

- 18 Theater presentations
- Introductory communication setting the scene (*Philippe Becquet*)
- Presentations on the economic value of animal source foods
- Presentation on societal issues and attractiveness of the sector
- Topics on productivity (3)
- A broad spectrum of “more than food” topics:

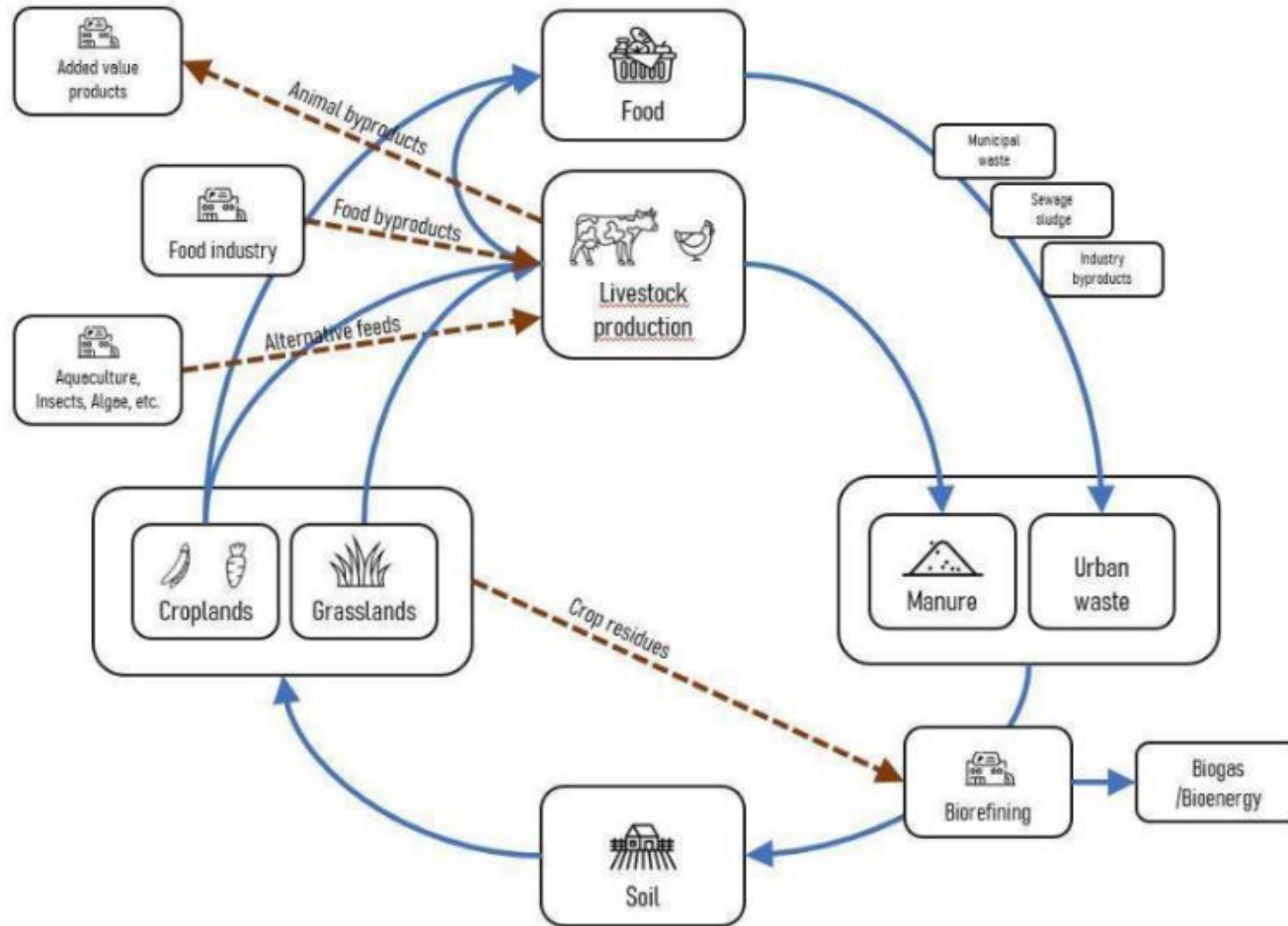


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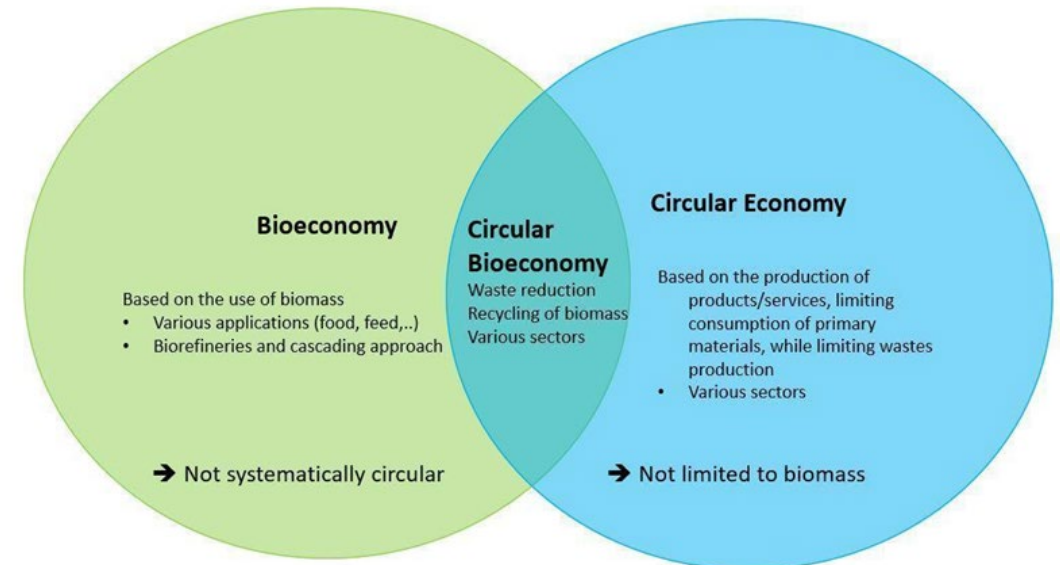


# The role of livestock in circular bioeconomy systems

(Philippe Becquet)



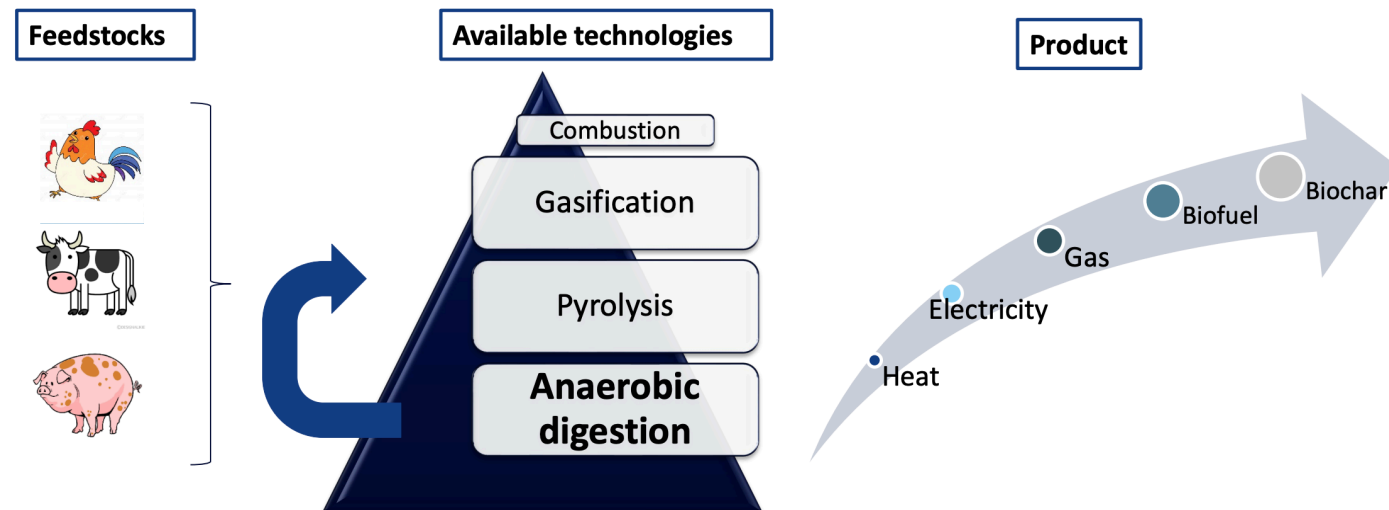
Plant Based Co-Products  
 Animal Based Co-Products  
 Manure management and energy



# Anaerobic digestion (AD) of manure

(Henrik Bjarne Møller)

- Animal manure contains large amounts of carbon and nutrients that can be used and transformed into biofuel and fertilizers
- AD is the most developed route for utilization of carbon from animal manure to biofuel
- AD is an important tool to reduce the agriculture's carbon footprint and optimize gain of feed additives, feed and management changes.
- AD can degrade most antibiotics
- AD plays a major role in the transformation of the society



# Valorisation of a waste from food industry: Bovine hide to leather”

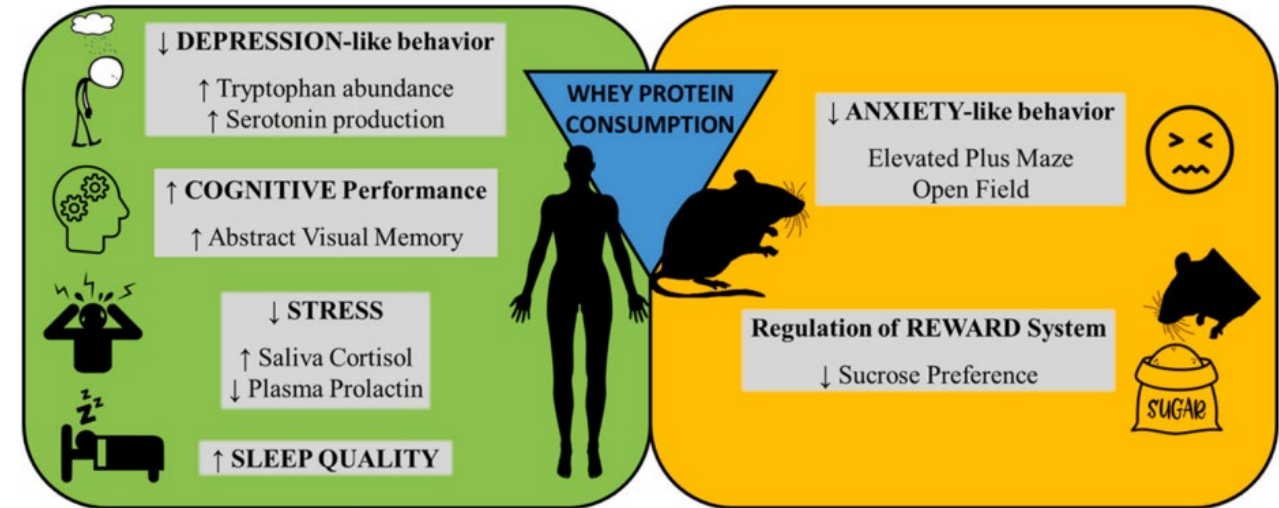
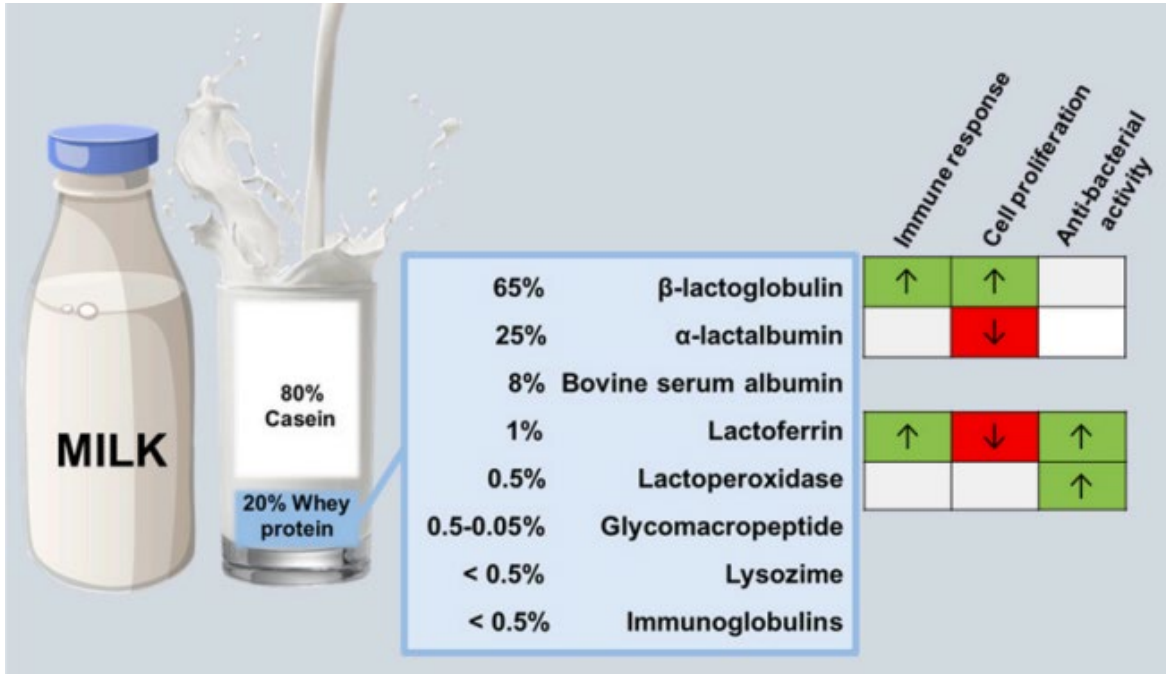
(Giacomo Zorzi)



Animal  
by  
Product  
99,5%

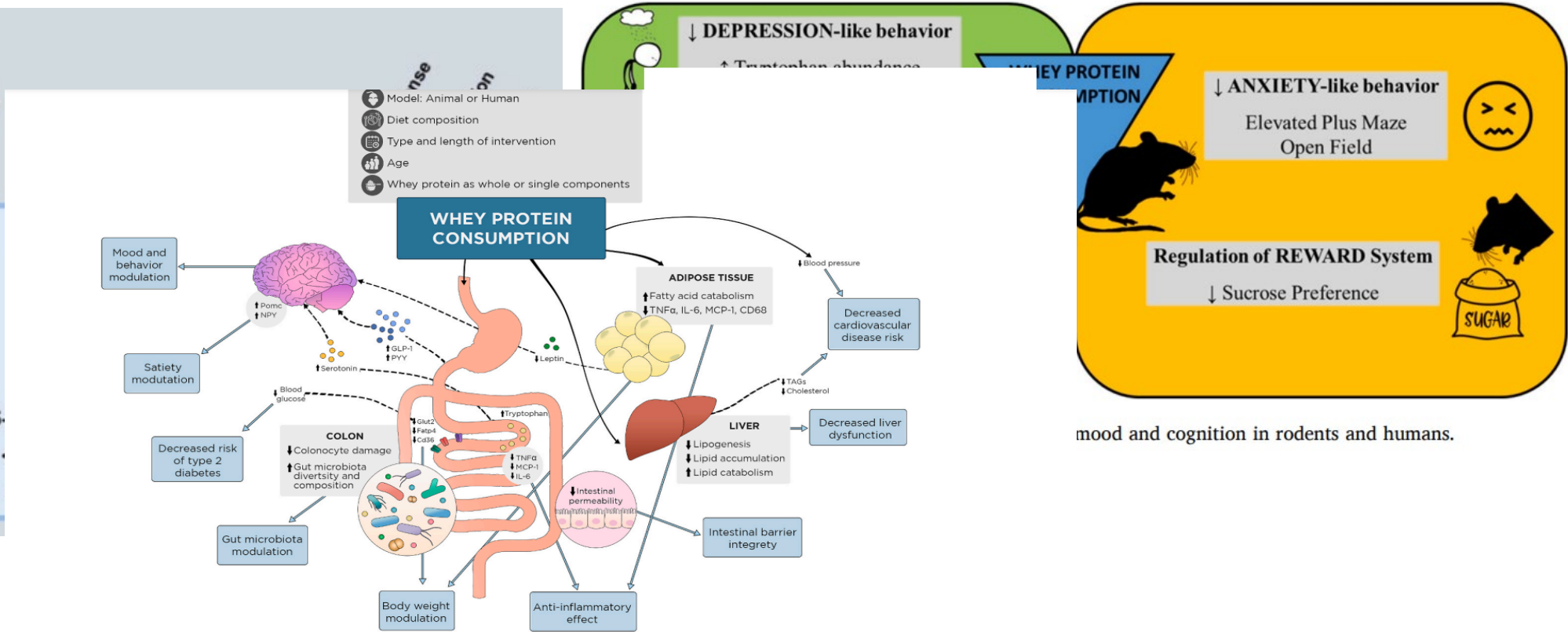
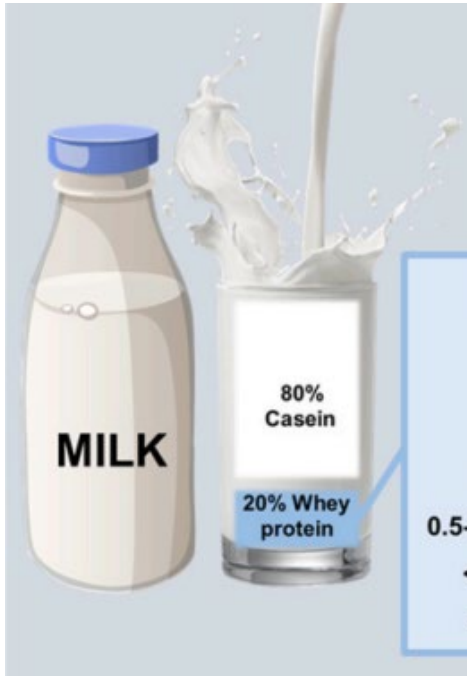
In tanned leather the content of **bio-based carbon** varies between 65% and 98% depending on the type of processing carried out

# Beyond basic nutrition *(Paul D. Cotter)*



**Beneficial effects of whey protein on mood and cognition (as assessed in rodents and humans)**

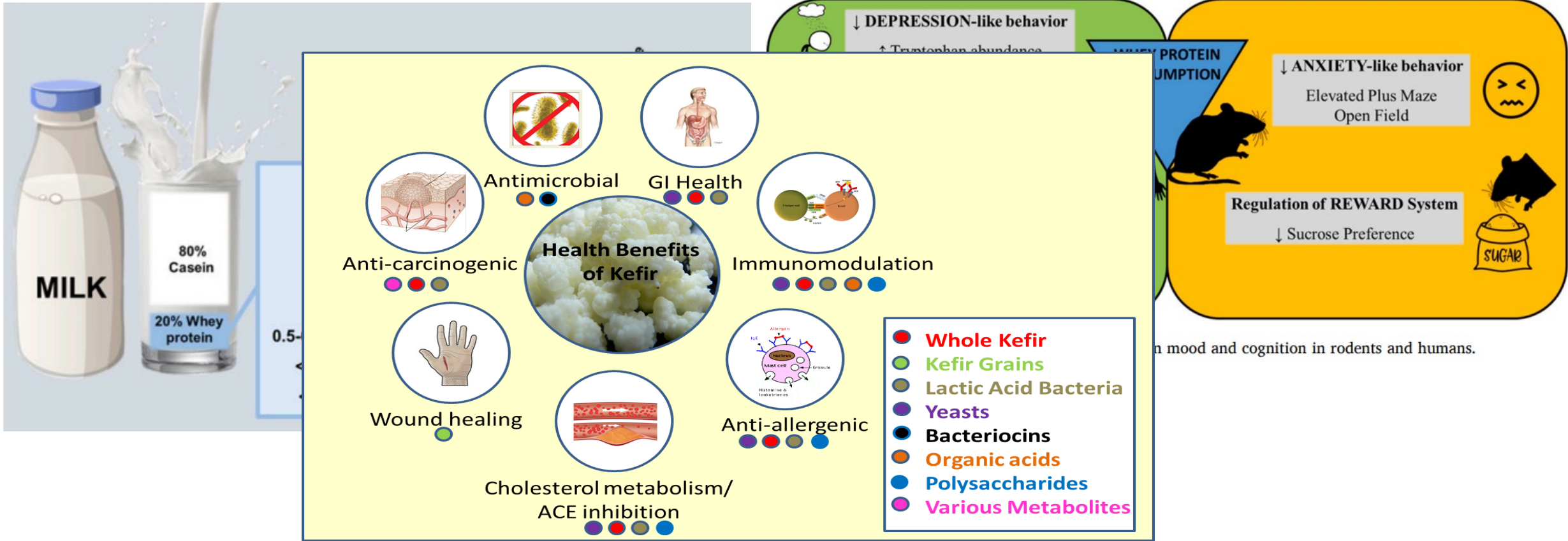
# Beyond basic nutrition *(Paul D. Cotter)*



**Beneficial effects of whey protein on obesity-related dysfunction and co-morbidities**

mood and cognition in rodents and humans.

# Beyond basic nutrition *(Paul D. Cotter)*



**Fermentation: Many putative health benefits but quality of many of the associated publications leaves a lot to be desired**



# Biopolymers of animal origin: production, properties and applications

*(Vitaliy Khutoryanskiy)*

- Gelatine
- Collagen
- Insulin



Proteins

- Chitosan
- Heparin
- Hyaluronic acid



Polysaccharides

- Several classes of commercially important biopolymers are currently produced using raw materials of animal origin
- These biopolymers have found numerous applications in pharmaceuticals, cosmetics, and other biomedical fields
- In some cases, their applications could be further expanded through chemical modification



# “Evolving standards: ethical perspectives on animal welfare in agroecology”

(Jacopo Goracci)

## Sustainable Extensification

### of Agriculture

help mitigate existing negative impacts, prevent further depletion of soil organic C, restore ecological equilibrium, enhance biodiversity, and social justice  
**FARMING WITH NATURE & RETERRITORIALIZATION OF AGRICULTURAL ACTIVITIES, BEYOND FOOD SUPPLY FOOD SOVEREIGNTY**

## Ecological Intensification in Agriculture

improve agricultural production also enhancing agro-ecosystems and ecosystem services

## Traditional Agriculture

## Sustainable Intensification of Agriculture

more efficient use of resources to spare future degradation of natural habitat (encouraging water conservation, adopting low-carbon agriculture, and increasing the efficiency of inputs used on-farm)

Giller et al. (2021) define regenerative agriculture as an approach aiming to combine agroecology and sustainable intensification to face land degradation



# Pastoral management and conservation of the cultural landscapes and biodiversity of mountain pastures

*(Massimiliano Probo & Caren Pauler)*

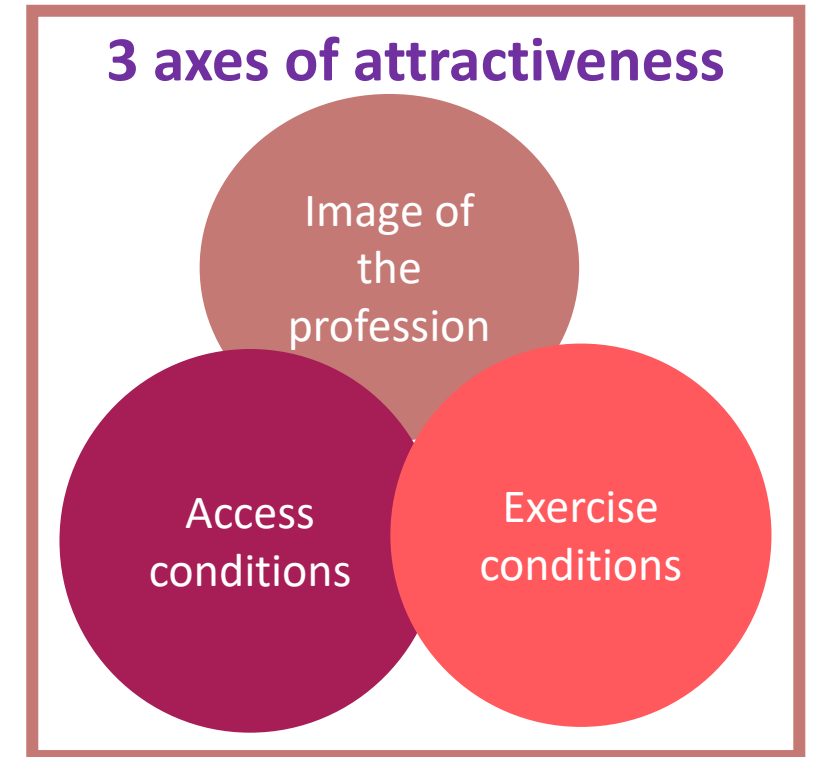
- Biodiversity
  - Food production
  - Aesthetic value and touristic attractiveness
  - Cultural heritage (Swiss Alpine pasture season: UNESCO Intangible Cultural Heritage of Humanity)
  - Carbon sequestration and nutrient cycling
  - Wildfire, erosion and flood control
  - Pollination
  - Water purification
- **Development of sustainable silvopastoral systems:** better adaptation to Climate Change, reduction of wildfire risks and provision of different ES



# “The representations and attractiveness of livestock farming professions under the influence of societal issues” *(Anne-Charlotte Dockès)*

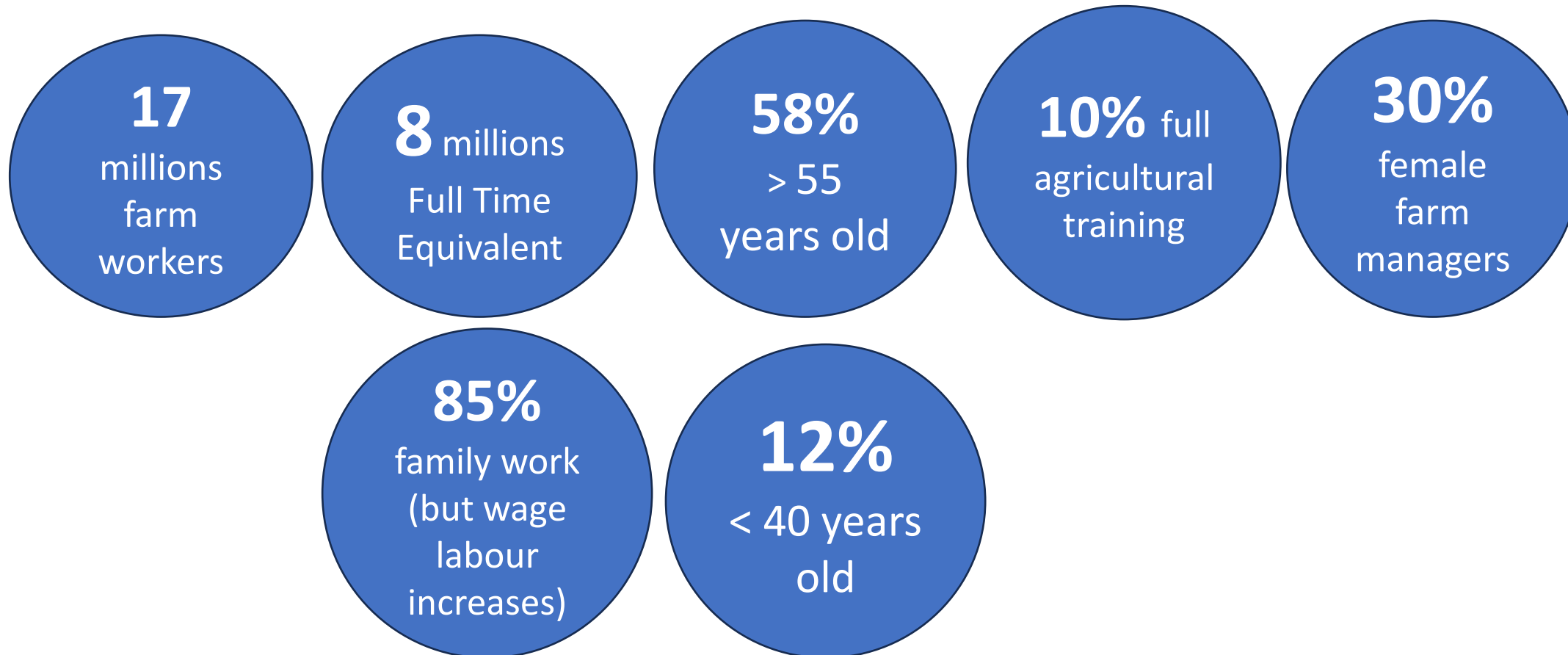
## LIVESTOCK FARMING FACES THE CHALLENGE OF WORKFORCE RENEWAL

- Farmers are ageing, many retirements are underway
- Need of farmers and farm employees
- Enhancing the attractiveness of farming activities: a necessity and 3 challenges



# Key figures about EU farm demography

*(Anne-Charlotte Dockès)*



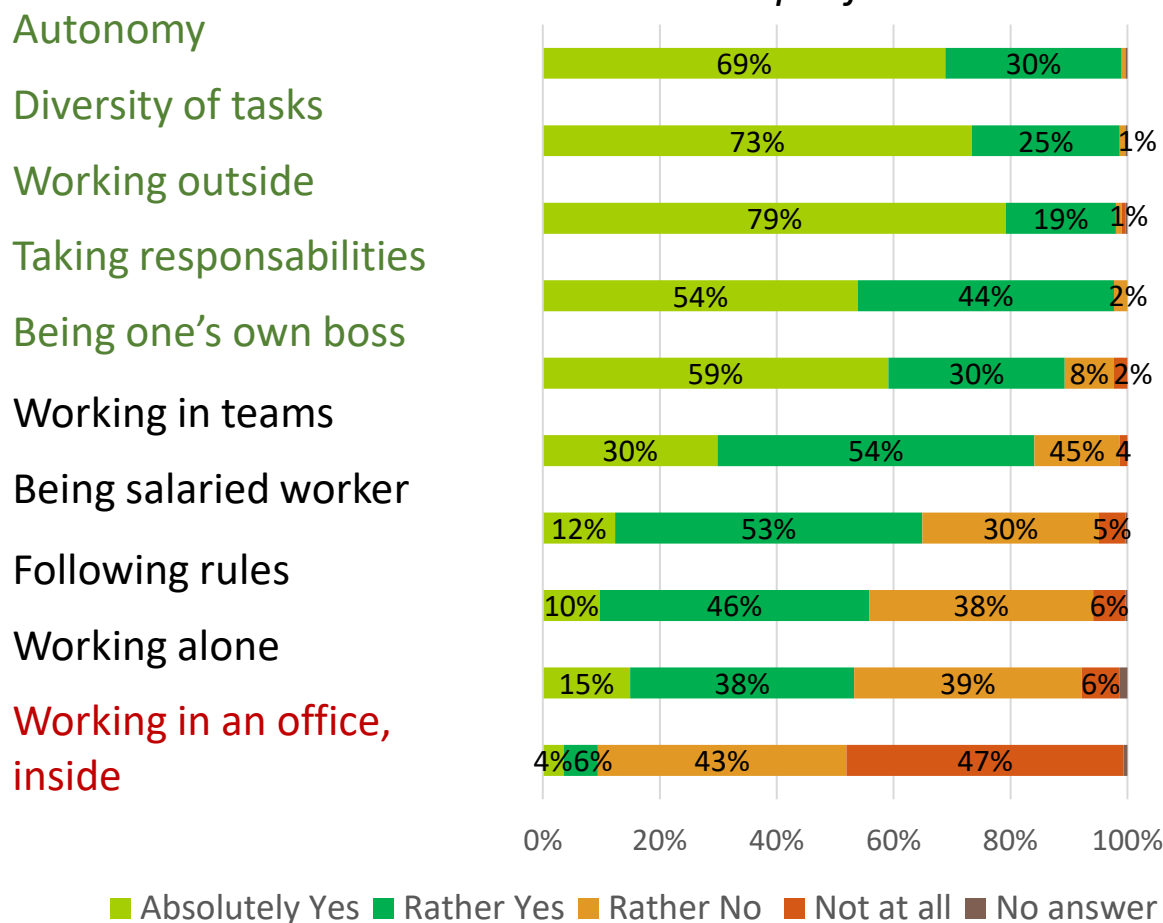
Source : EUROSTAT



# French agricultural high school students seek autonomy and flexibility *(Anne-Charlotte Dockès)*

- Livestock careers appear **in line with young people in agricultural education** (autonomy, outside work, contact with animals, diversity of tasks, professional sense, etc.)
- But **the balance between income and free time does not seem satisfactory to them**.

*Could these working conditions make you want to take up a job?*



Survey broadcast from April 26 to June 15, 2021 with students in agricultural high schools, **308** responses France



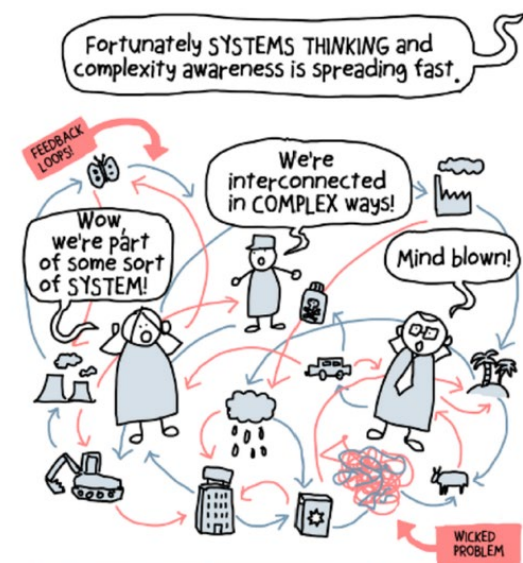
# Wicked problem? *(L. Cembalo)*

**Wicked:** complex problem because there is no agreement on the definition of the problem, nor an obvious approach to solving it (Rittel and Webber, 1973)

To identify a Wicked problem (Alford and Head, 2017):

- Structural complexity
- lack or excess of knowability
- knowability fragmentation
- knowledge framing
- interest differentiation
- power distribution

This problem cannot be resolved by acquiring more data...?  
 No general consensus on how to address it and to navigate the necessary trade-offs



# The Animal Task Force online



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