



CONTINUITY OF NUTRITION CARE

optimal
nutritional care
for all

THE POWER OF CONCERTED EFFORTS AGAINST MALNUTRITION





Hogeschool van Amsterdam
Amsterdam University of Applied Sciences



Amsterdam UMC
Universitair Medische Centra



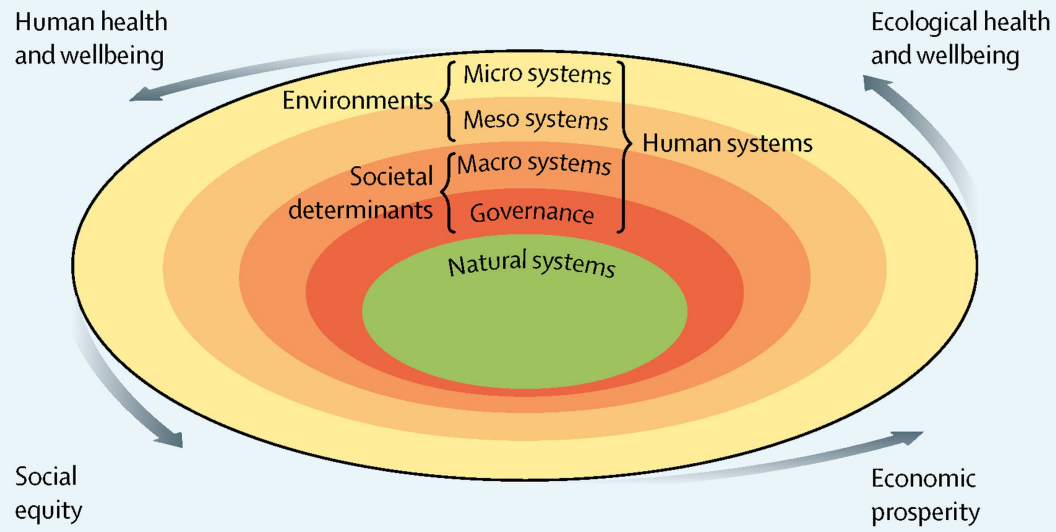
Protein transition: future world or fantasy land?

Lector Prof. dr. ir. Peter J.M. Weijs | 16-06-2023

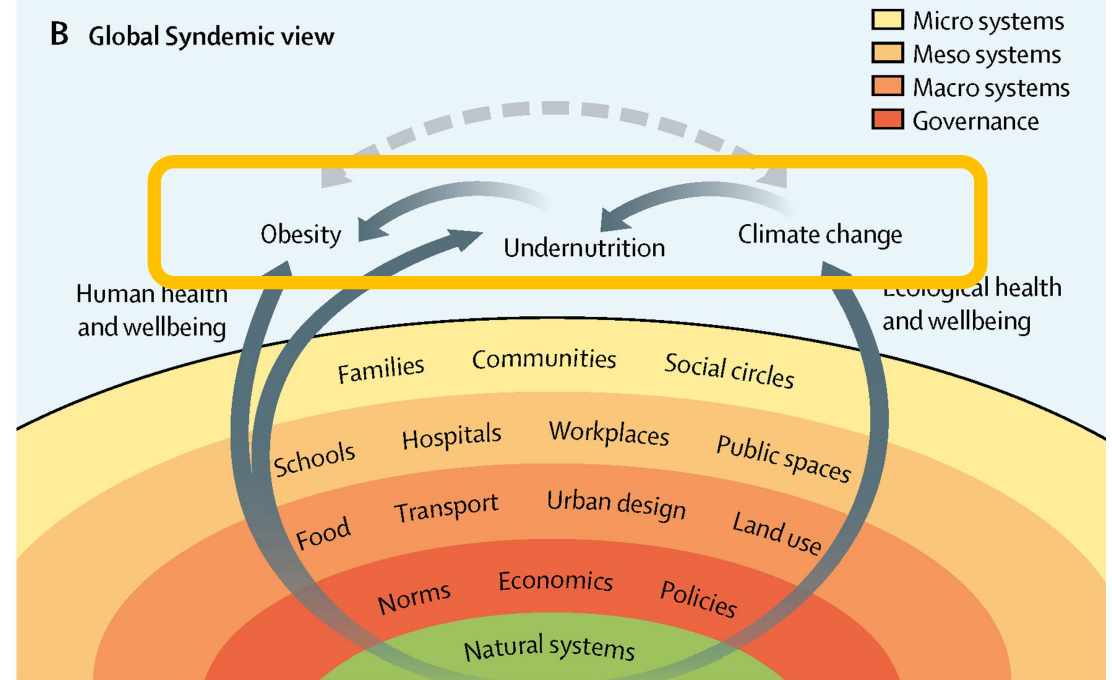


**Continuity of nutrition care;
the power of concerted efforts
against malnutrition;
Amsterdam 15 & 16 June 2023**

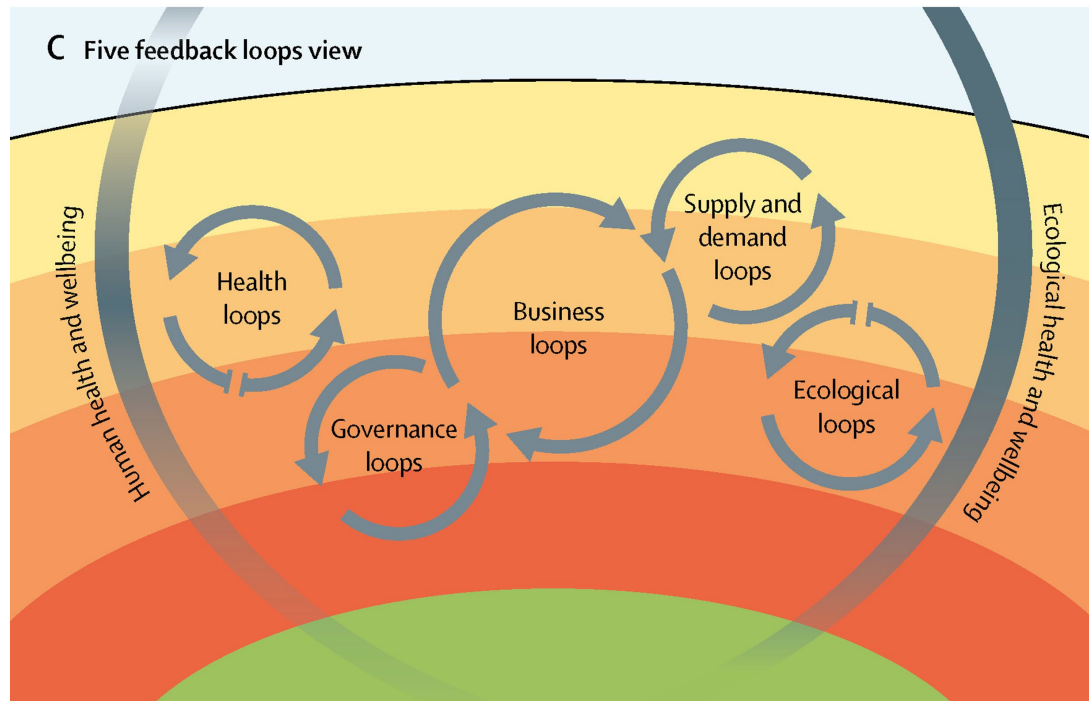
A Global outcomes view



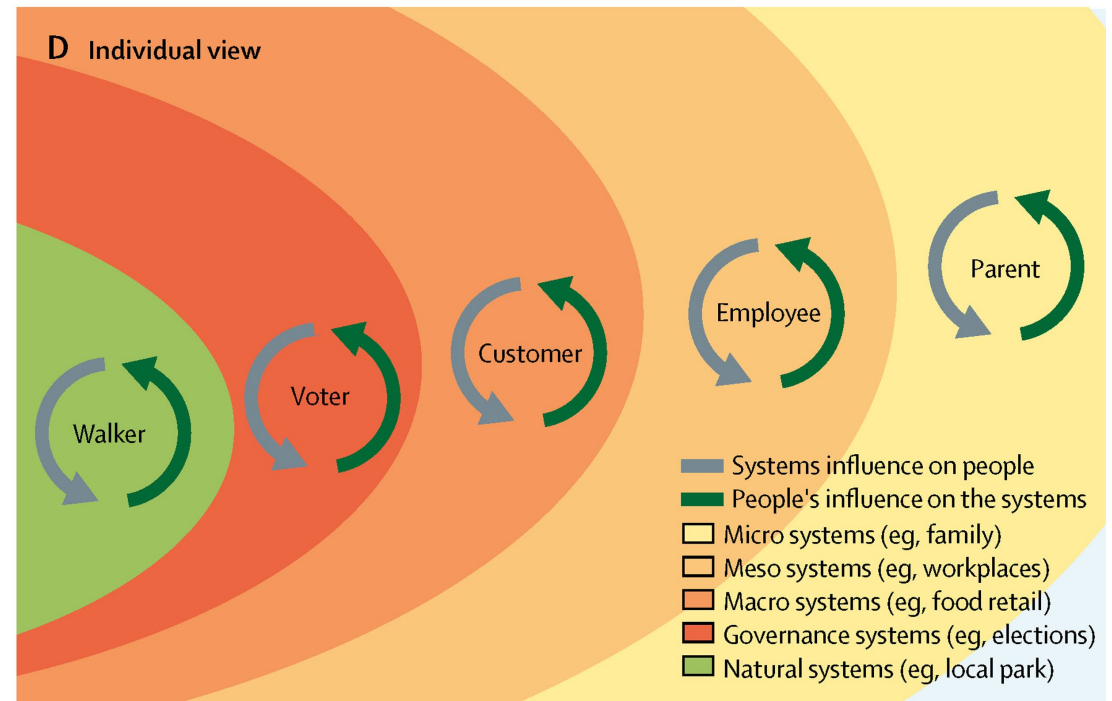
B Global Syndemic view

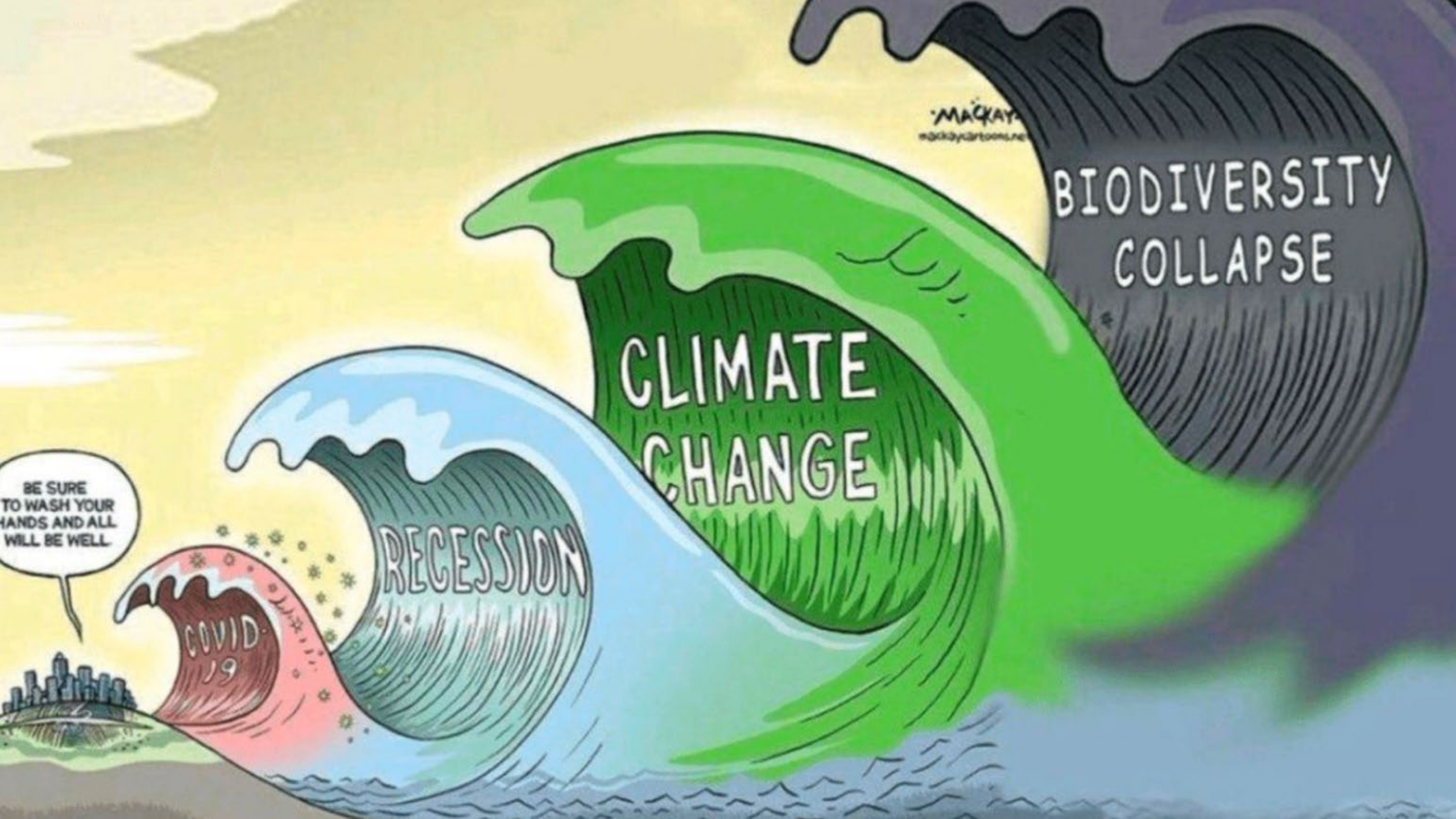


C Five feedback loops view



D Individual view





MACKEY
mackaycartoons.net

BIODIVERSITY
COLLAPSE

CLIMATE
CHANGE

RECESSION

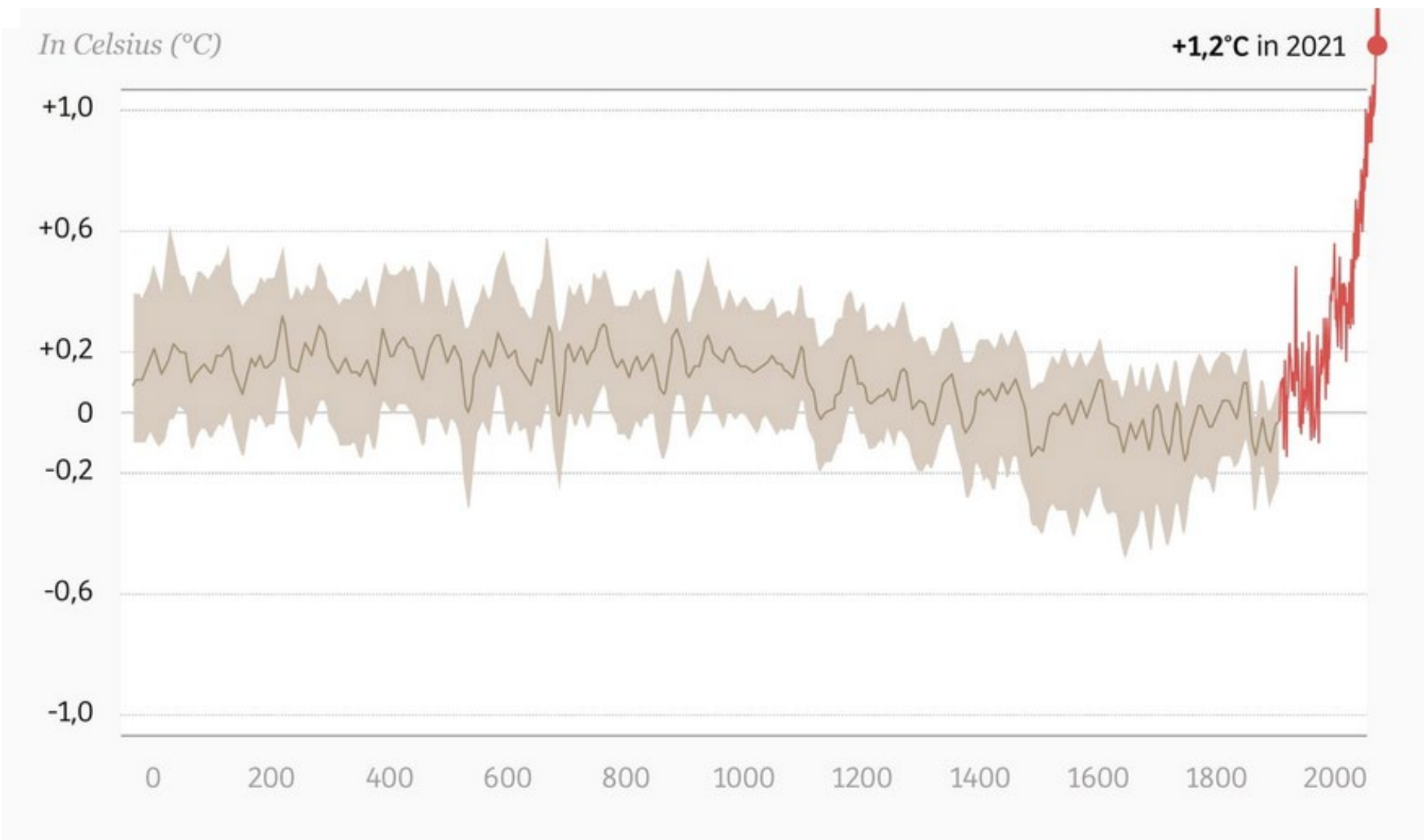
COVID
19

BE SURE
TO WASH YOUR
HANDS AND ALL
WILL BE WELL



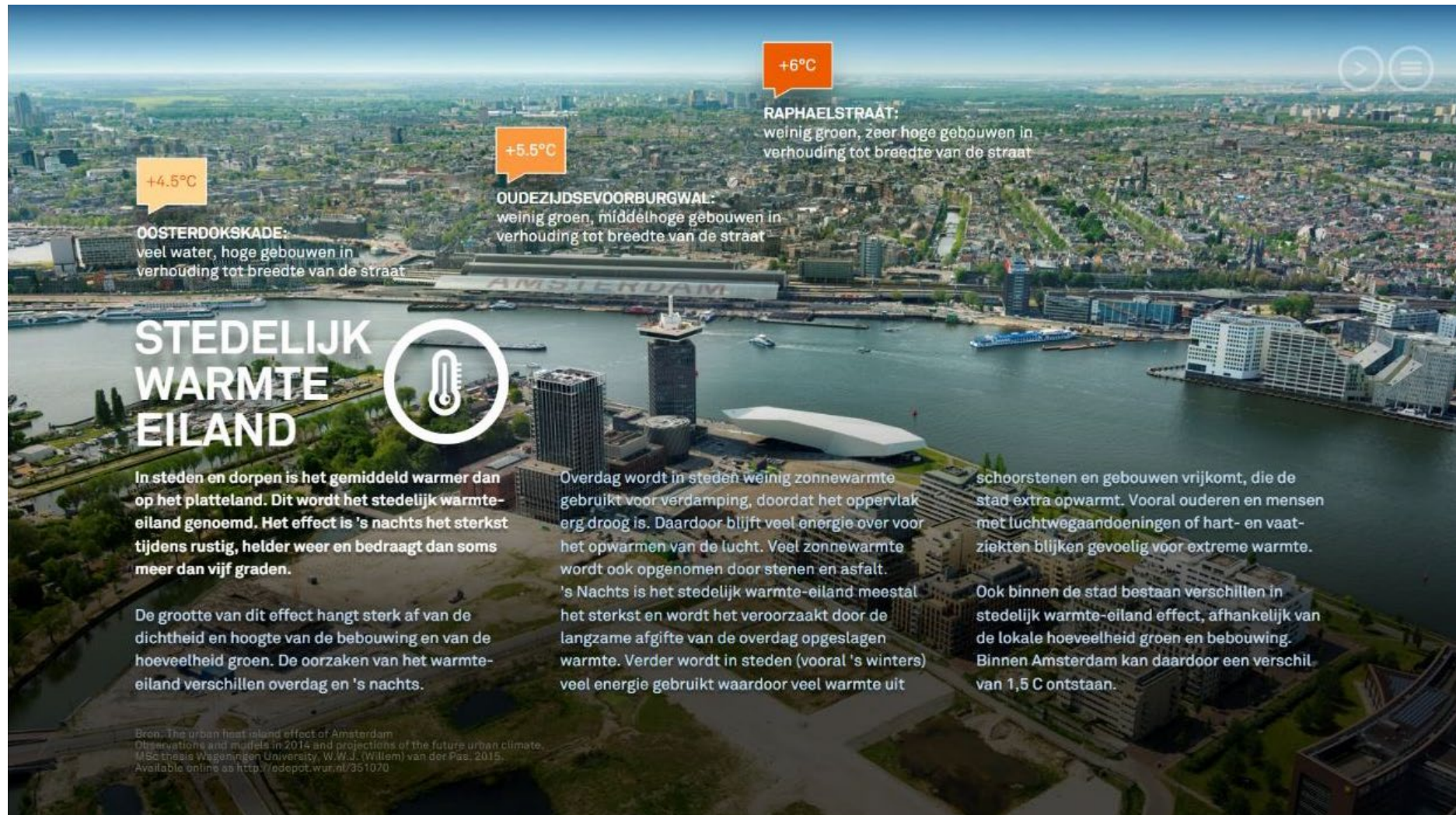


Earth warming





Urban warming Amsterdam: +8°C (night)





Climate crisis = health crisis



We are facing a catastrophic climate pandemic: UN Boss



BREAKING

WHO Calls Climate Change 'Single Biggest Health Threat Facing Humanity'

Carlie Porterfield Former Staff

I cover breaking news.

0

Oct 11, 2021, 02:54pm EDT

Updated Apr 21, 2022, 08:13am EDT

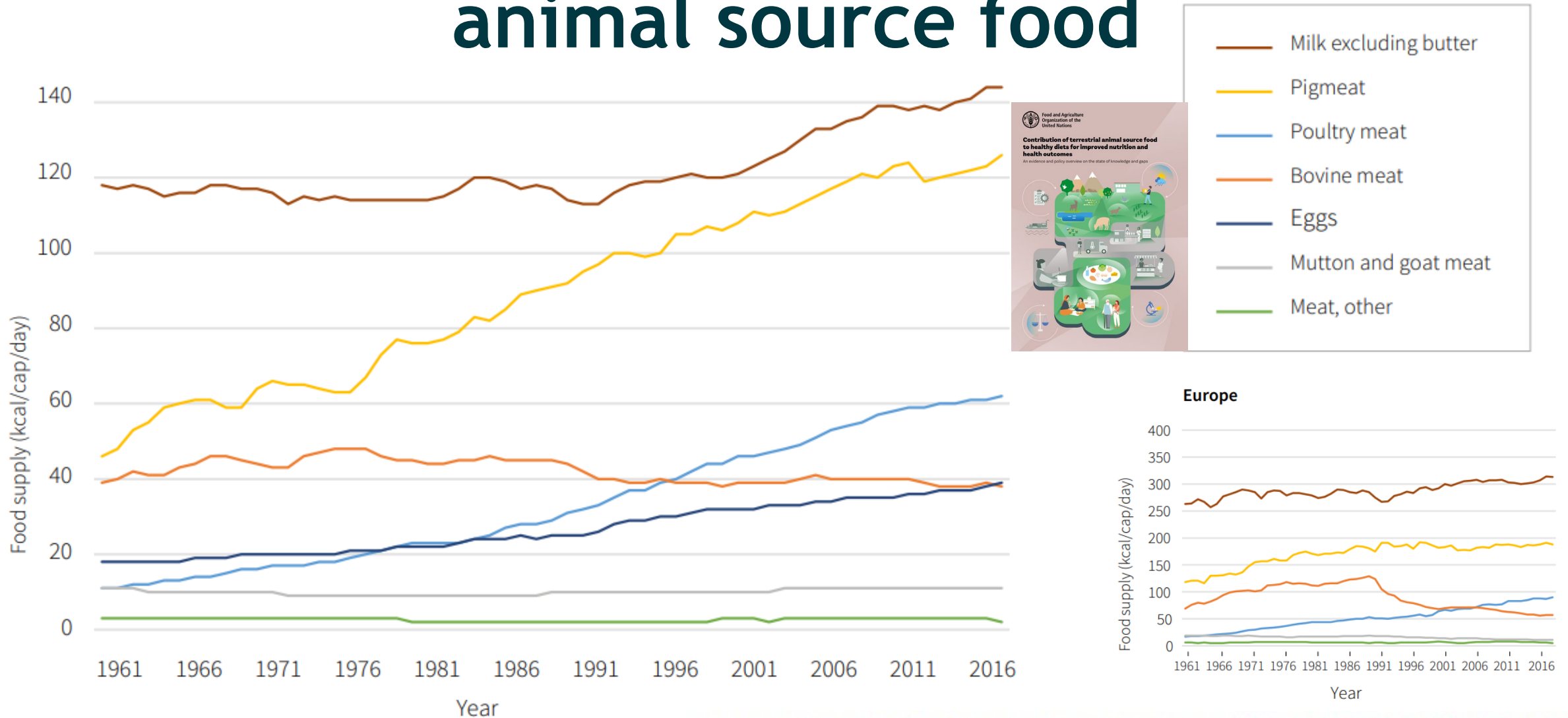


Estimated deaths prevented by global adoption of the planetary health diet

Approach 1 Comparative Risk	19%	or	11.1 million adult deaths per year
Approach 2 Global Burden of Disease	22.4%	or	10.8 million adult deaths per year
Approach 3 Empirical Disease Risk	23.6%	or	11.6 million adult deaths per year

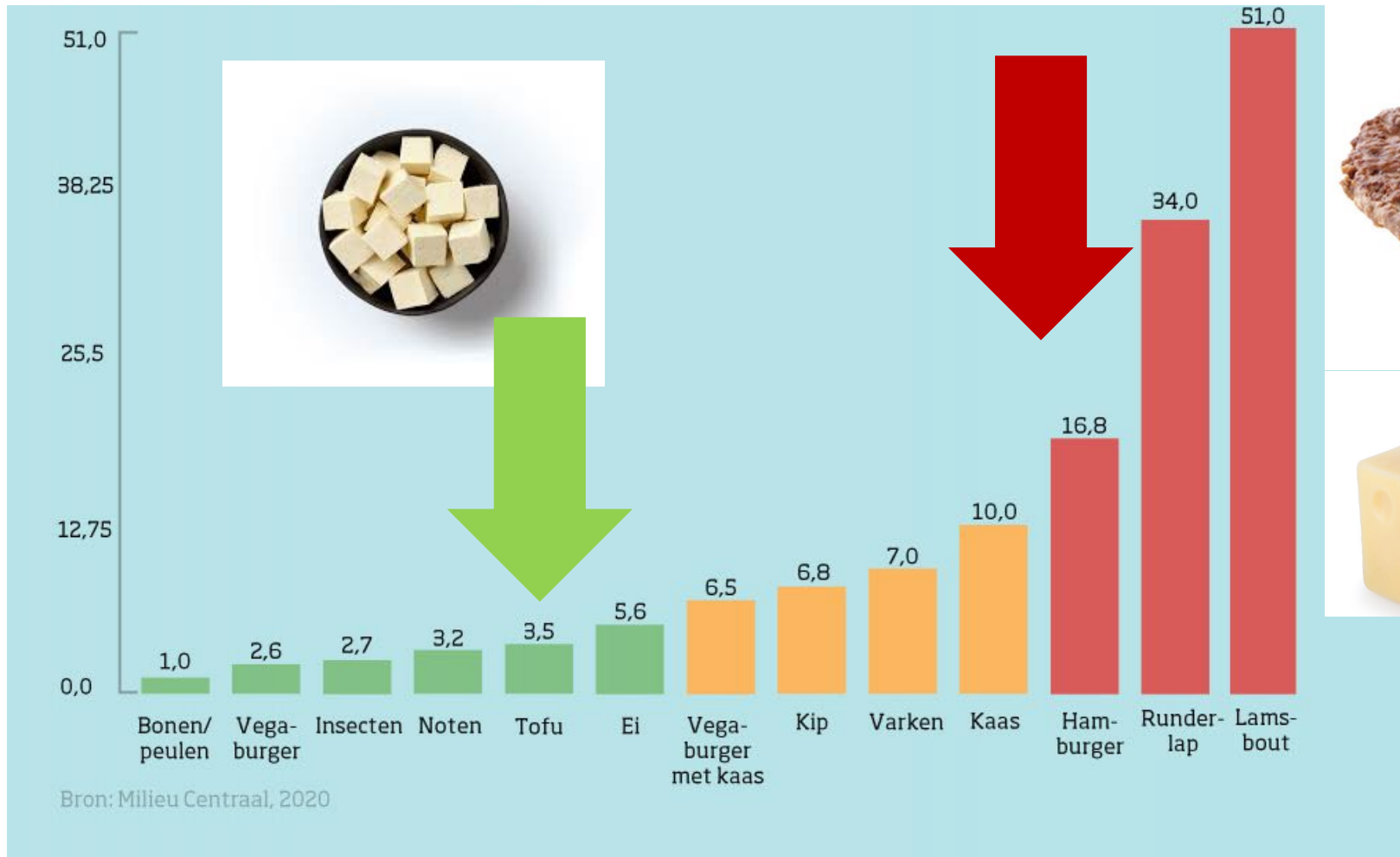


Trends in global food supply of terrestrial animal source food



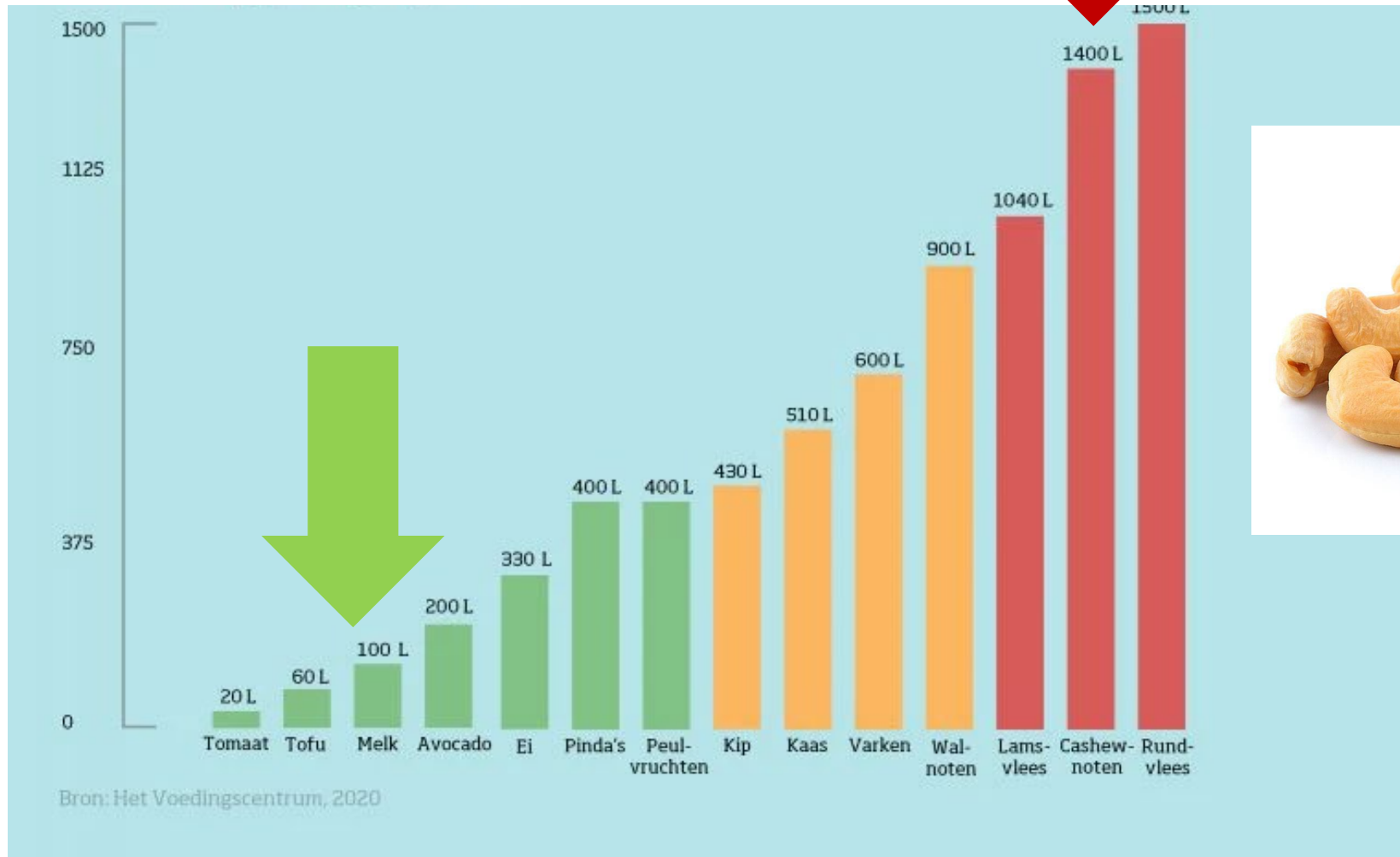


CO₂ production (kg) per kg food product





Water use (L) per 100 g food product



Health and environmental impacts of various foods

- Emphasized foods
- Optional foods
- Limited foods

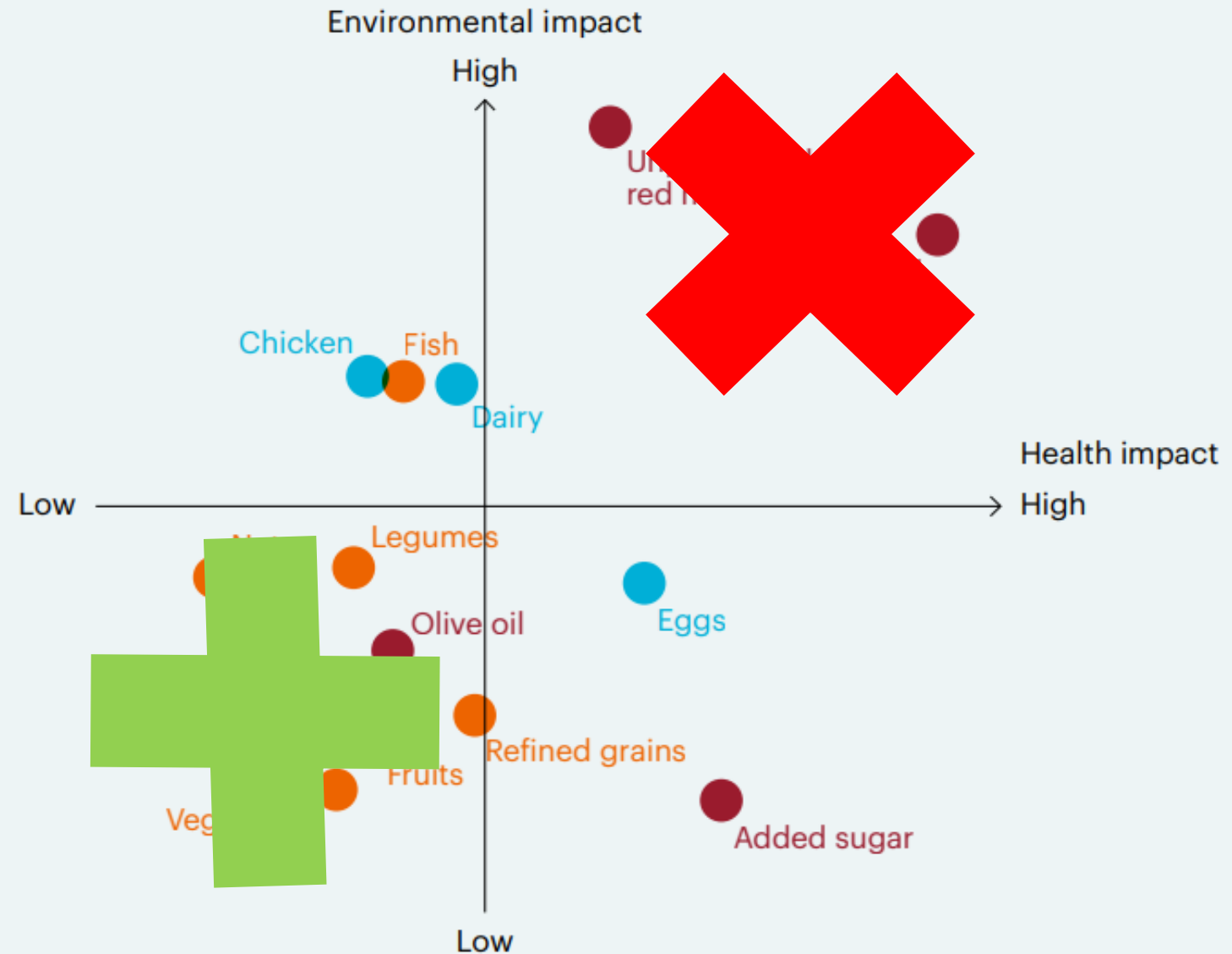


Figure 4.

The health and environmental impacts of various foods. Overconsumption of red and processed meats increases the risk to both human health and the environment. Plant foods tend to be good for both people and planet. Added sugar is a major driver of poor health but has much lower environmental impacts.

Source: Clark et al. (2019).¹⁷



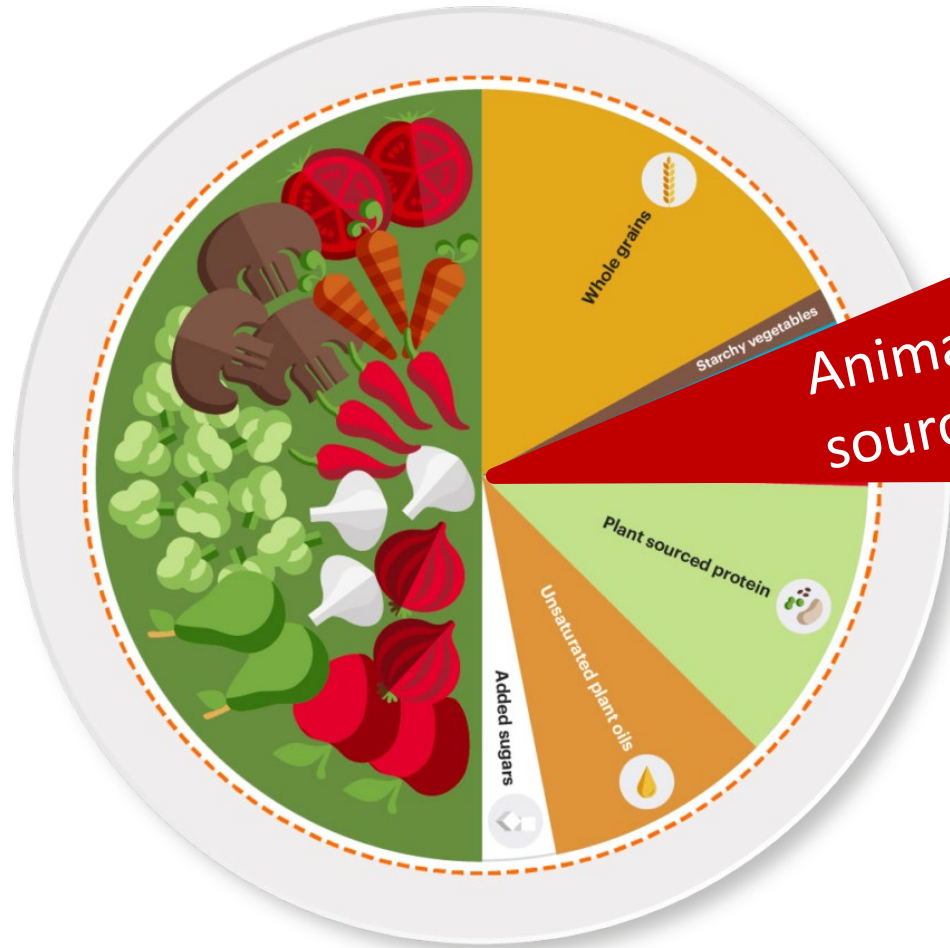
EAT Lancet: healthy & sustainable



Food Planet Health: Healthy Diets From Sustainable Food Systems.
Summary Report of the EAT-Lancet commission.



EAT Lancet: healthy & sustainable



Animal
source

84 g meat
250 g dairy

	Macronutrient intake grams per day (possible range)	Caloric intake kcal per day
Whole grains Rice, wheat, corn and other	232	811
Tubers or starchy vegetables Potatoes and cassava	50 (0-100)	39
Vegetables All vegetables	300 (200-600)	78
Fruits All fruits	200 (100-300)	126
Dairy foods Whole milk or equivalents	250 (0-500)	
Protein sources		
Beef, lamb and pork	14 (0-28)	
Chicken and other poultry	29 (0-58)	
Eggs	13 (0-25)	19
Fish	28 (0-100)	40
Legumes	75 (0-100)	284
Nuts	50 (0-75)	291
Added fats		
Unsaturated oils	40 (20-80)	354
Saturated oils	11.8 (0-11.8)	96
Added sugars		
All sugars	31 (0-31)	120



Animal:Plant based protein





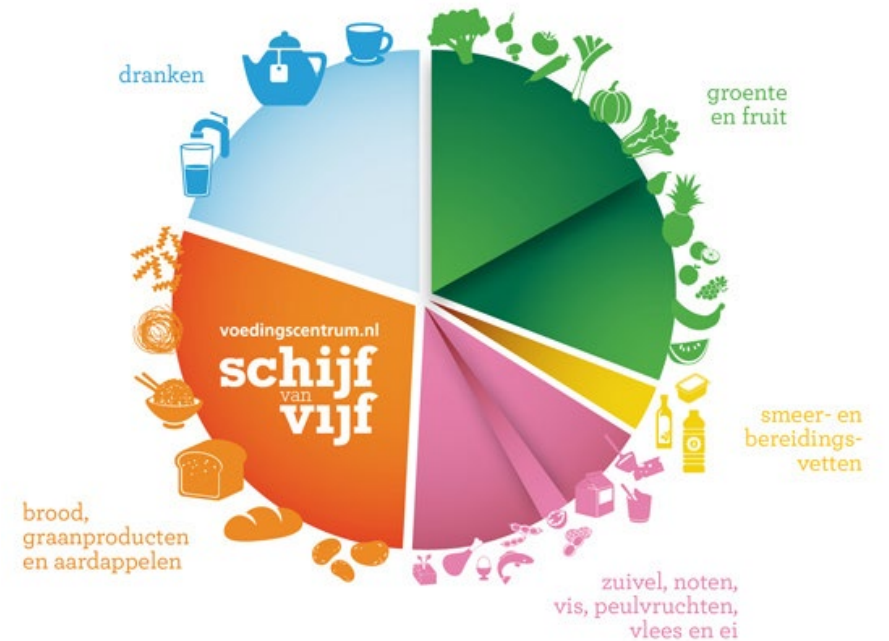
Animal:Plant based protein





Gezonde voeding met de Maaltijdschijf

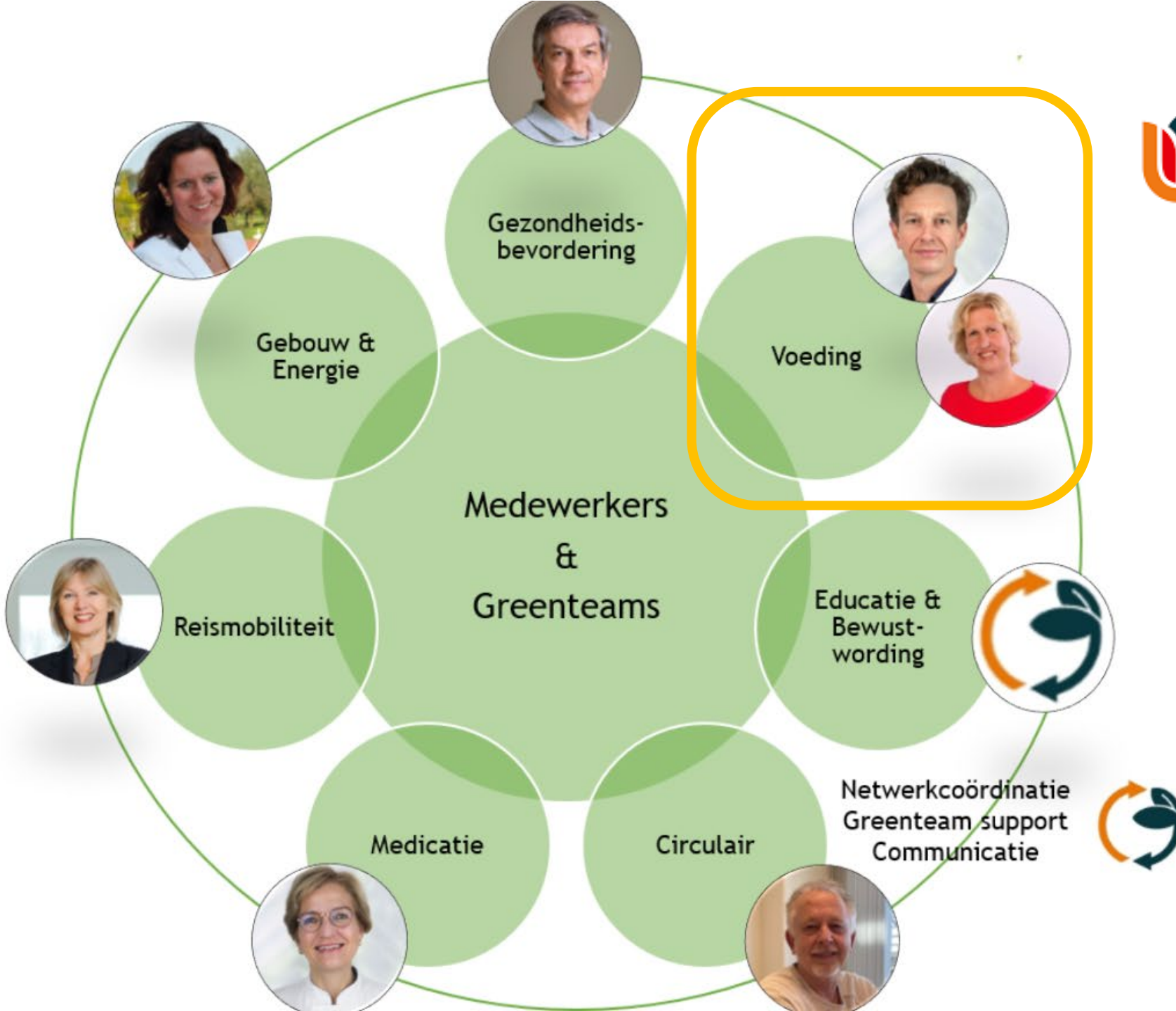
optimal
nutritional care
for all





Towards healthy & sustainable diet

1. Healthy foods **available, accessible & affordable**
2. Health & sustainability **information & education**
3. Food **marketing**
4. **Food-based dietary guidelines**
5. **Health care services**: dietary advice & interventions





Vulnerable patients: protein & nutritional status







The hospital diet
should cover ...
at least 1.2 g/kg
actual BW/day
of protein needs.

Clinical Nutrition 40 (2021) 5684–5709

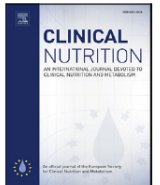


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Contents lists available at ScienceDirect

Clinical Nutrition

journal homepage: <http://www.elsevier.com/locate/clnu>



ESPEN Guideline

ESPEN guideline on hospital nutrition

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1. Protein: amount, quality, meals



Anabolic
issues

2. EAA uptake from gut



3. EAA blood flow



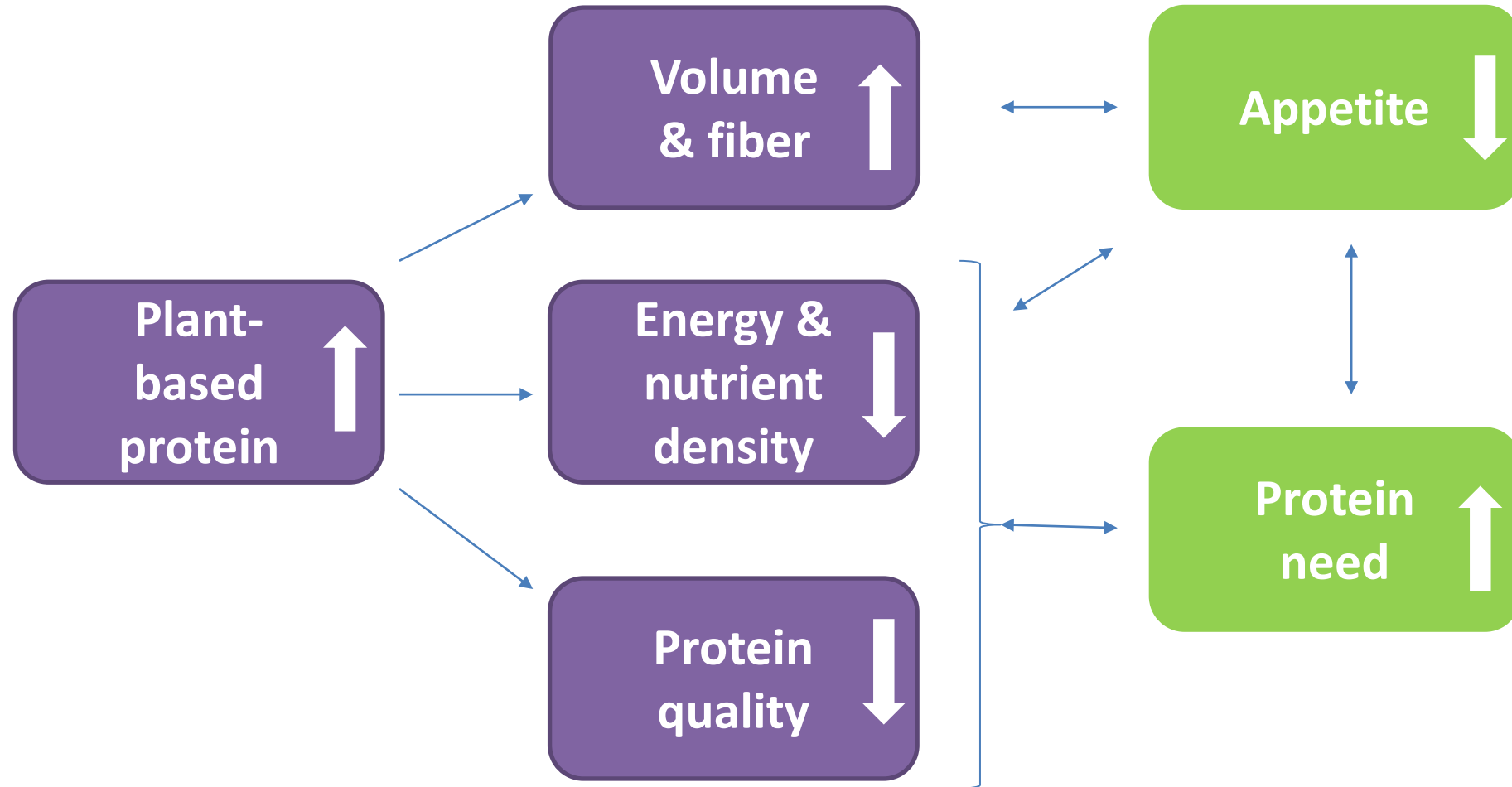
4. EAA uptake muscle cell



5. Muscle protein synthesis

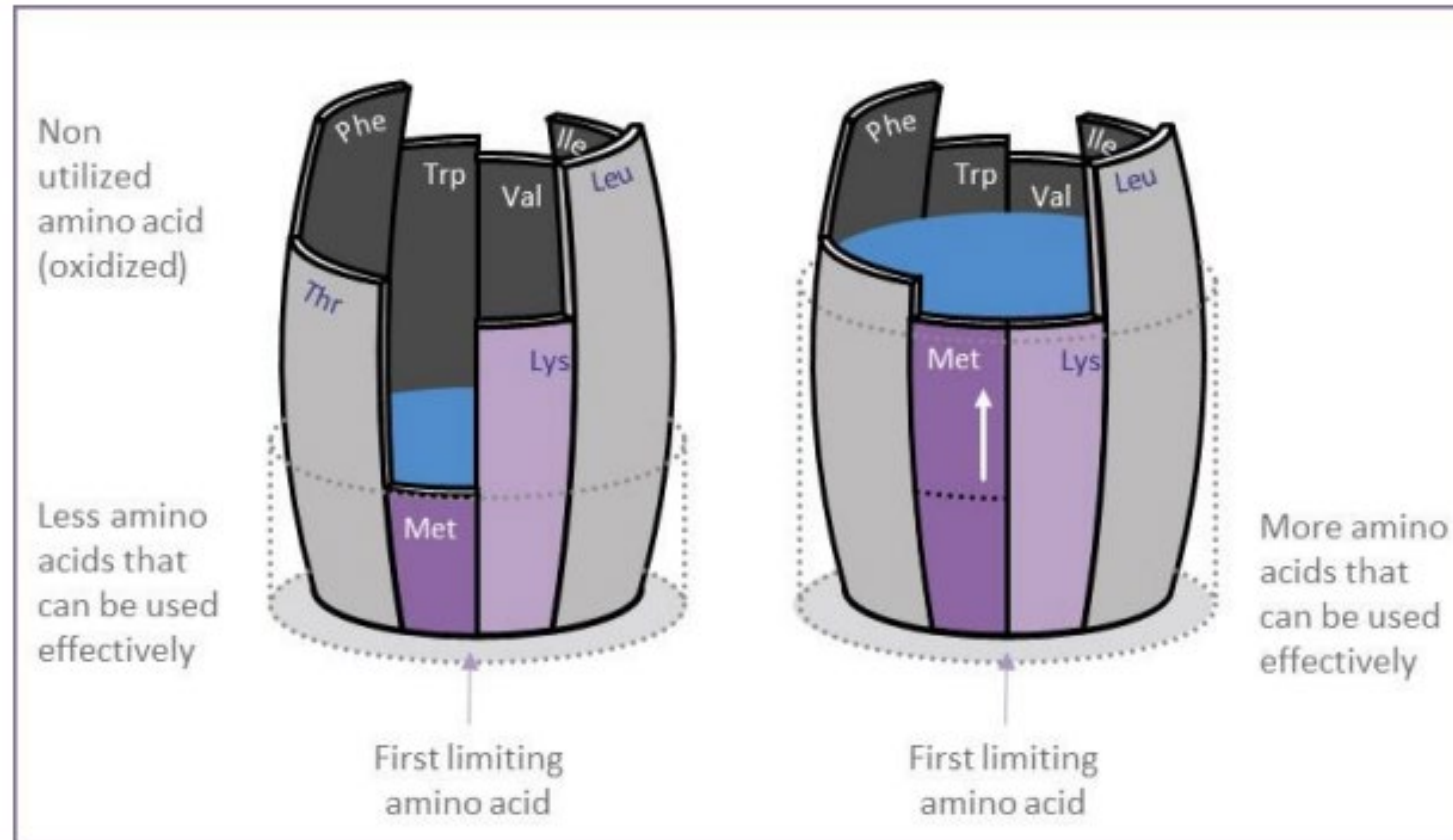


Plant-based protein & patient



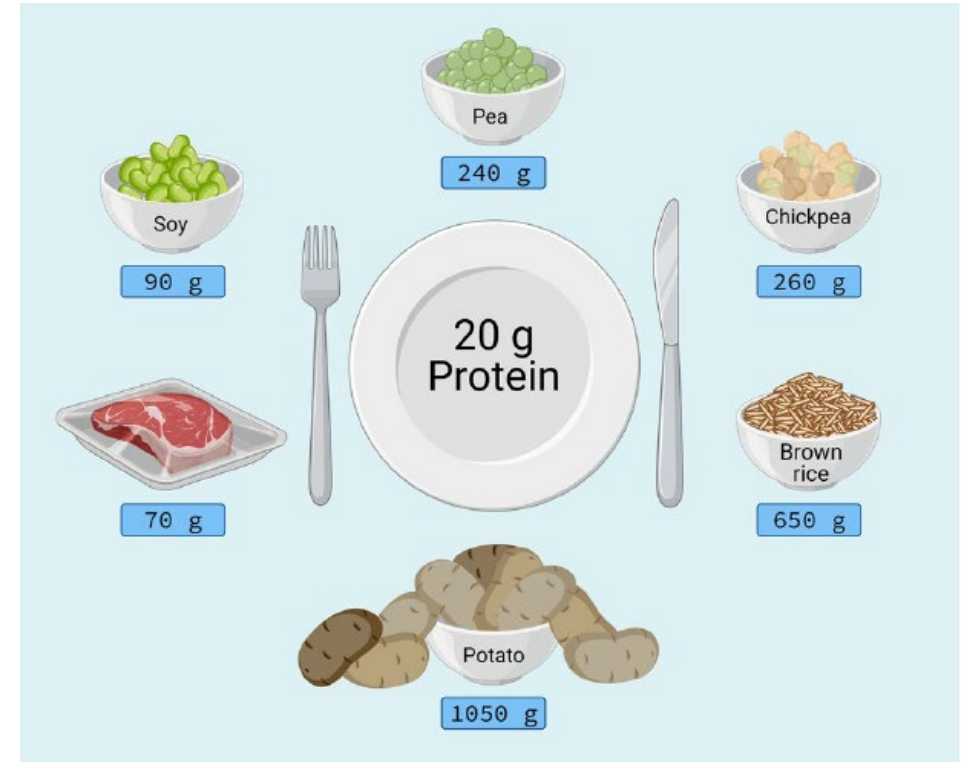
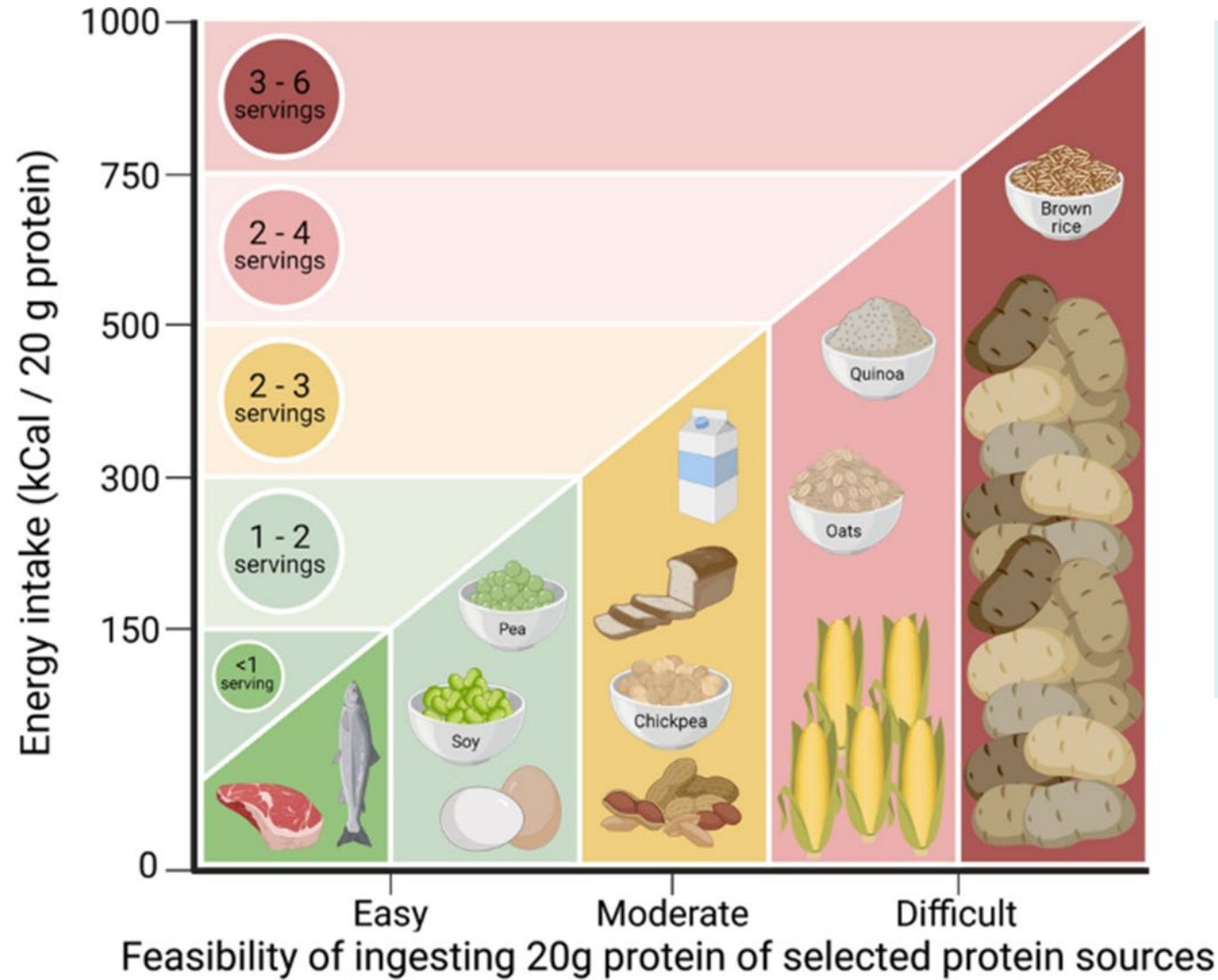


Protein quality = protein quantity





Plant-based protein portion





Potential issues & solutions

Potential issues

1 Low protein content



2 Low protein and low in a specific essential amino acid



Potential solutions

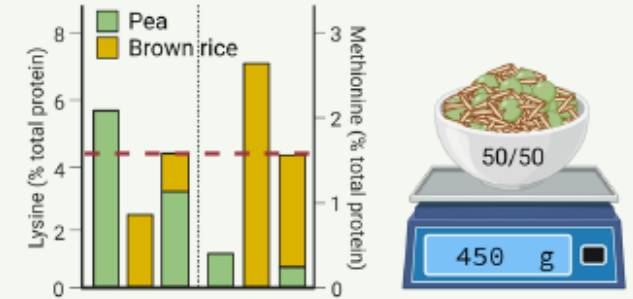
Protein extraction



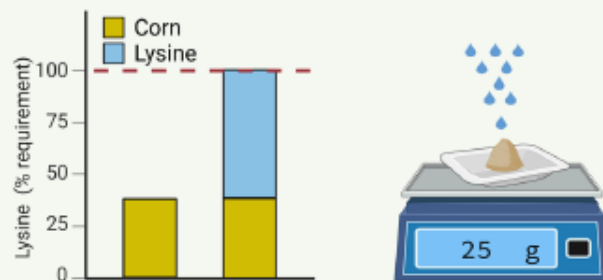
3 Low in specific essential amino acids



Protein blends



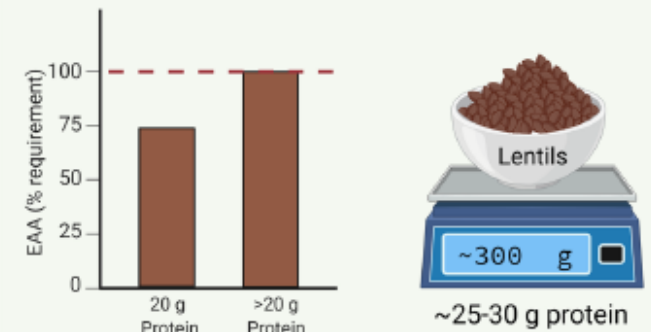
Protein fortification



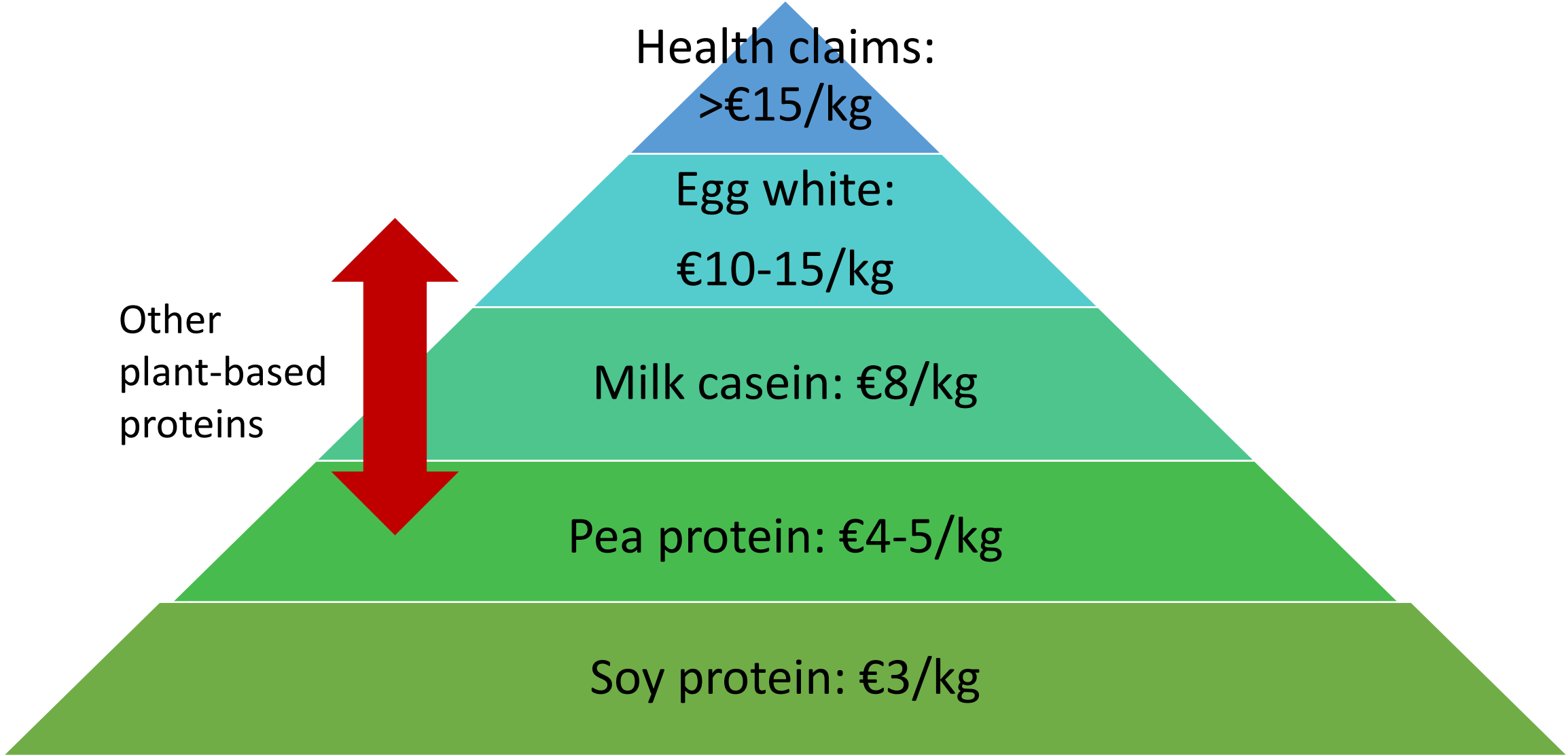
4 Overall low essential amino acid content



Increase protein intake

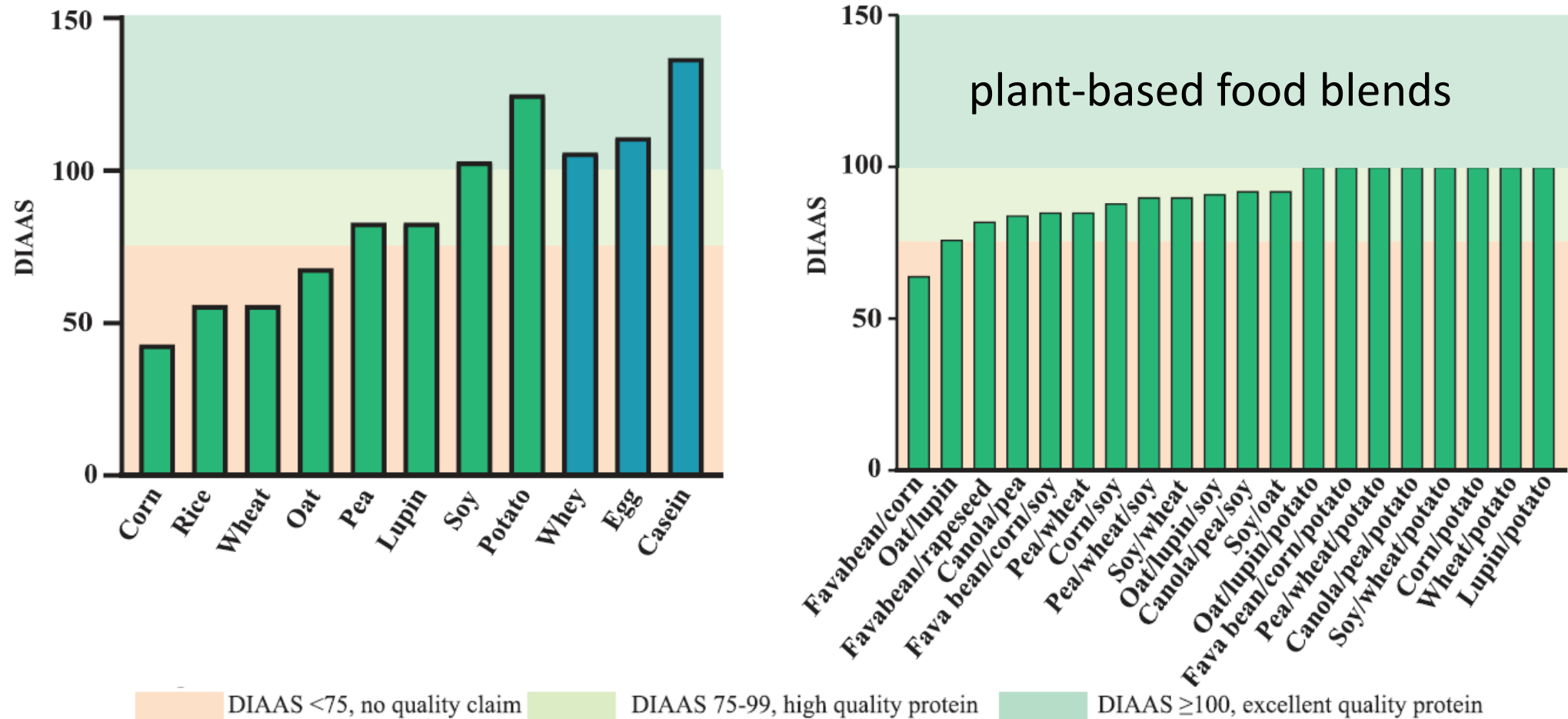


Plant-based protein: concentrate & isolate



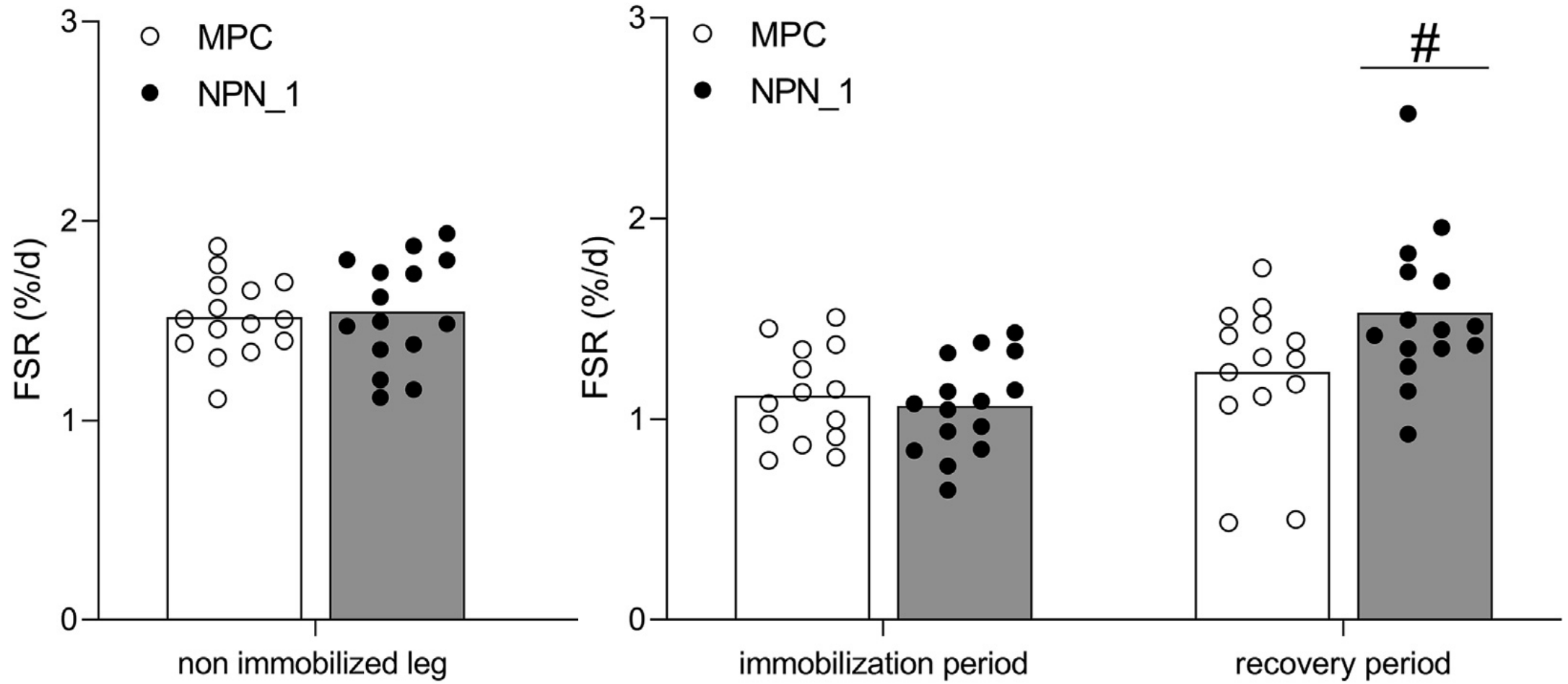


Protein quality plant-based food blends



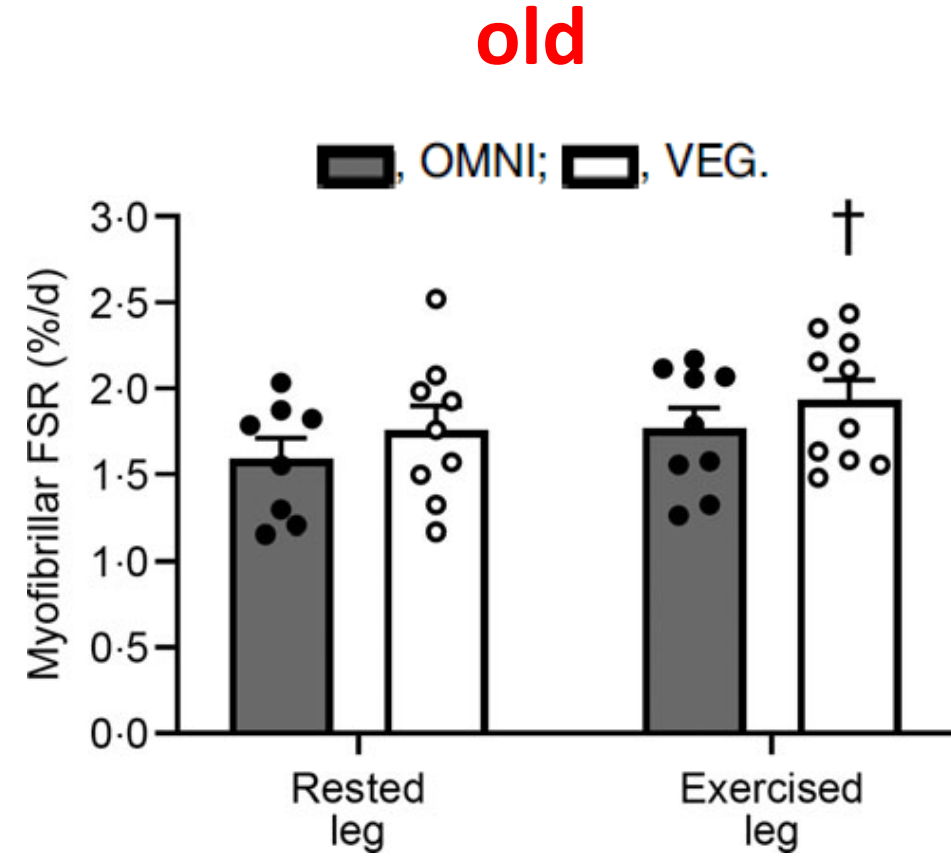
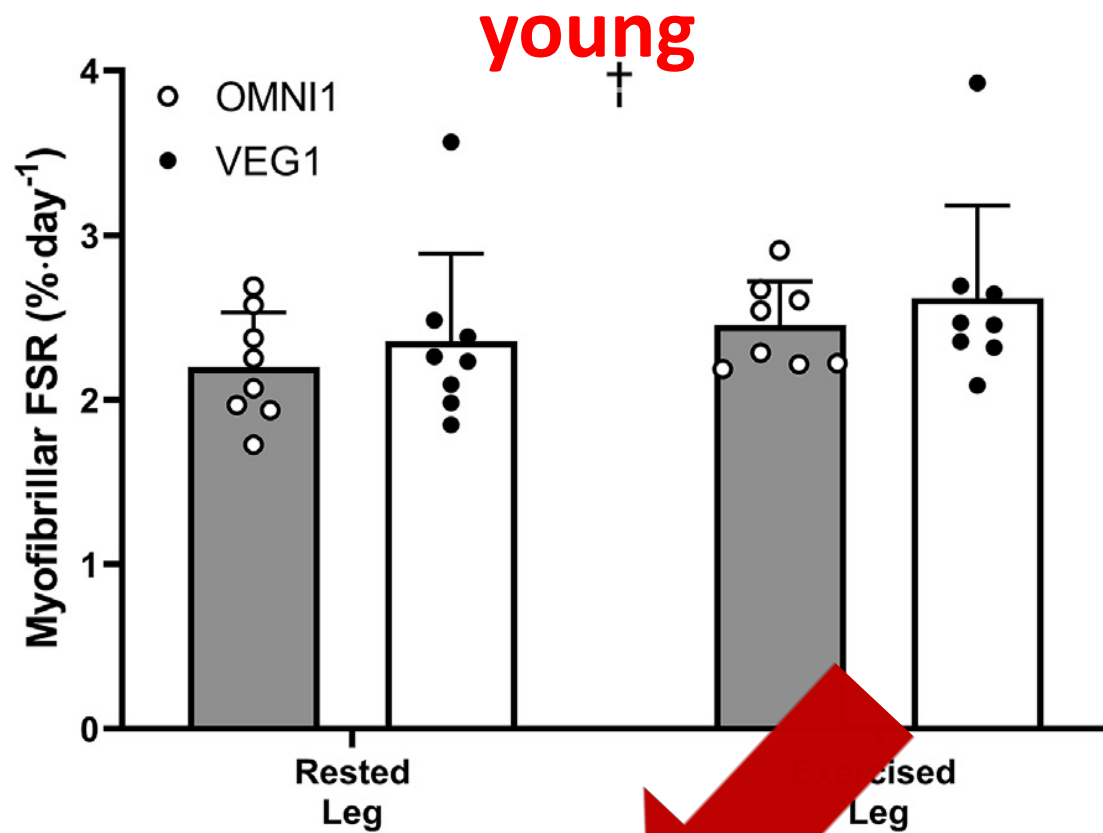


Bean vs milk based protein & muscle PS





Vegan & omnivorous diets support muscle PS





Ultra processed food



Whole Food
Plant-Based



Sustainable diet
recipe book
"2EAT"



behaviour change



Value of
food

Protein transition: ~~future world or fantasy land?~~

Reality ... go4it!

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