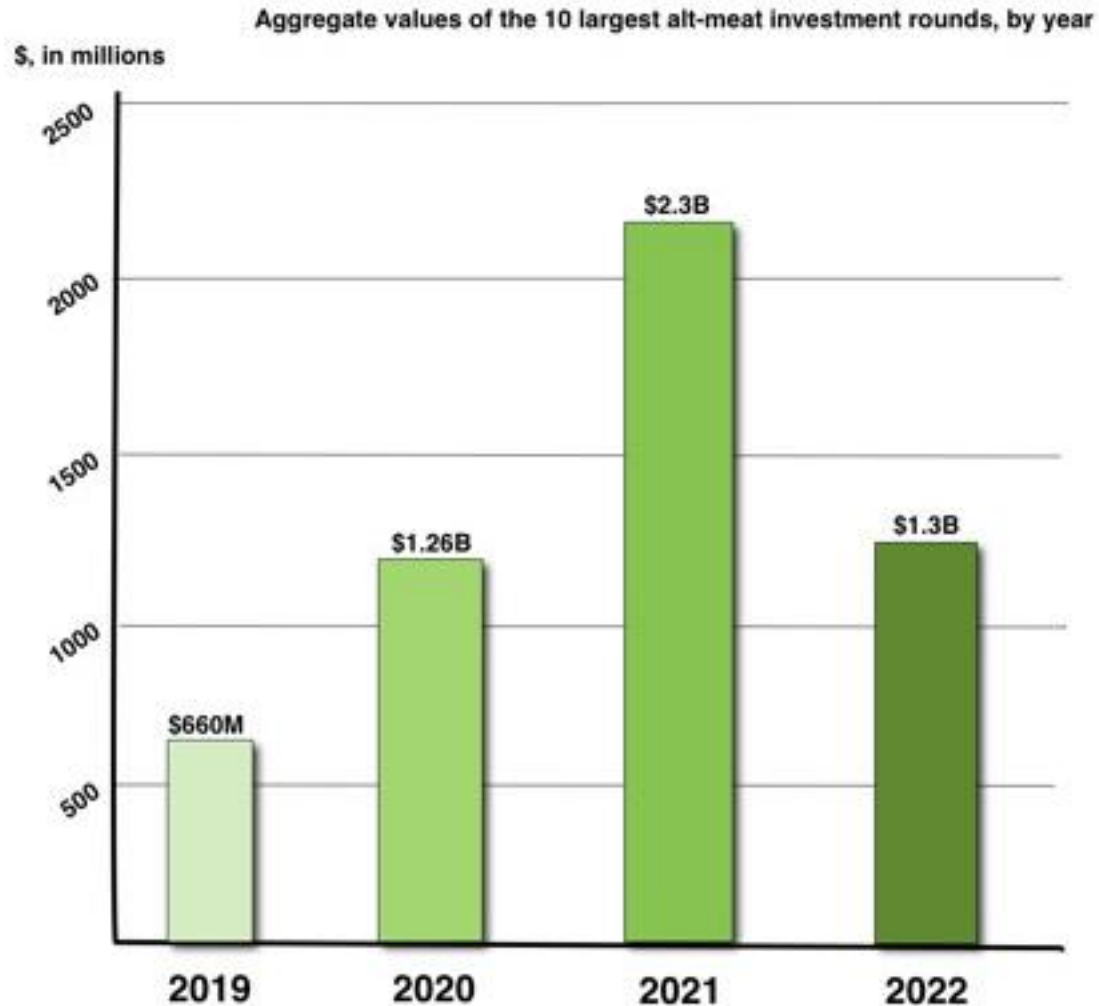
Jean-François Hocquette, INRAE, France
Jean-francois.hocquette@inrae.fr

CONVENTIONAL MEAT IS STILL PREDOMINANT BUT THE MARKET OF OTHER PROTEINS WAS GROWING FAST



- Meat & poultry
- Meat substitutes

THE MARKET OF OTHER PROTEINS IS LESS ATTRACTIVE



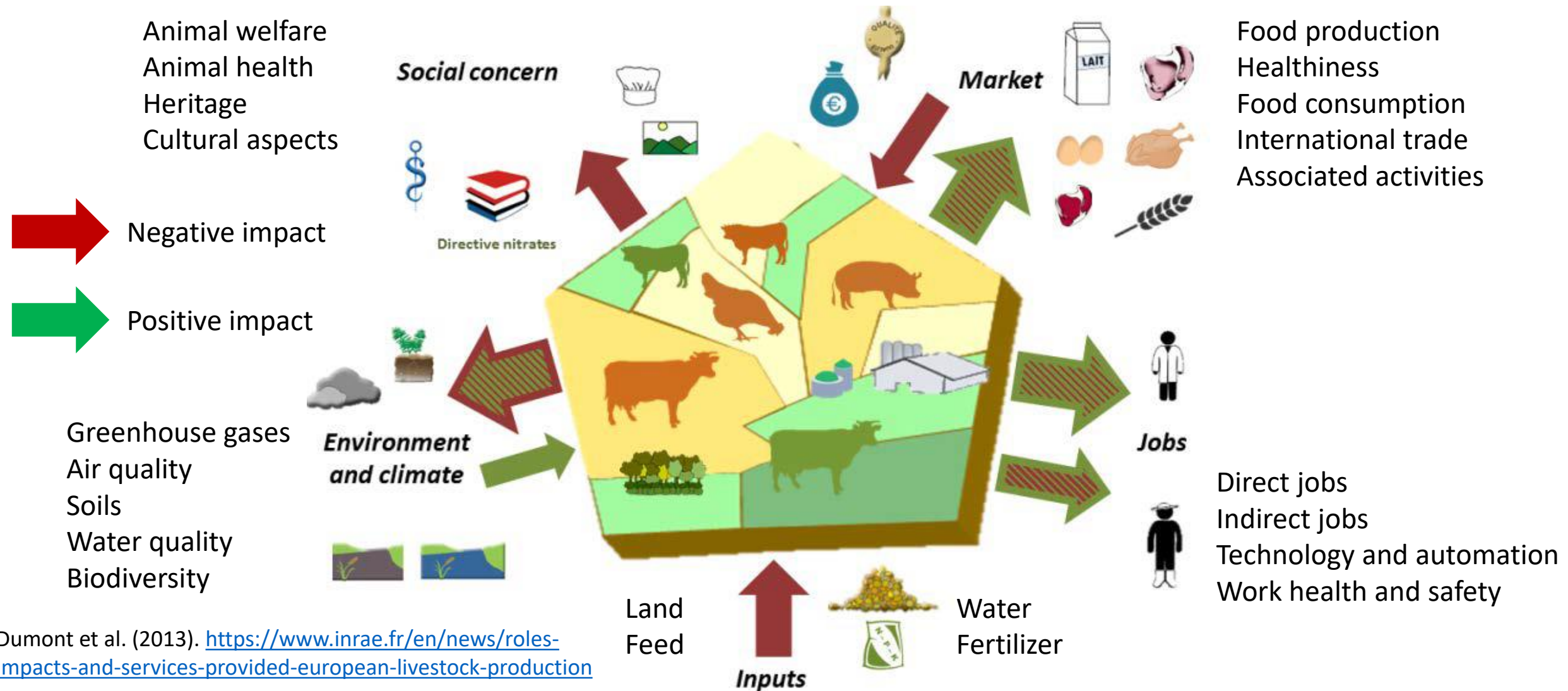
Source: AgFunder

“In 2020, half of Americans thought false meats were healthy; now 38% think so, a recent report from Citi Global Insights shows”.

“Photos and documents from Beyond’s plant in Pennsylvania (where both the KFC nuggets and Pizza Hut pepperoni were partially manufactured) revealed that listeria and foreign materials such as wood and string had been showing up in products made there as late as May 2022”.

<https://www.bloomberg.com/news/features/2023-01-19/beyond-meat-bynd-impossible-foods-burgers-are-just-another-food-fad>

ROLES, IMPACTS AND SERVICES PROVIDED BY EUROPEAN LIVESTOCK PRODUCTION



ALTERNATIVE MEATS ARE FOCUSING ON ONLY A FEW BENEFITS

Animal welfare

Animal health
Heritage
Cultural aspects

Social concern



Directive nitrates



*Environment
and climate*



Market



Food production Healthiness

Food consumption
International trade
Associated activities



Jobs



Direct jobs
Indirect jobs
Technology and automation
Work health and safety

Land

Feed




Inputs



Water

Fertilizer

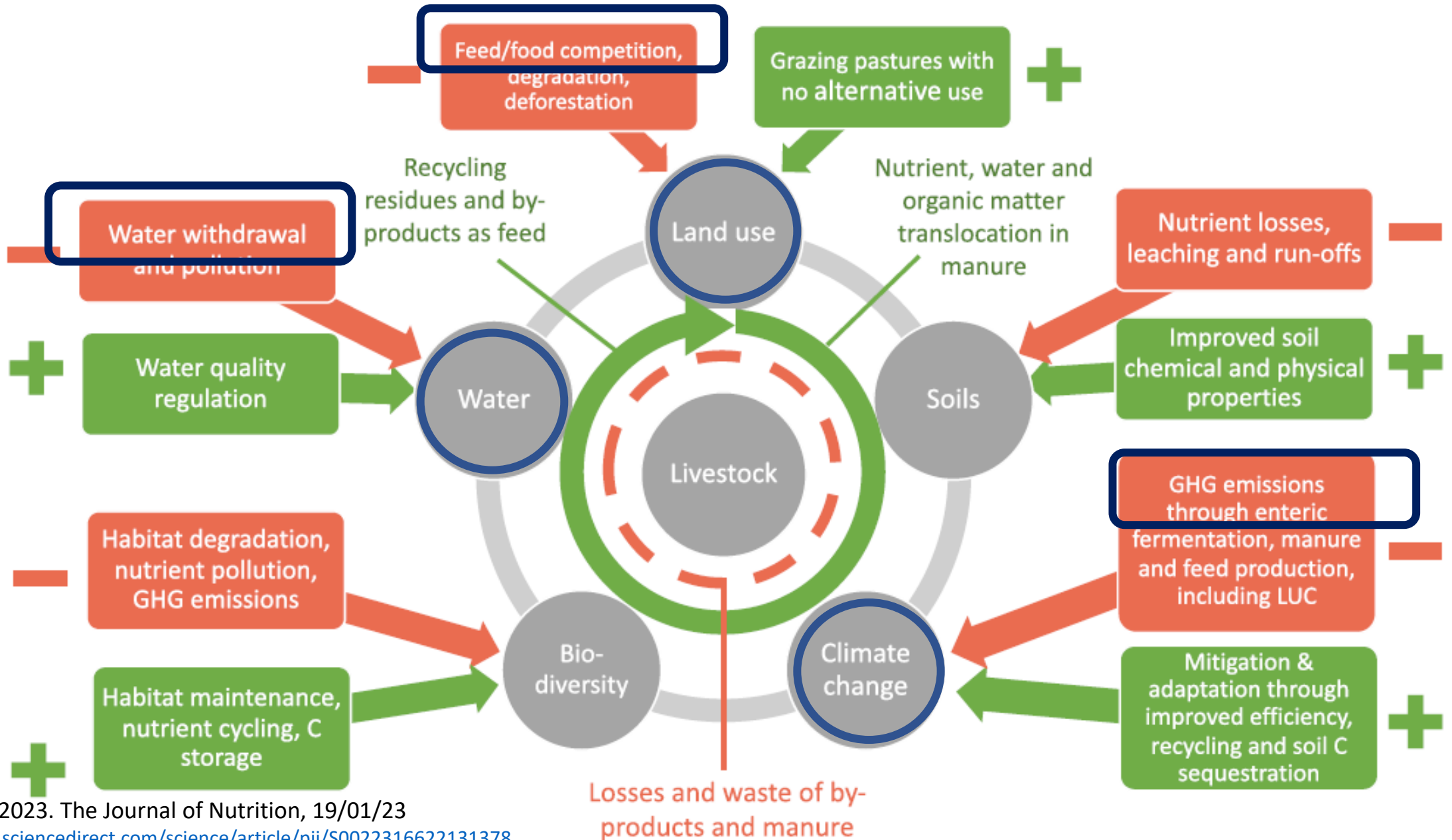
 Negative impact

 Positive impact

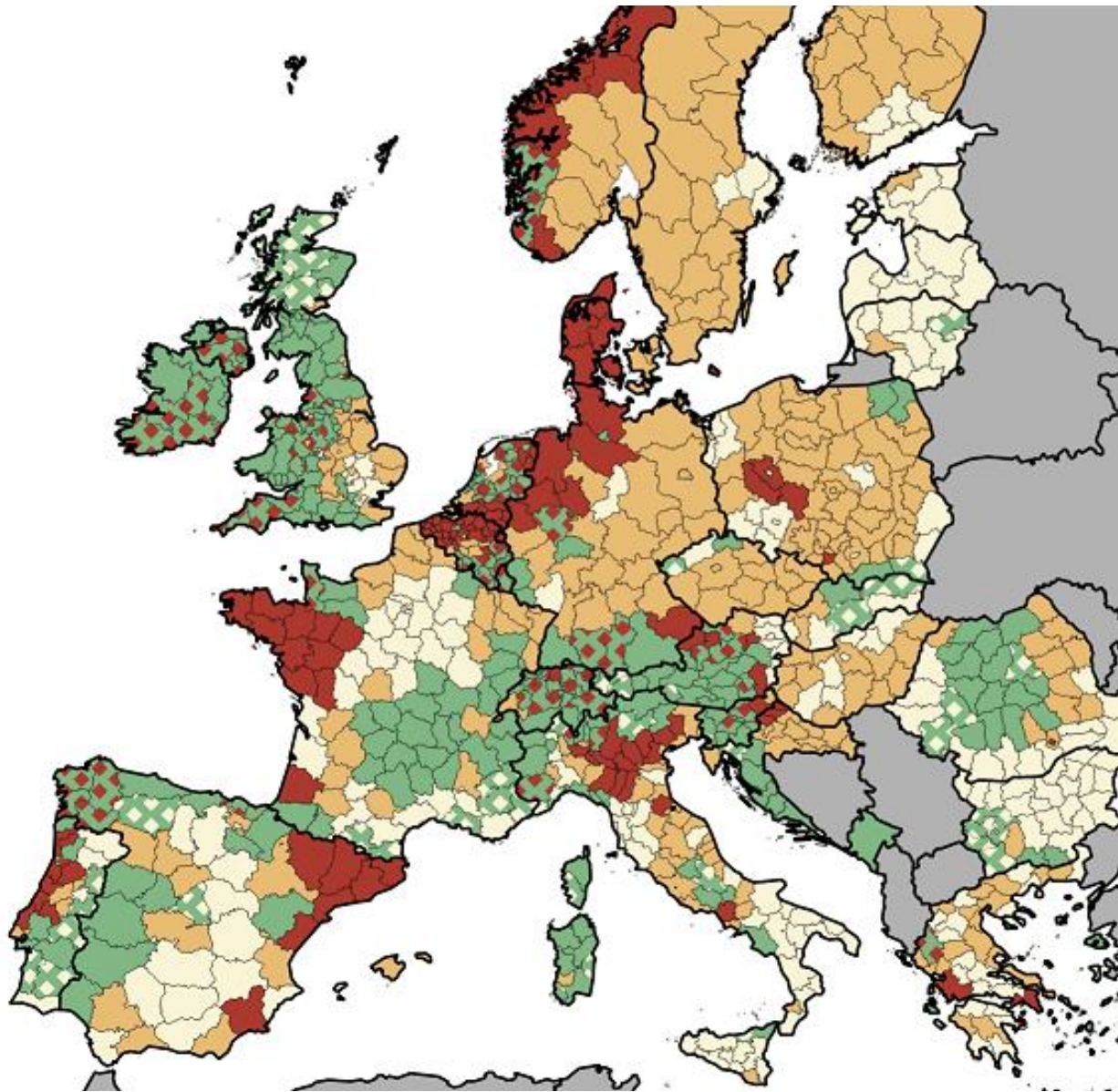
Greenhouse gases

Air quality
Soils
Water quality
Biodiversity

... AND ON A FEW INTERACTIONS WITH THE ENVIRONMENT



DIVERSITY OF LIVESTOCK SYSTEMS IS NOT CONSIDERED



- Low-grassland areas with high livestock densities
- Grassland-dominant areas with high livestock densities
- Grassland-dominant areas with average livestock densities
- Grassland-dominant areas with low livestock densities
- Both crop and livestock production
- Low-grassland areas with low livestock densities
- No data

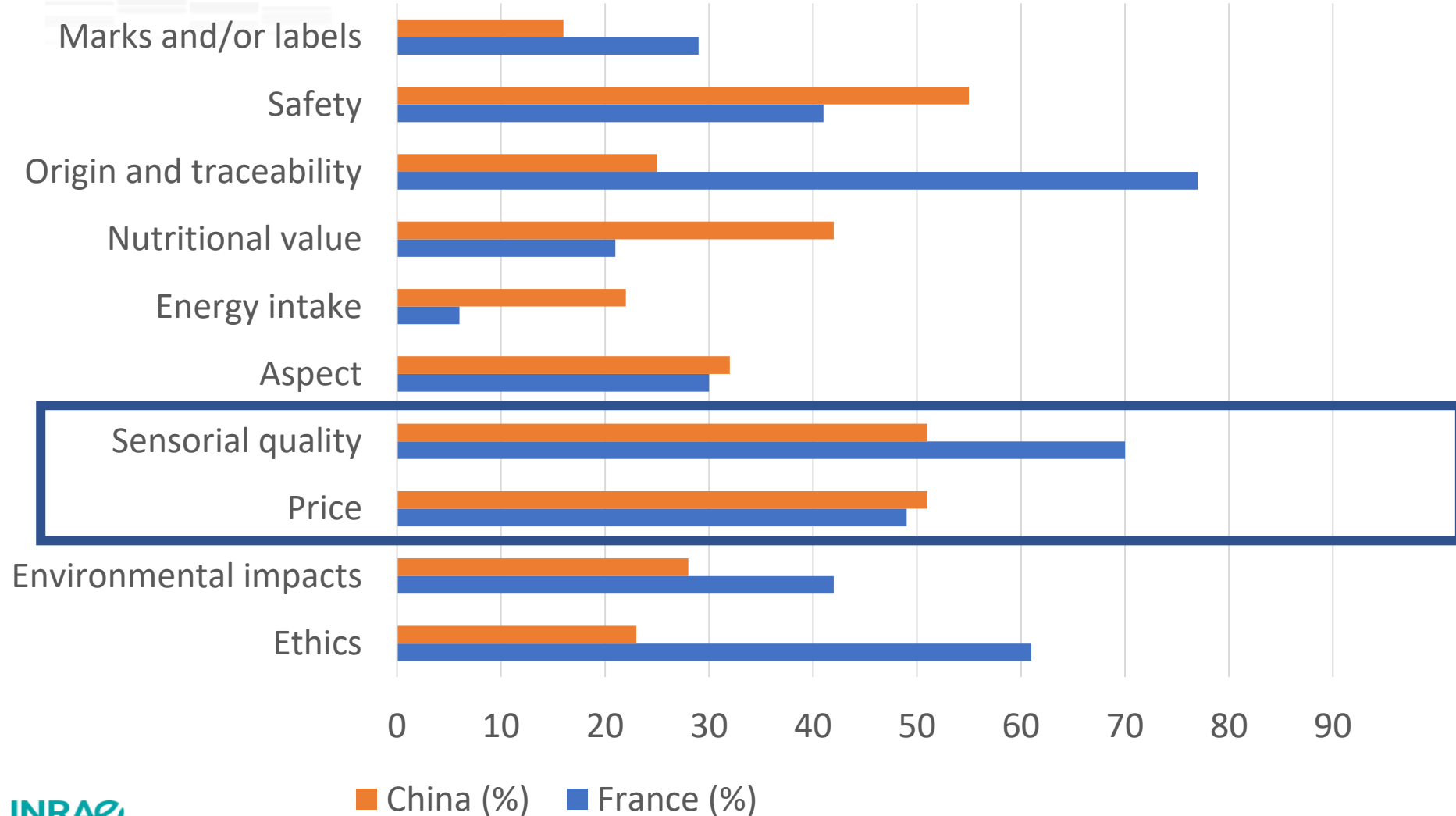


Efficient

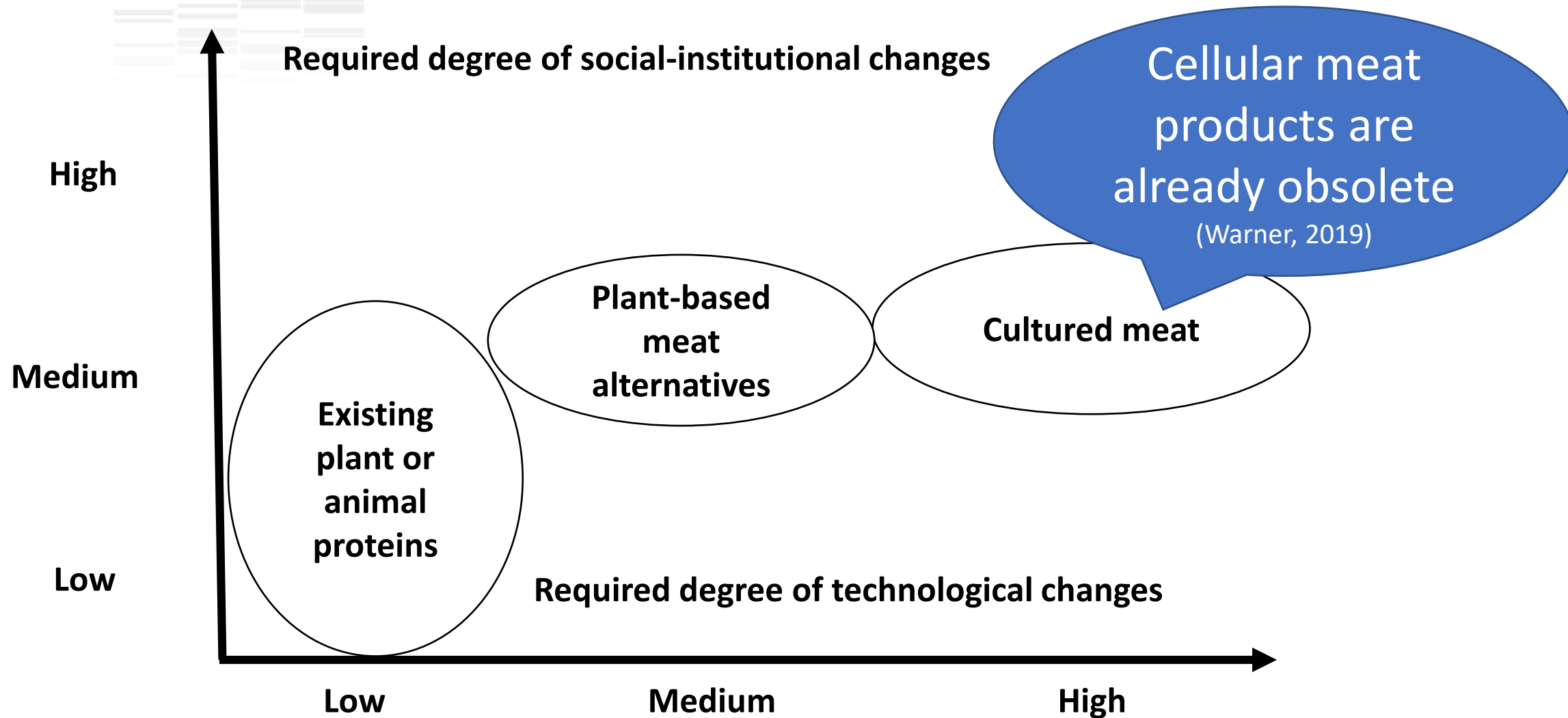


Less efficient and more vulnerable

WHAT ARE THE MOST IMPORTANT CRITERIA DURING YOUR FOOD SHOPPING?



REQUIRED DEGREES OF CHANGES ARE KEY DRIVERS



SENSORIAL AND NUTRITIONAL QUALITIES?



Sensorial and Nutritional Aspects of Cultured Meat in Comparison to Traditional Meat: Much to Be Inferred

Ilse Fraeye¹, Marie Kratka², Herman Vandenburgh³ and Lieven Thorrez^{2*}

¹ Research Group for Technology and Quality of Animal Products, Leuven Food Science and Nutrition Research Centre, KU Leuven Ghent Technology Campus, Gent, Belgium, ² Department of Development and Regeneration, KU Leuven, Kortrijk, Belgium, ³ Department of Pathology, Brown University, Providence, RI, United States

- “Cultured meat prototypes are ... **not available for independent technological, sensorial and nutritional assessment**”.
- However, having the same composition is not enough (**digestibility has not been studied**)

Analysis confirmed by Santo et al., 2020, Frontiers in Sustainability Food Systems, 4, 134 and <https://www.onegreenplanet.org/natural-health/is-lab-grown-meat-healthy-and-safe-to-consume/>



Review

Cultured meat and challenges ahead: A review on nutritional, technofunctional and sensorial properties, safety and legislation

Keshia Broucke^{*}, Els Van Pamel, Els Van Coillie, Lieve Herman, Geert Van Royen

Flanders Research Institute for Agriculture, Fisheries and Food (ILVO), Brusselsesteenweg 370, 9090 Melle, Belgium

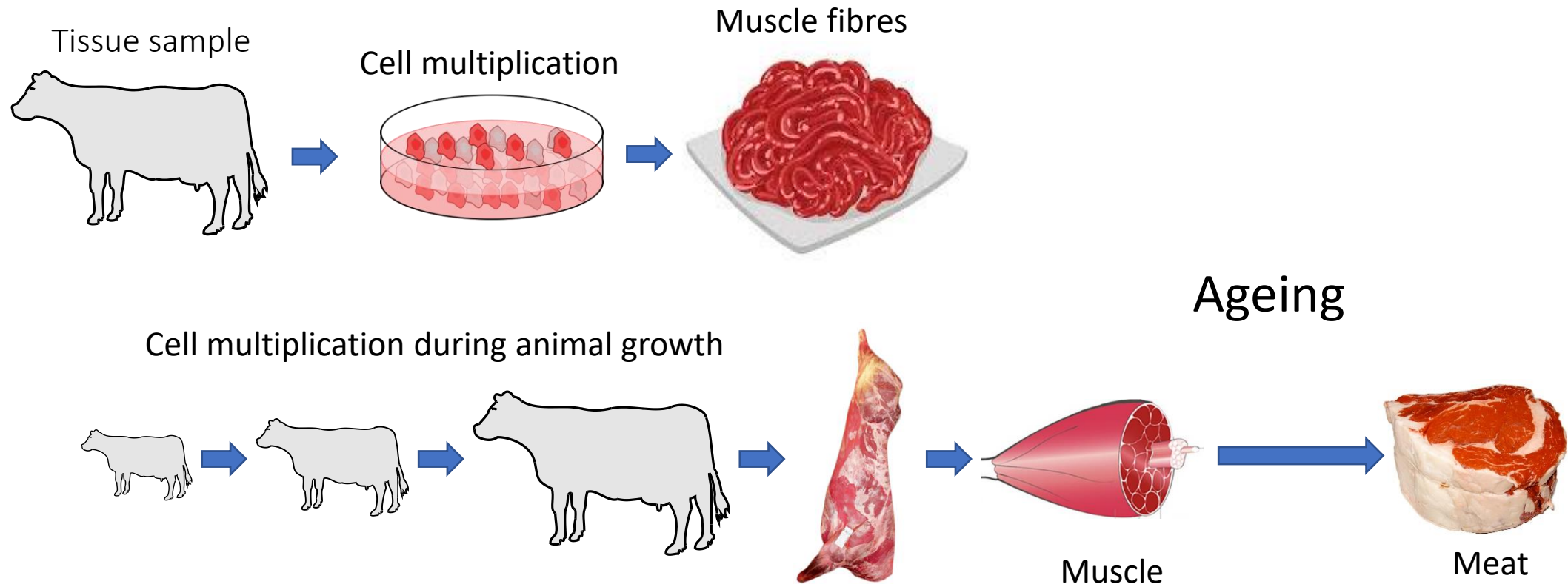


MEAT COMES FROM ANIMALS

Proteins from plants (even processed as a burger) are not meat.

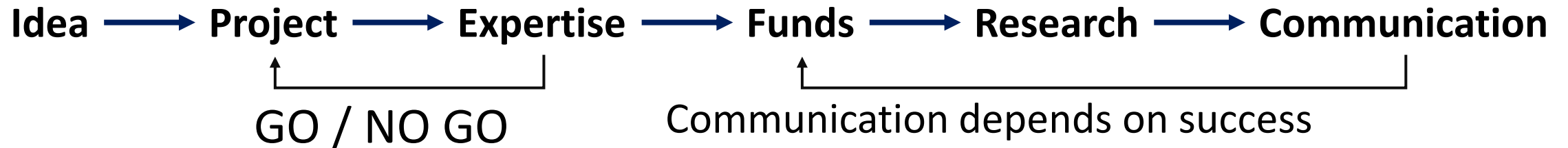


Cultured meat is not meat



THE RESEARCH PROCESS

The normal research process



The process for meat alternatives (especially cultured meat)



CONCLUSIONS



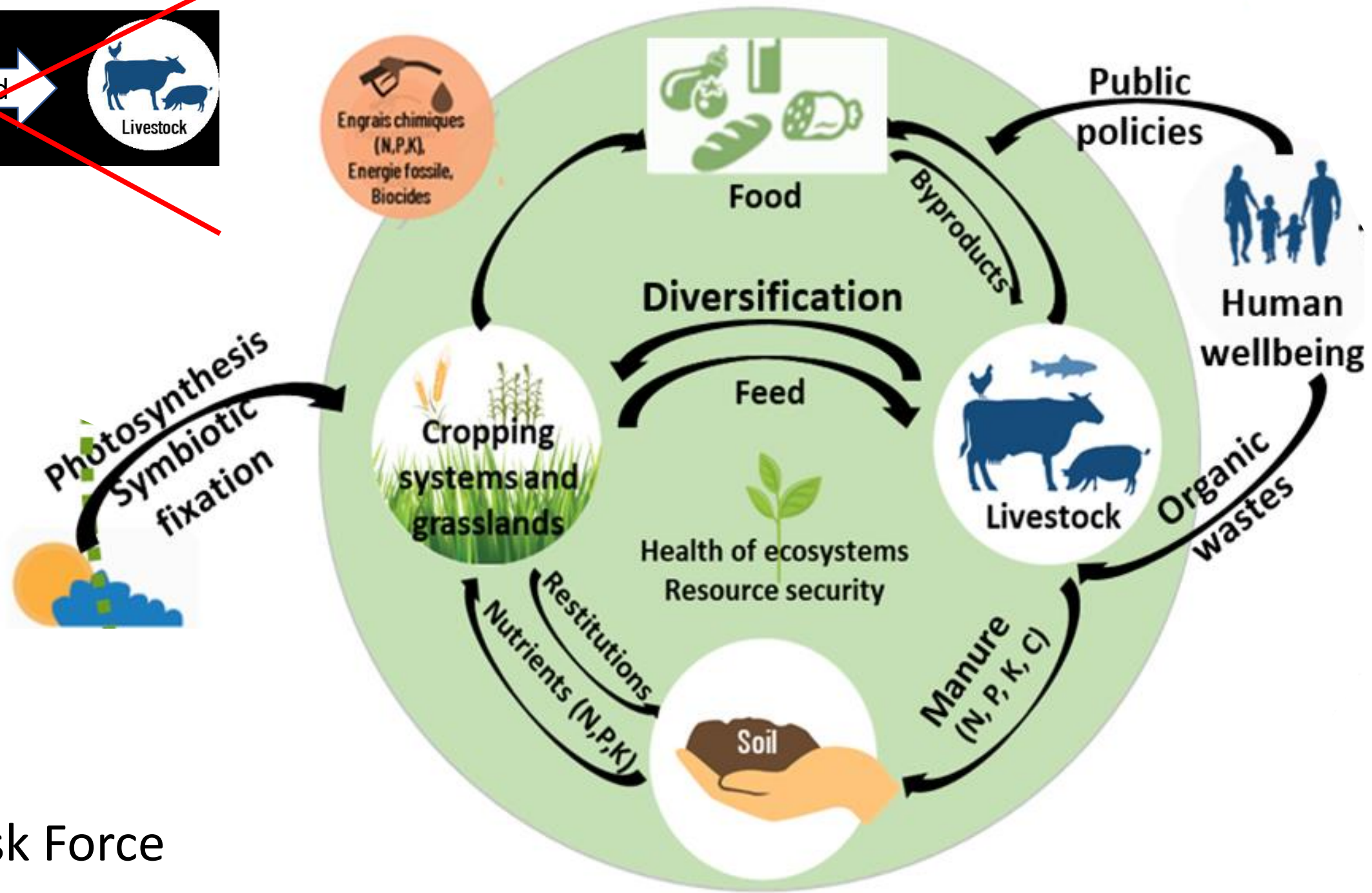
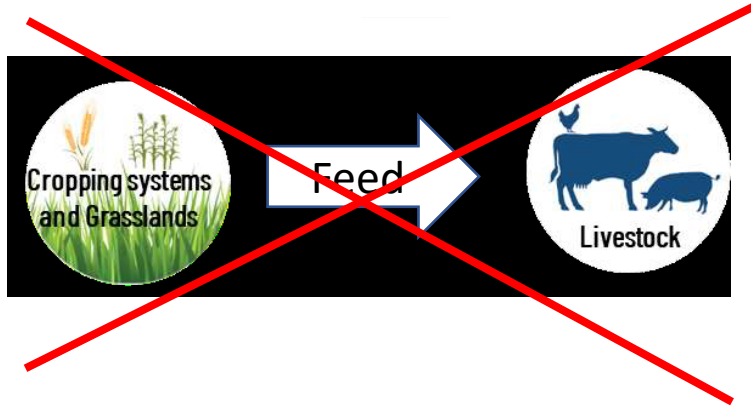
Many uncertainties and technical issues remain to be resolved

The production cost for a low price is a main issue

Safety as well as nutritional and sensory qualities are important

Consumer acceptance of some alternatives (such as “cultured meat”) is on average low.

Other solutions (such as agroecology) to provide foods and to protect animals and the planet are more relevant





**WORLD ASSOCIATION
for ANIMAL PRODUCTION**

**WORLD and EUROPEAN
CONGRESS ON ANIMAL
PRODUCTION (on-site, on-line)**

LYON

27-31 August 2023



EAAP
European Federation
of Animal Science

<https://eaap2023.org/>