MEDHEUS

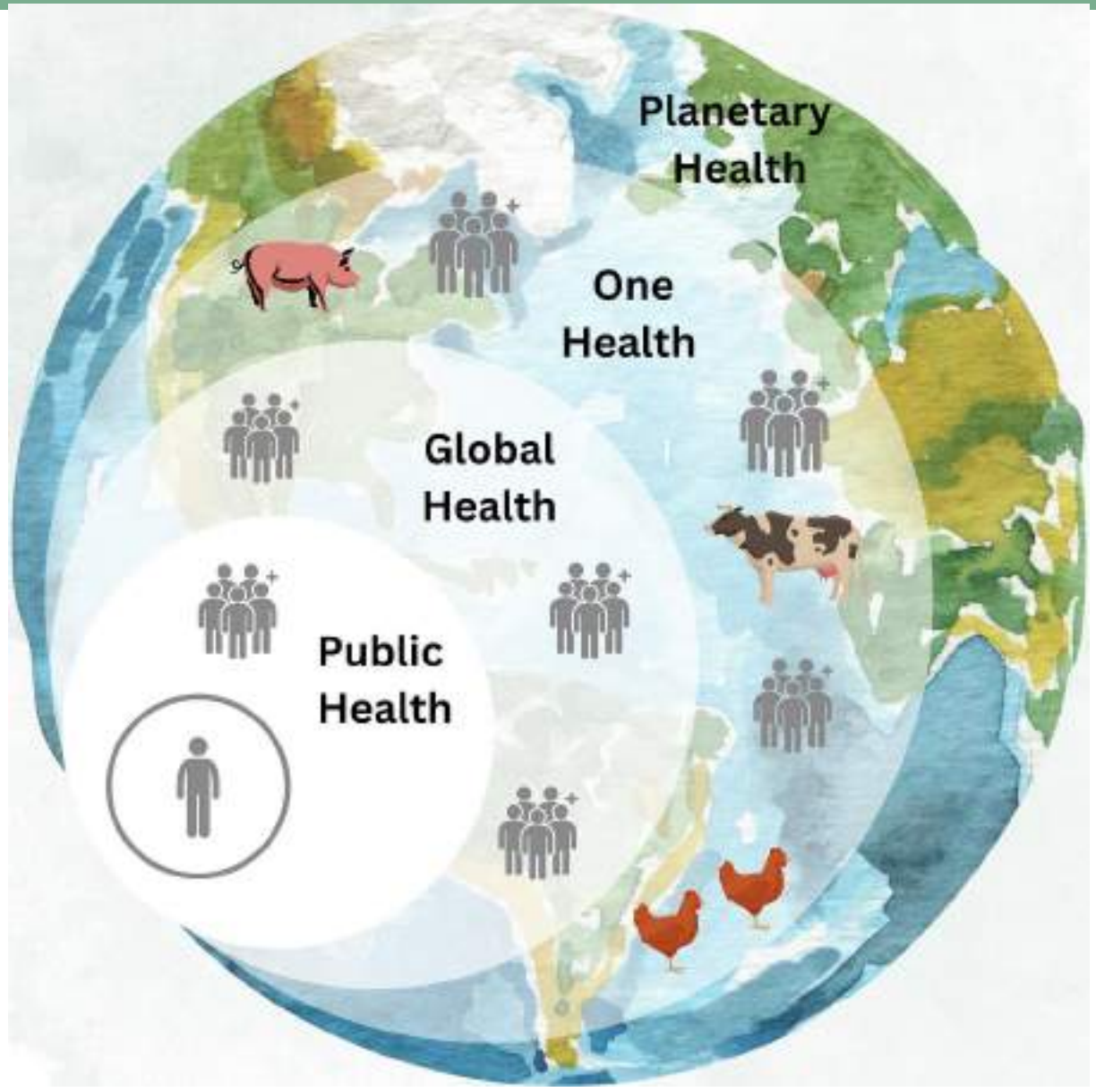
MEDITERRANEAN CULTURAL HERITAGE IN EU POLICIES

THEMATIC WORKSHOPS

MEDHEUS | Project N° 01085693 | ERASMUS-JMO-2022-MODULE

Module 2 – The Mediterranean Diet: adherence and health aspects

Elsa Lamy – MED & CHANGE



What is **health**?

Planetary Health

Planetary health was first defined in 2015 as the "health of human civilization and the state of the natural systems on which it depends."

Whitmee S, Haines A, Beyrer C, et al. Safeguarding human health in the Anthropocene epoch: report of the ***Rockefeller Foundation–Lancet commission*** *on planetary health. Lancet 2015; 386: 1973–2028*

The concept focus on:

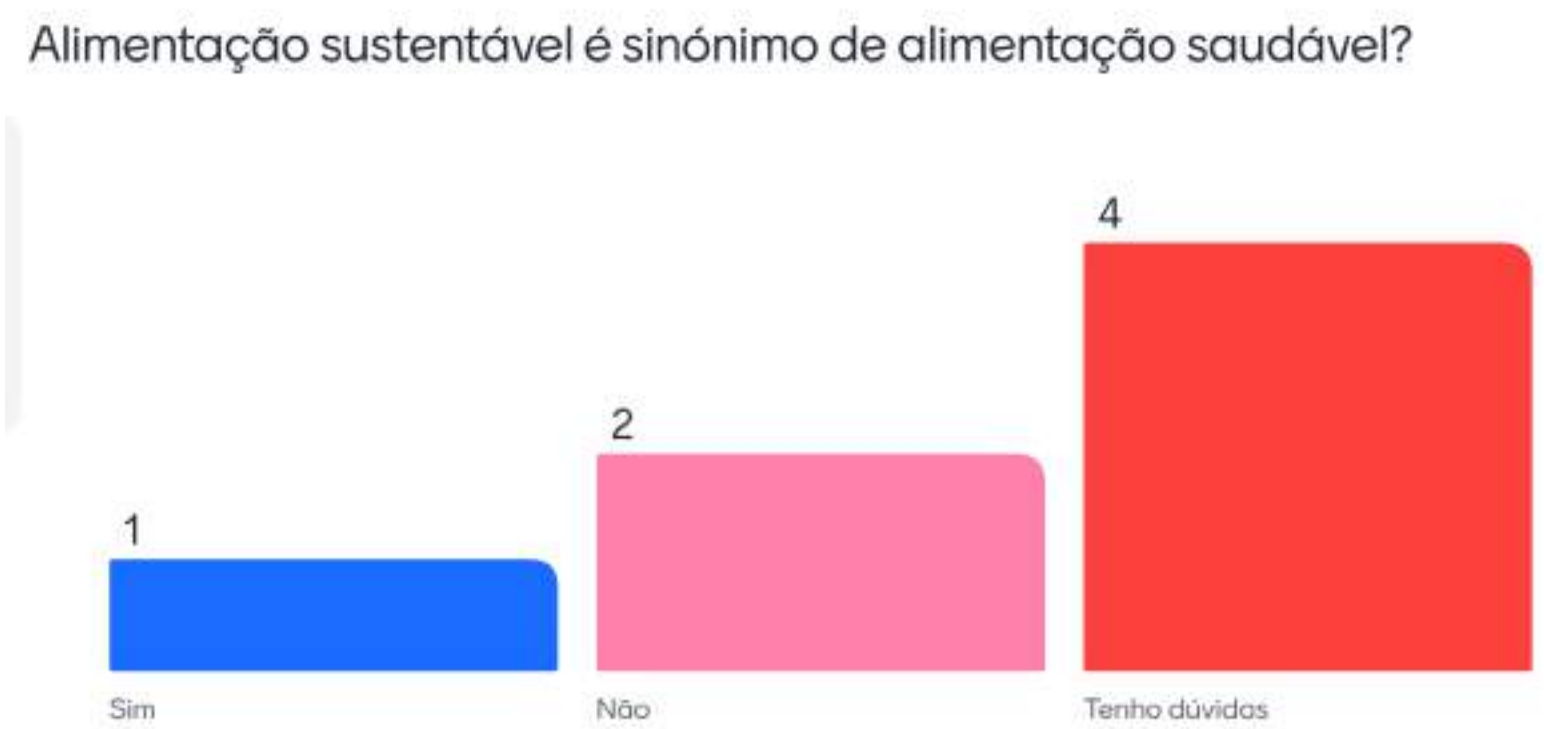
better balancing human needs with the preservation of the Earth to sustain the health and well-being of future generations. To accomplish this will require a multidisciplinary, cross-sector, and transborder approach to change mindsets and behaviors at every level, from global to local.

Environmental impact areas	Public health impact areas
• Changing abundance, composition, and distribution of species • Changing biogeochemical flows • Changing food systems • Changing land use and land cover • Climate change • Global pollution • Natural disasters • Urbanization • Water scarcity	• Civil strife and displacement • Infectious diseases • Mental health • Non-communicable diseases • Nutrition • Physical health

https://www.rockefellerfoundation.org/wp-content/uploads/Planetary-Health-101-Information-and-Resources.pdf

Sustainability

Together with the concept of Planetary Health, it comes the **highlight for sustainability**


Alimentação sustentável é sinónimo de alimentação saudável?
1
2
4
Sim
Não
Tenho dúvidas

Escreva 3 palavras que definam alimentação SAUDÁVEL

27 responses

Escreva 3 palavras que definam alimentação SUSTENTÁVEL

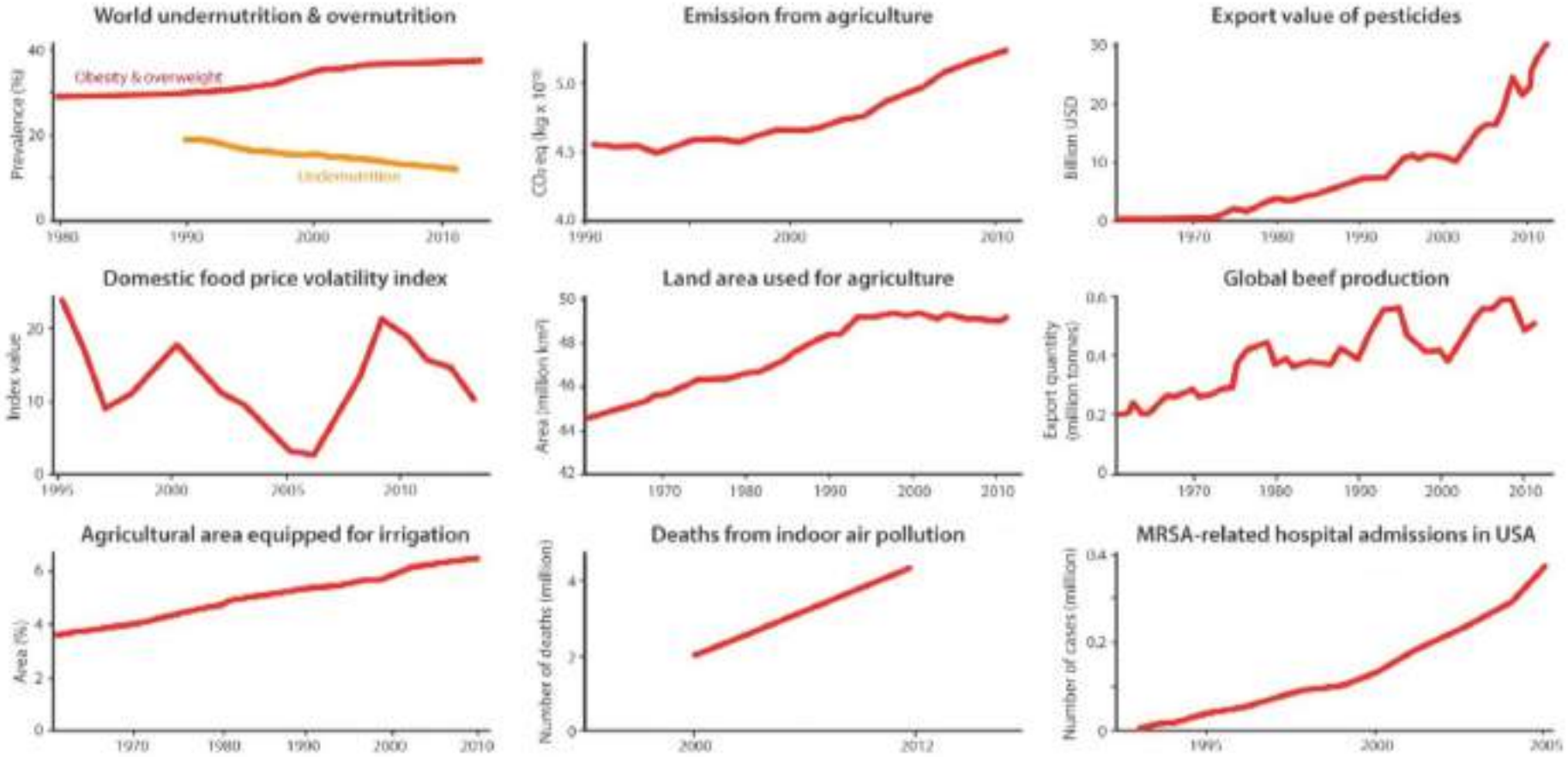
20 responses

The EAT-Lancet Commission on Food, Planet, Health

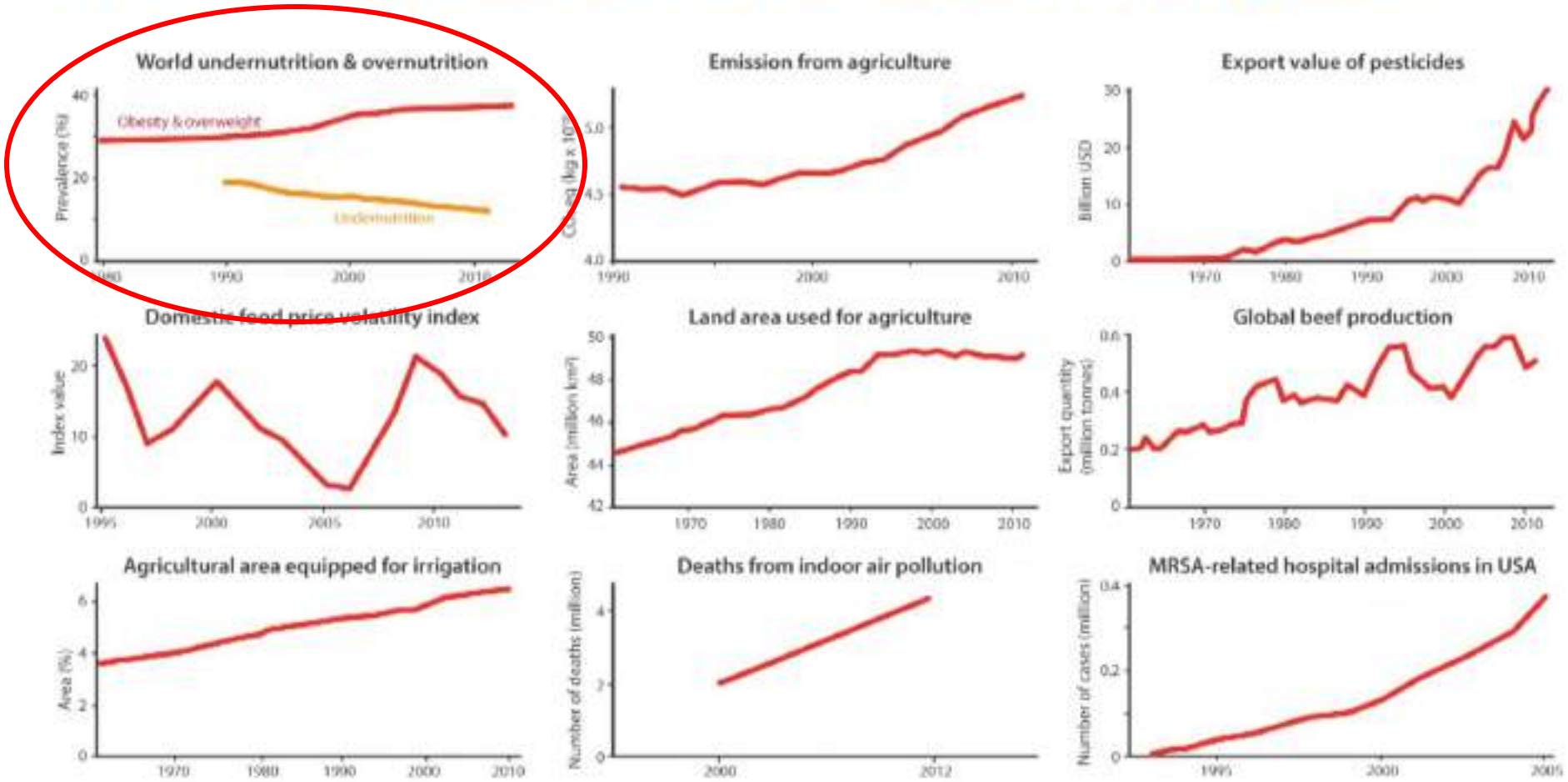
The EAT-Lancet Commission on Food, Planet, Health brought together **37 world-leading** scientists from across the globe to answer this question:

Can we feed a future population of 10 billion people a healthy diet within planetary boundaries?

A Great Acceleration in the Global Food System



A Great Acceleration in the Global Food System

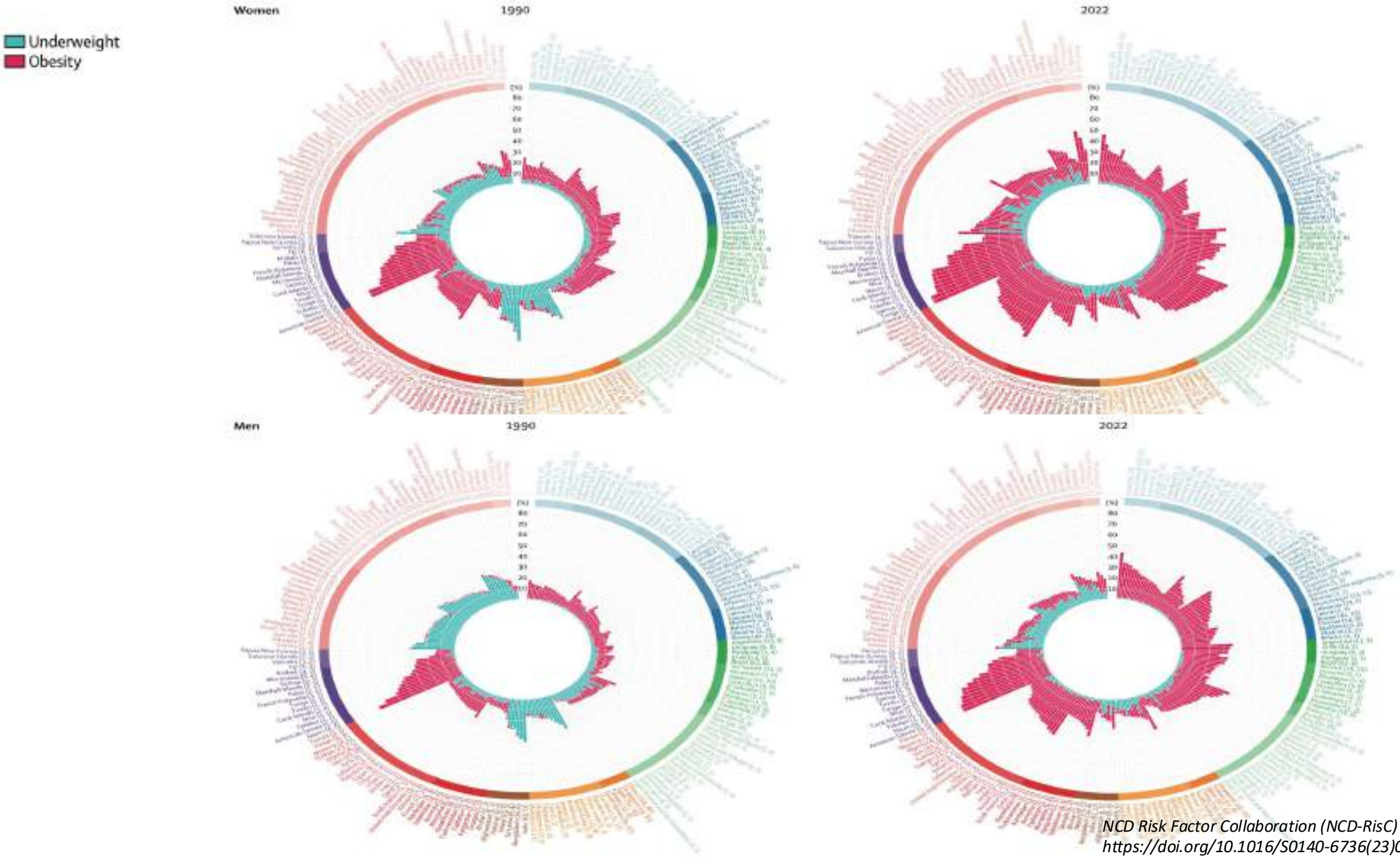


World Health Organization

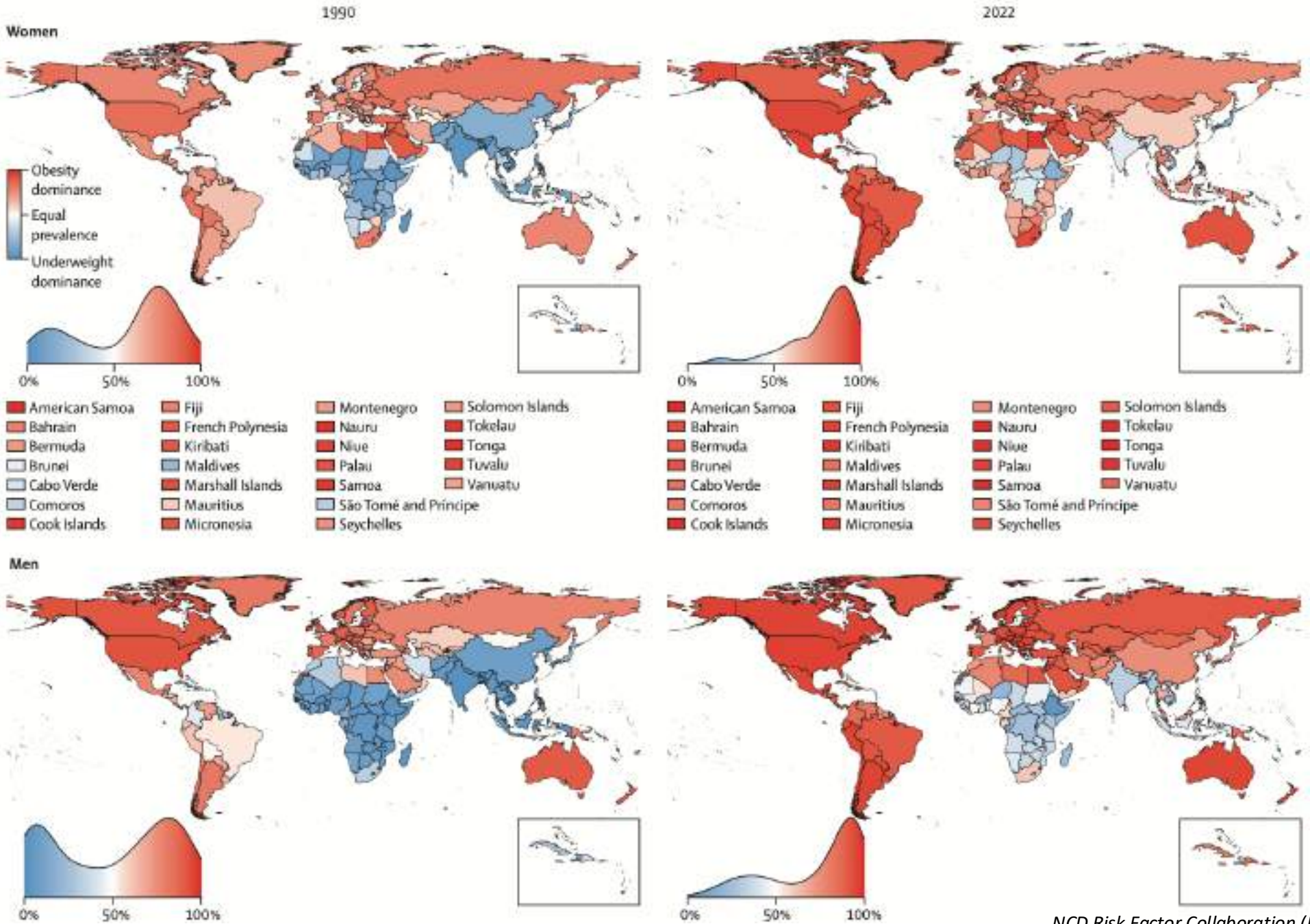
1 March 2024

Key facts

- In 2022, 1 in 8 people in the world were living with obesity.
- Worldwide adult obesity has more than doubled since 1990, and adolescent obesity has quadrupled.
- In 2022, 2.5 billion adults (18 years and older) were overweight. Of these, 890 million were living with obesity.
- In 2022, 43% of adults aged 18 years and over were overweight and 16% were living with obesity.
- In 2022, 37 million children under the age of 5 were overweight.
- Over 390 million children and adolescents aged 5–19 years were overweight in 2022, including 160 million who were living with obesity.



NCD Risk Factor Collaboration (NCD-RisC), **2024***
https://doi.org/10.1016/S0140-6736(23)02750-2



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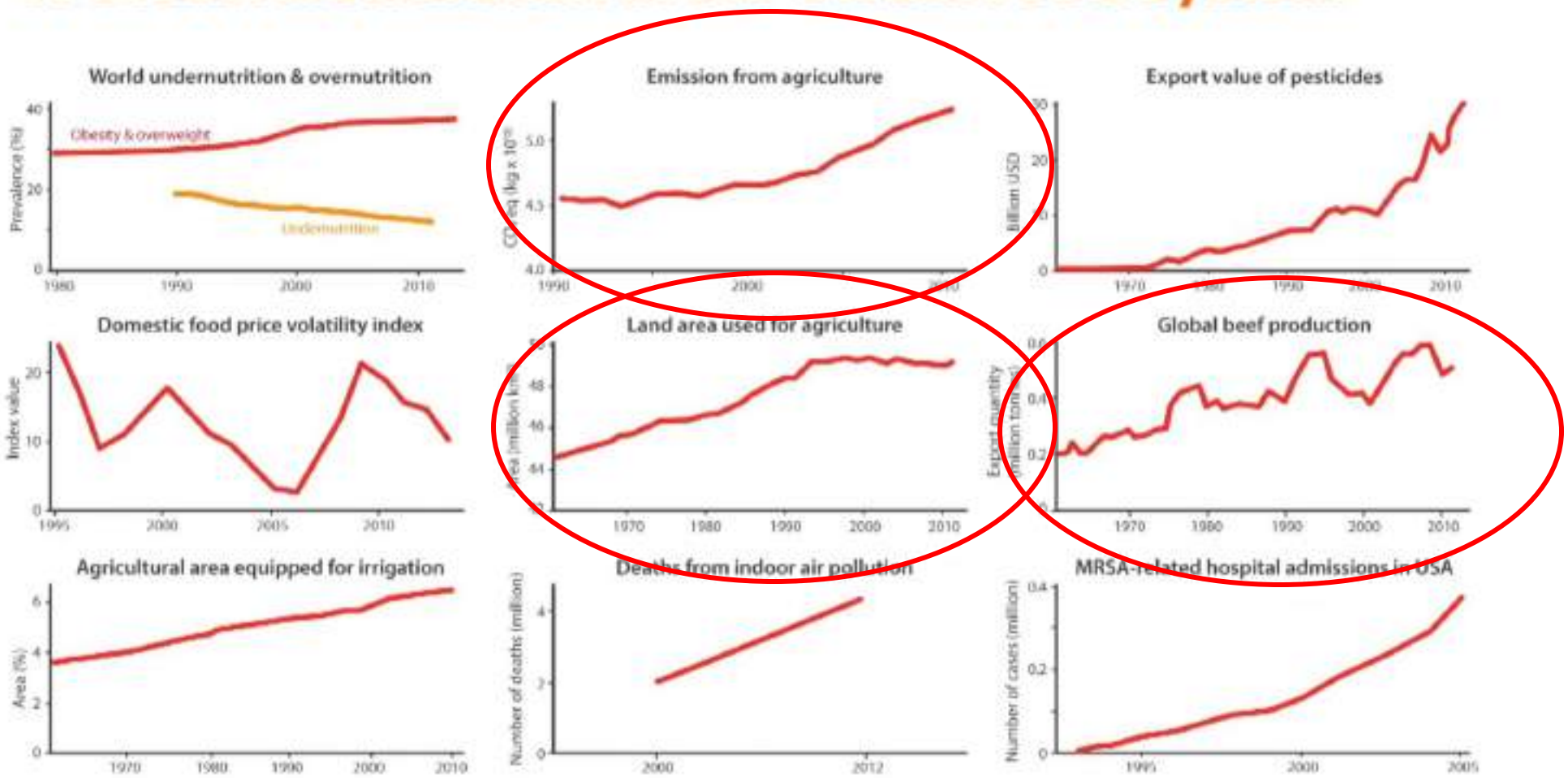
A Great Acceleration in the Global Food System



Food systems are responsible for a third of global anthropogenic GHG emissions

M. Crippa, E. Solazzo, D. Guizzardi, F. Monforti-Ferrario, F. N. Tubiello & A. Leip

Nature Food **2**, 198–209 (2021) | Cite this article

Global greenhouse gas emissions from animal-based foods are twice those of plant-based foods

Xiaoming Xu, Prateek Sharma, Shijie Shu, Tzu-Shun Lin, Philippe Ciais, Francesco N. Tubiello, Pete Smith, Nelson Campbell & Atul K. Jain

Nature Food **2**, 724–732 (2021) | Cite this article

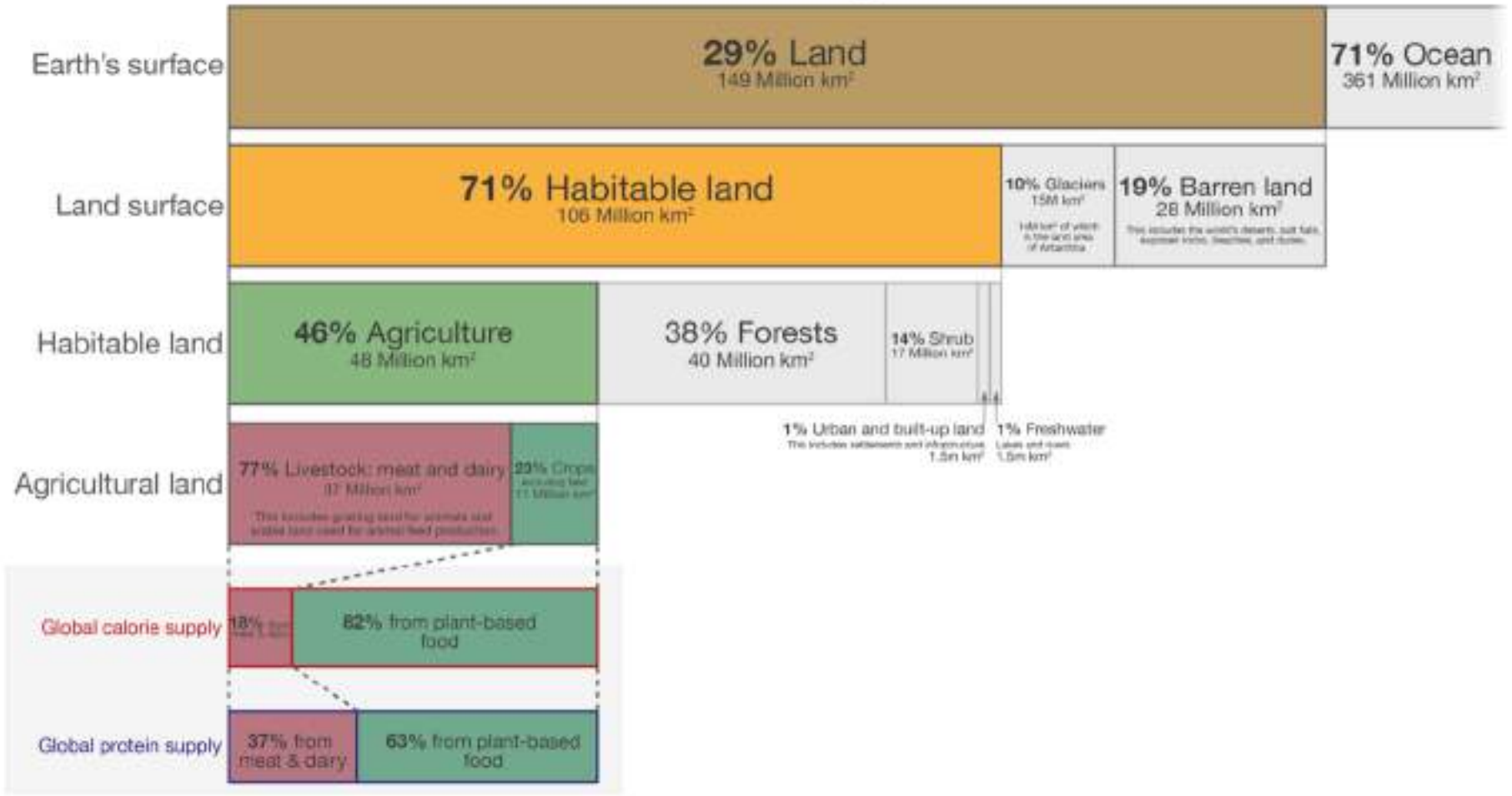
Cradle-to-grave emissions from food loss and waste represent half of total greenhouse gas emissions from food systems

Jingyu Zhu, Zhenyi Luo, Tingting Sun, Wenxuan Li, Wei Zhou, Xiaonan Wang, Xunchang Fei, Huanhuan Tong & Ke Yin

Nature Food **4**, 247–256 (2023) | Cite this article

Global land use for food production

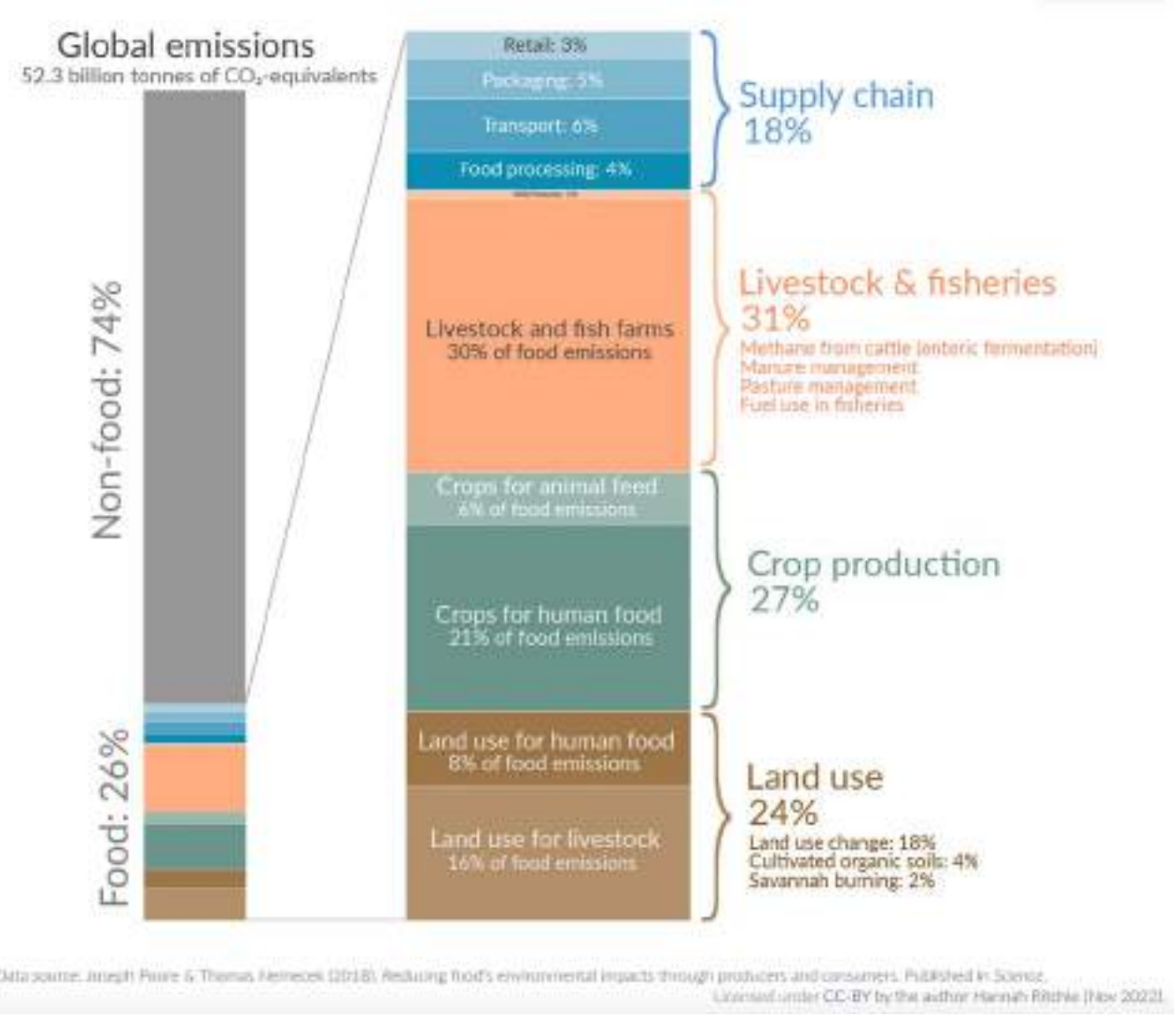
Our World in Data



Data source: UN Food and Agriculture Organization (FAO)
OurWorldinData.org – Research and data to make progress against the world's largest problems.

Date published: November 2019.

% Global emissions ($CO_{2\ equivalent}$) for each segment of food production



Data source: Joseph Poore & Thomas Nemecek (2018). Reducing food's environmental impacts through producers and consumers. Published in Science.
Licensed under CC-BY by the author Hannah Ritchie (Nov 2022).

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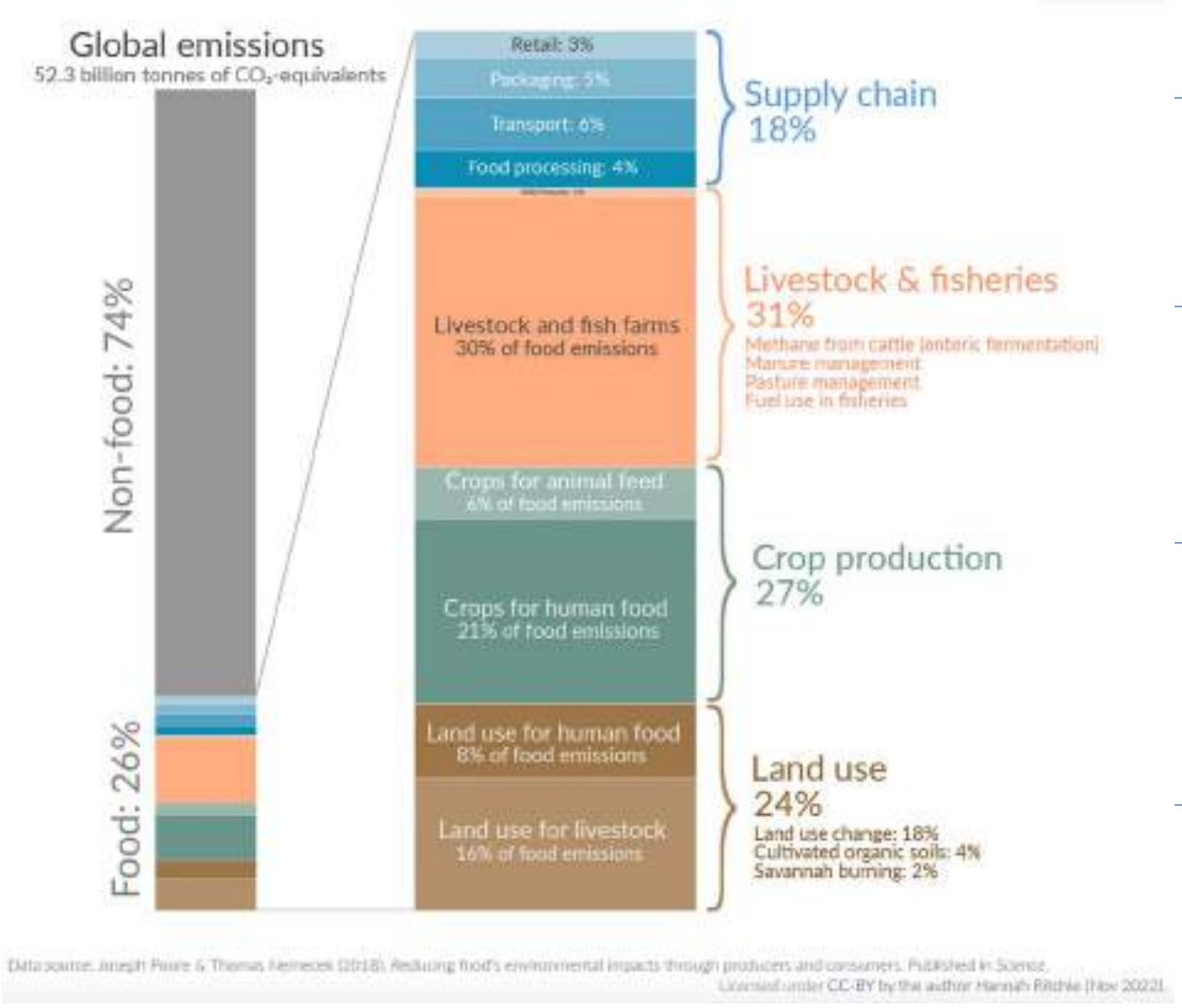

Data source: Joseph Poore & Thomas Nemecek (2018). Reducing food's environmental impacts through producers and consumers. Published in Science.
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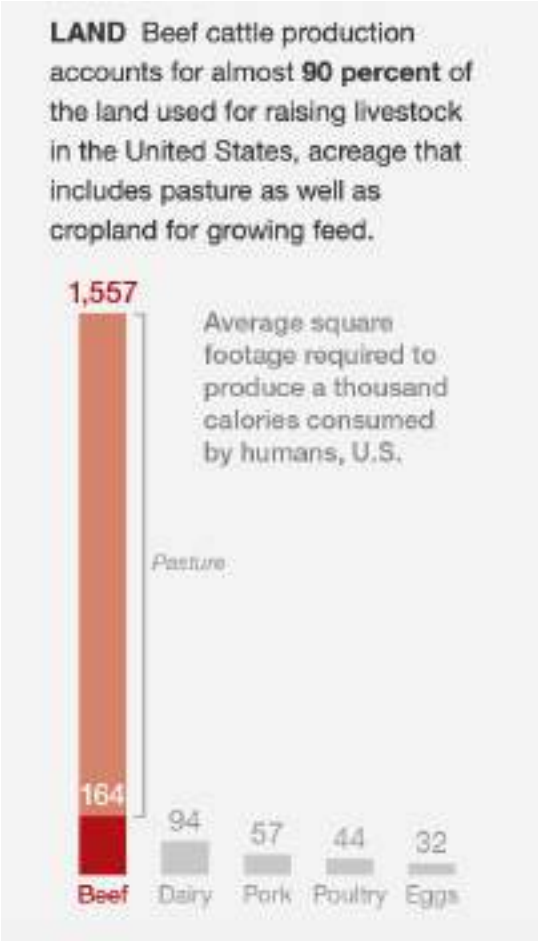
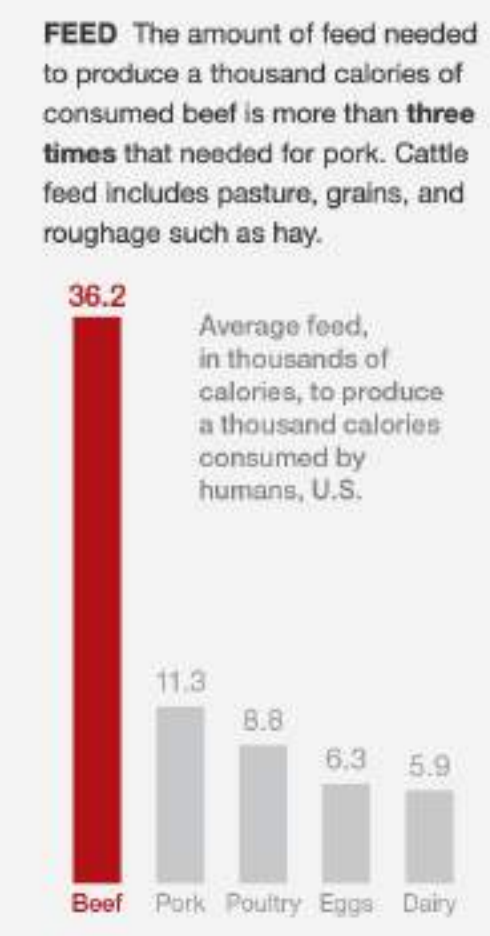
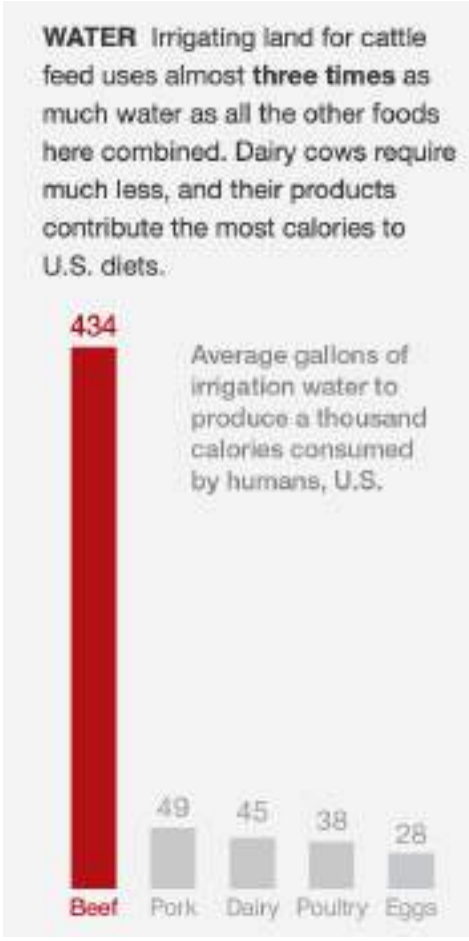
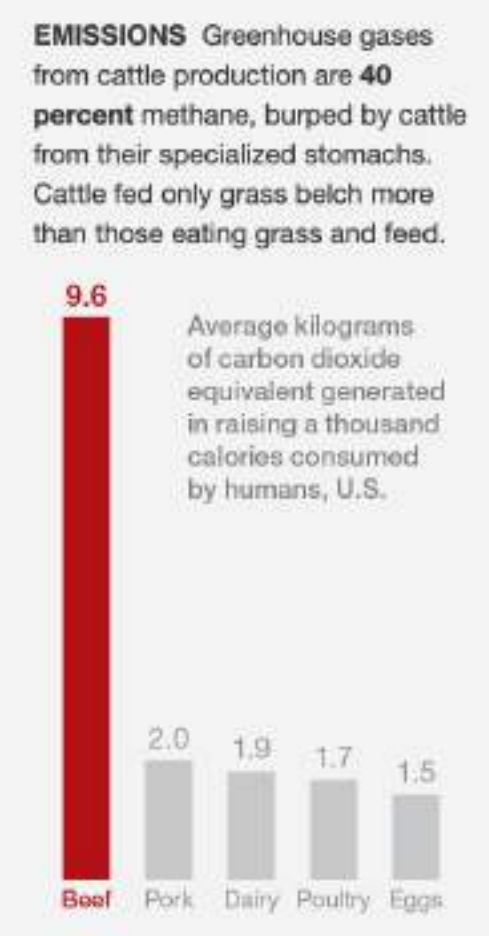
In terms of meat – Ruminant meat (red meat) has higher foot print









nature climate change

Analysis

https://doi.org/10.1038/s41558-023-01605-8

Future warming from global food consumption

Received: 15 August 2022
Accepted: 12 January 2023
Published online: 6 March 2023

Catherine C. Ivanovich, Tianyi Sun, Doria R. Gordon & Ilissa B. Ocko

Utilizando estas trajetórias individuais de emissões de GEE como dados do modelo, descobrimos que ***se os atuais padrões alimentares e práticas de produção agrícola continuarem até ao final do século, o consumo global de alimentos por si só poderia contribuir entre 0,7 ± 0,2 e 0,9 ± 0,2 °C*** *acima do aquecimento atual. níveis, dependendo da tendência de crescimento populacional*

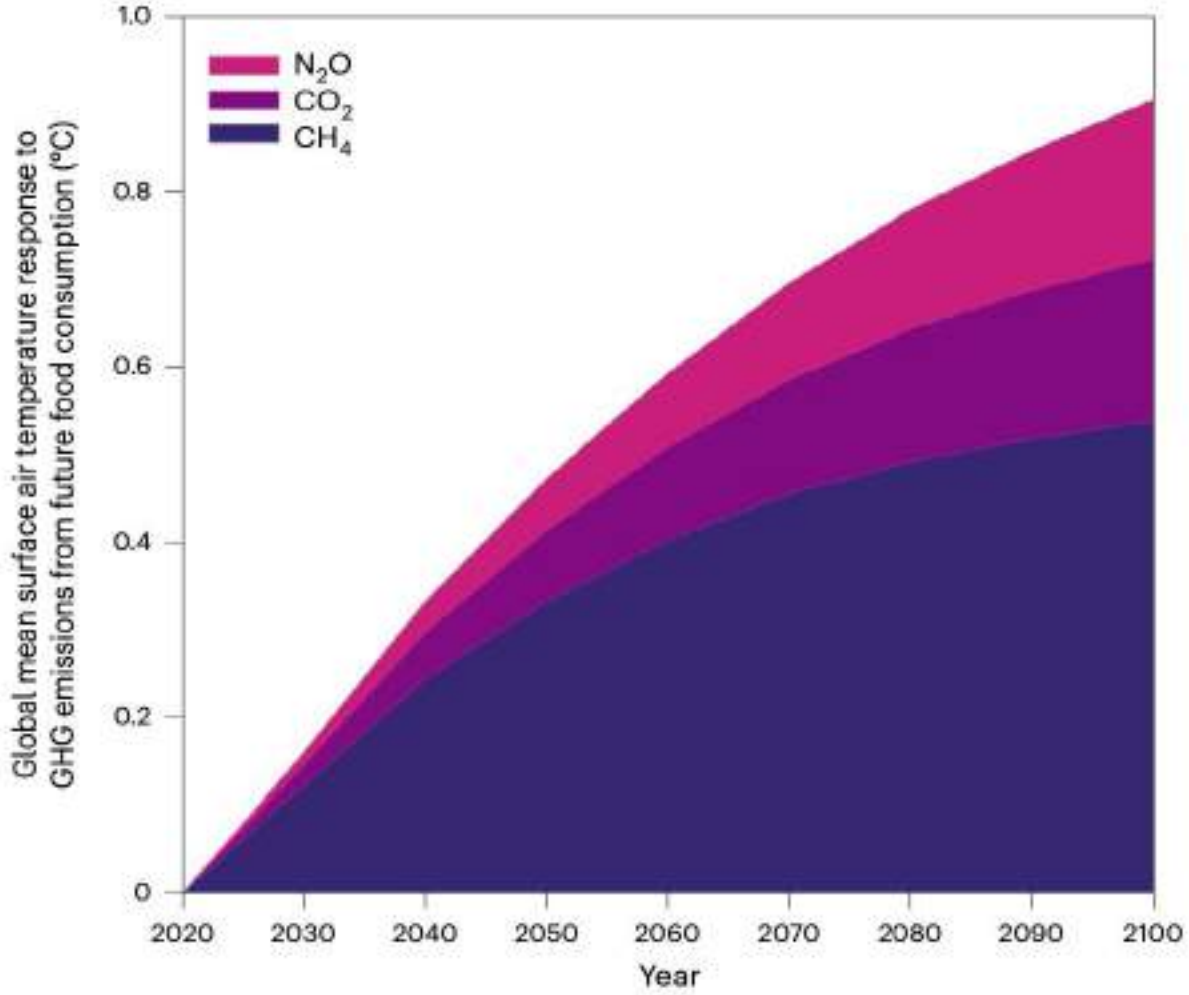


Fig. 2 | Global mean surface air temperature responses attributed to individual GHG emissions (methane, carbon dioxide and nitrous oxide) from future food consumption under a high-population projection.

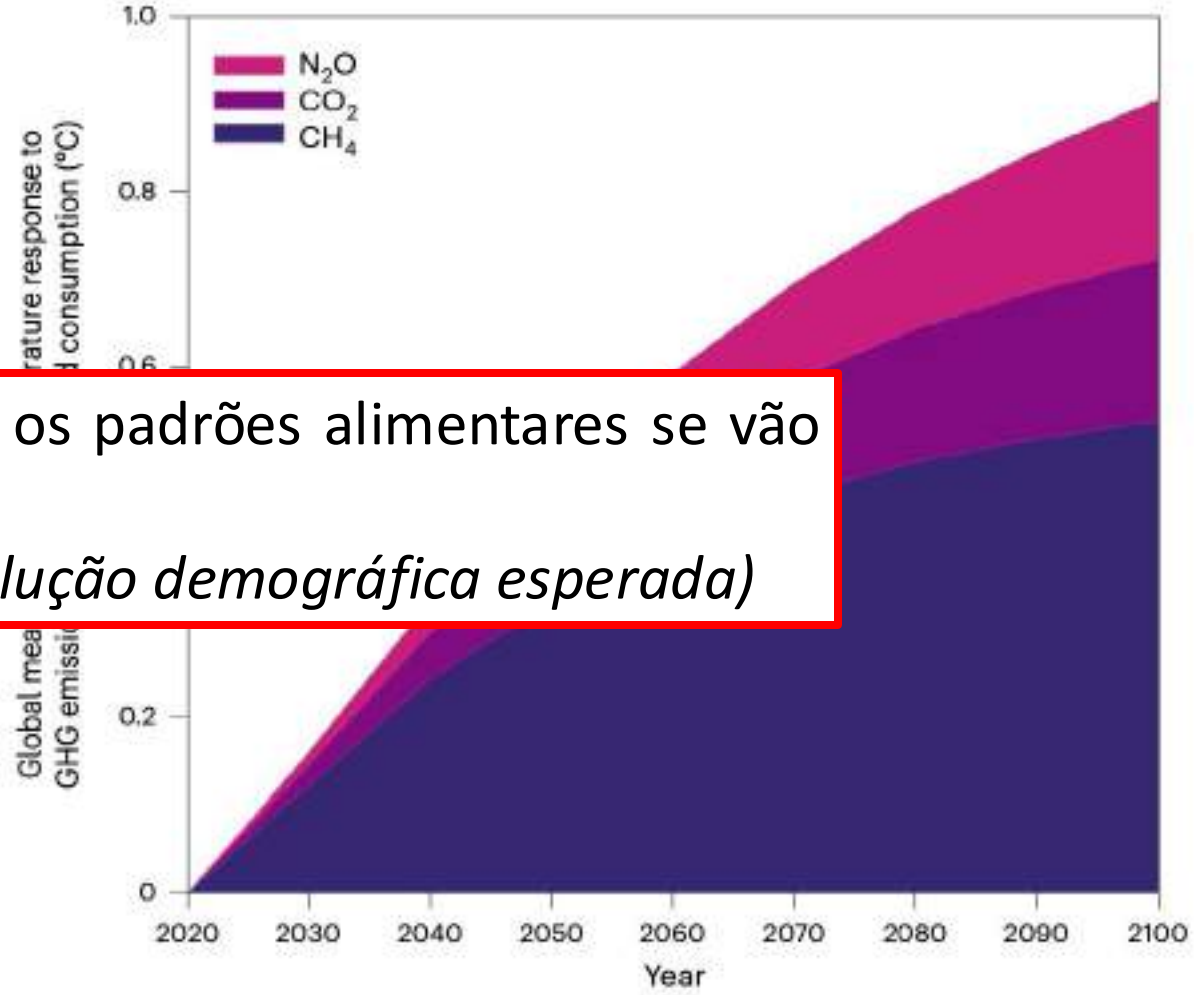
nature climate change

Analysis

Future warming from global food consumption

Estimativas baseadas na assunção de que os padrões alimentares se vão manter os mesmos que atualmente
(o que não é verdade, de acordo com a evolução demográfica esperada)

Utilizando [illegible] como dados do modelo, descobrimos que ***se os atuais padrões alimentares e práticas de produção agrícola continuarem até ao final do século, o consumo global de alimentos por si só poderia contribuir entre 0,7 ± 0,2 e 0,9 ± 0,2 °C*** *acima do aquecimento atual. níveis, dependendo da tendência de crescimento populacional*



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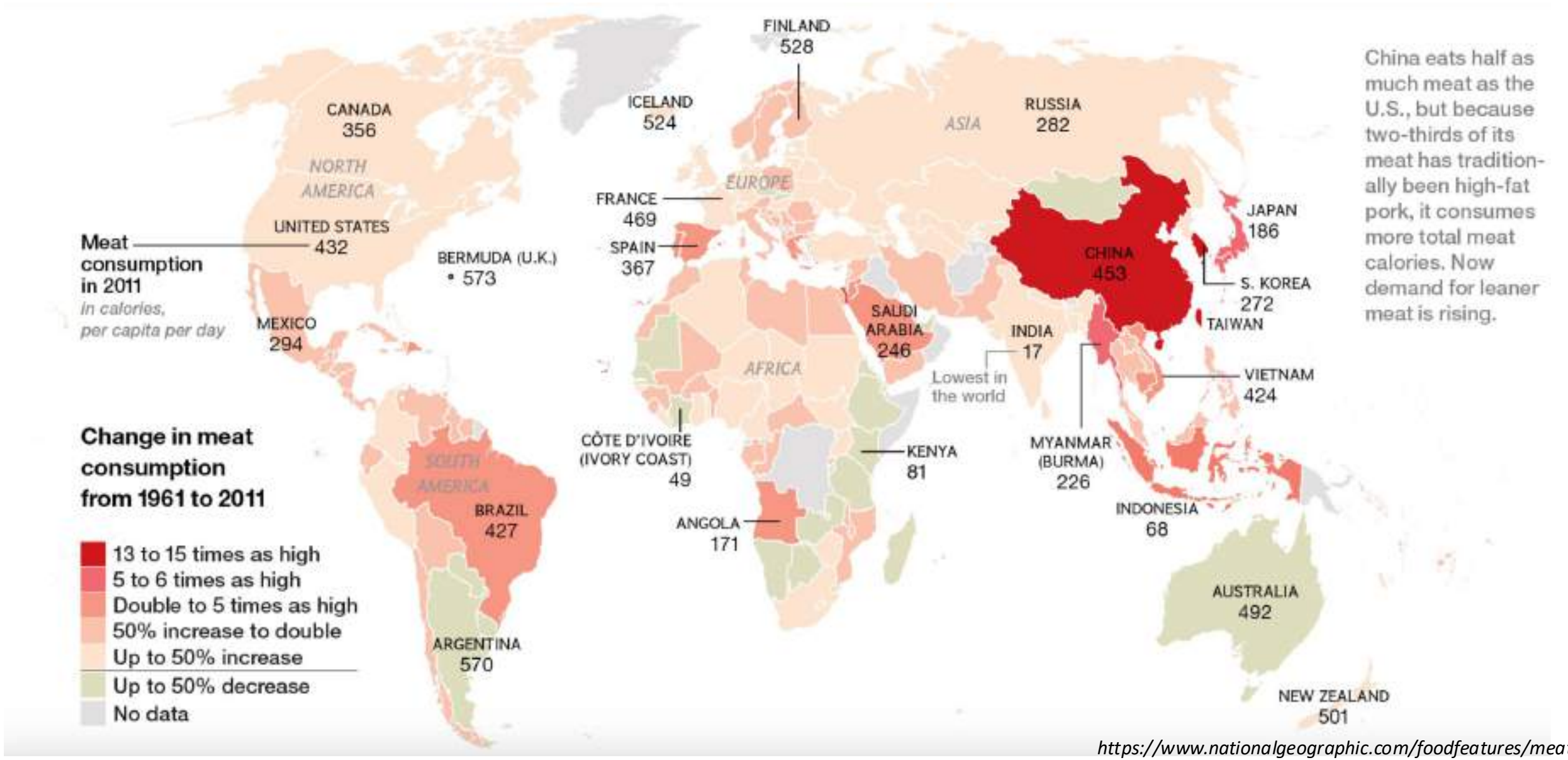
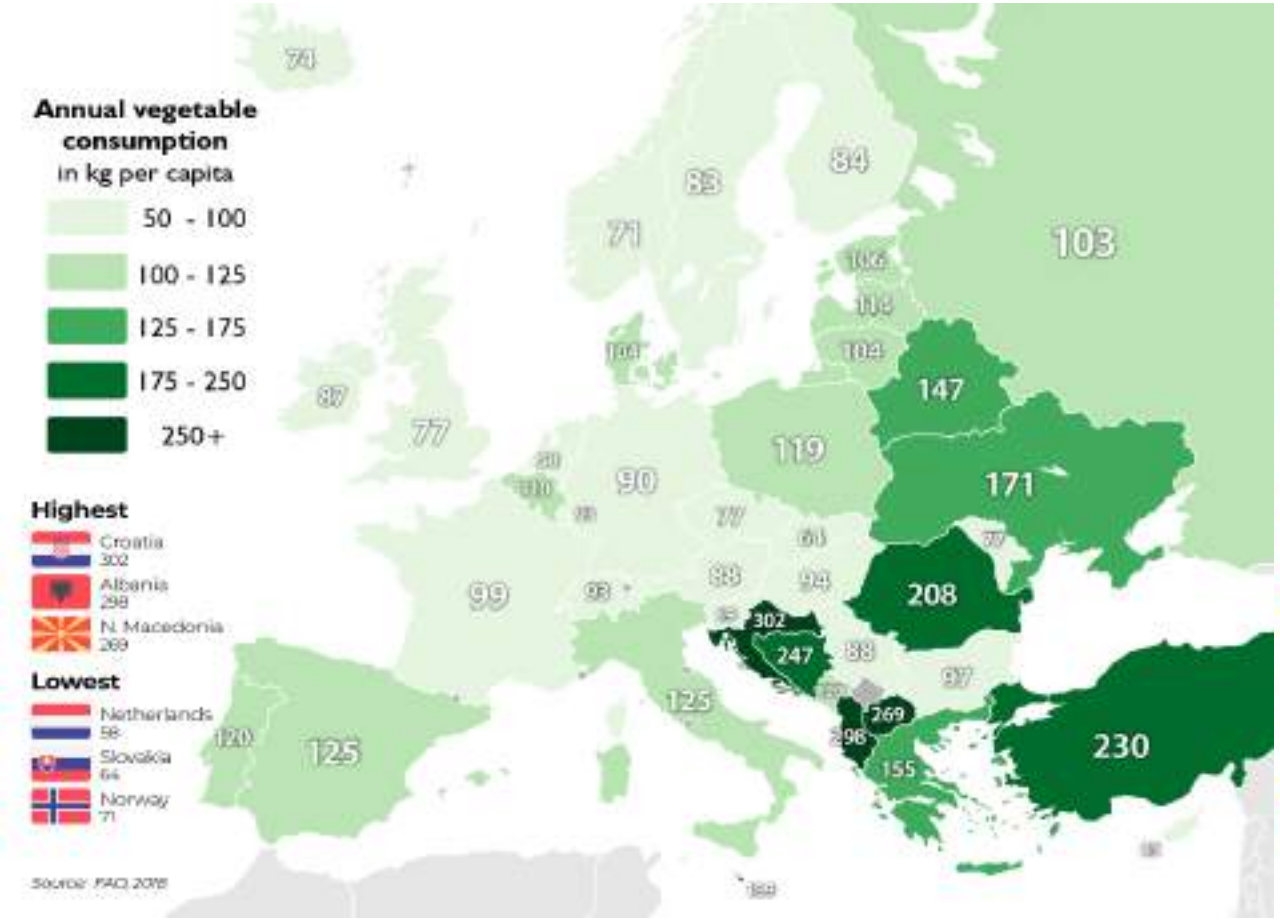


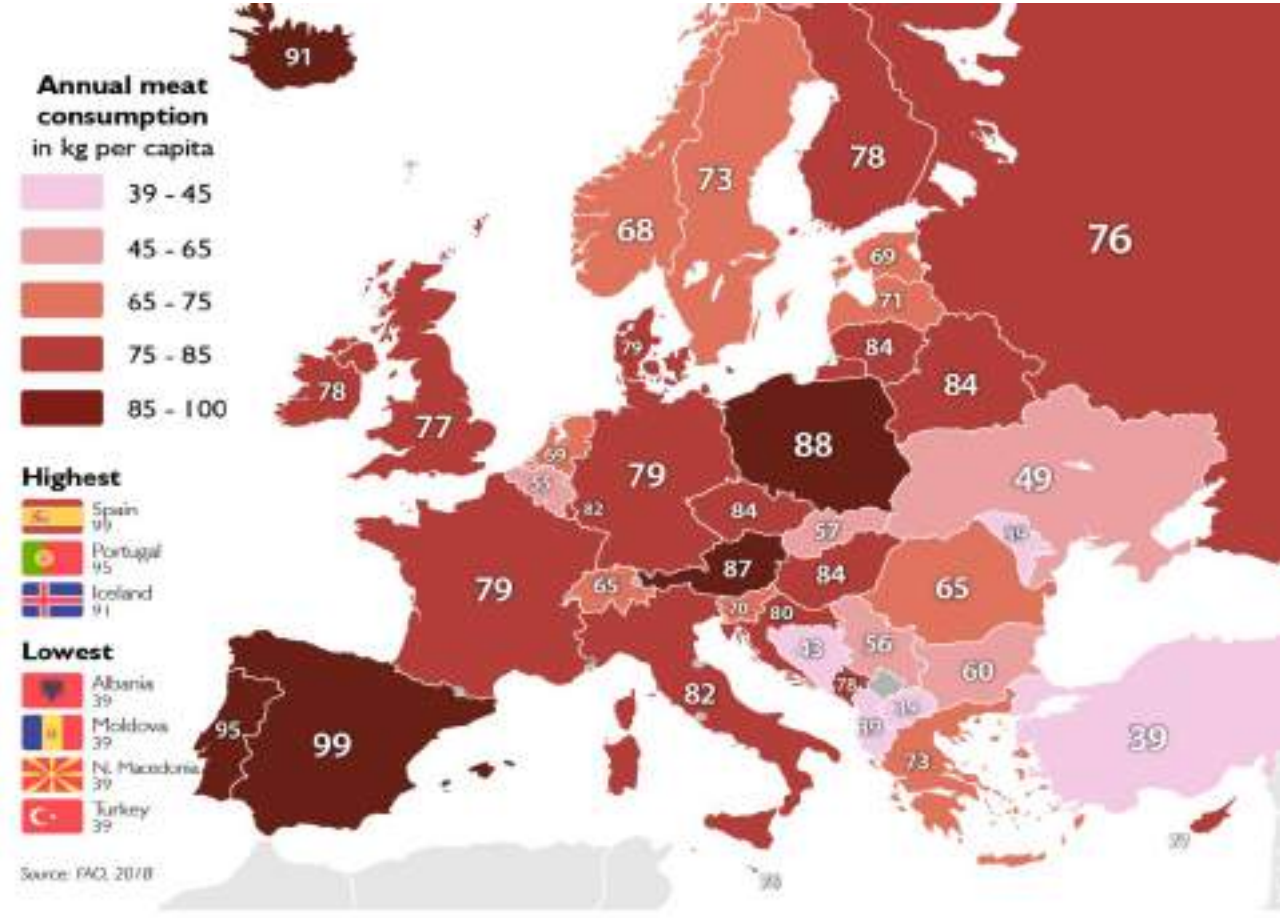
https://www.nationalgeographic.com/foodfeatures/meat/

And why the maintenance of actual food patterns is a problem?

Consumos (dados de 2018)

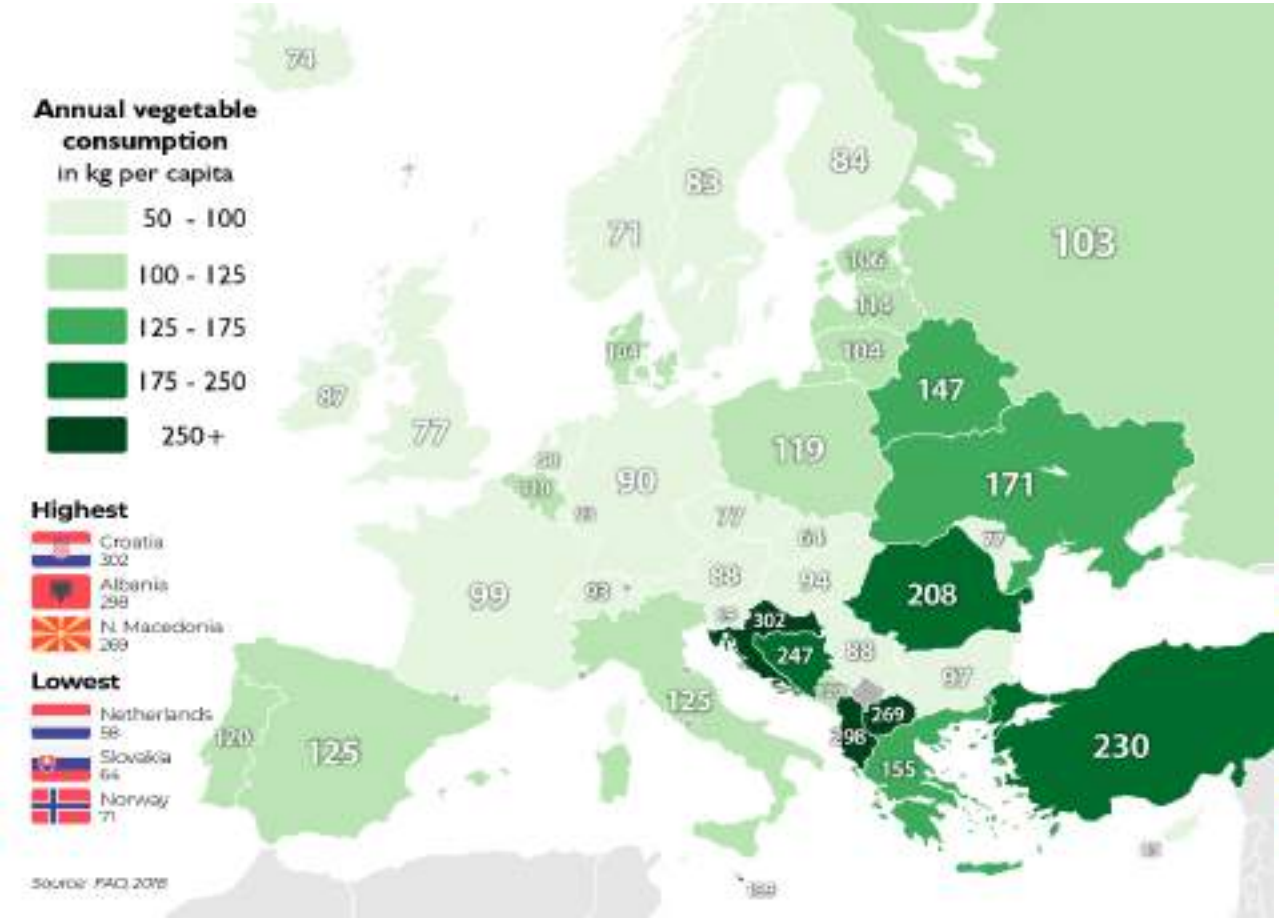
Consumo de hortícolas vs. consumo de carne

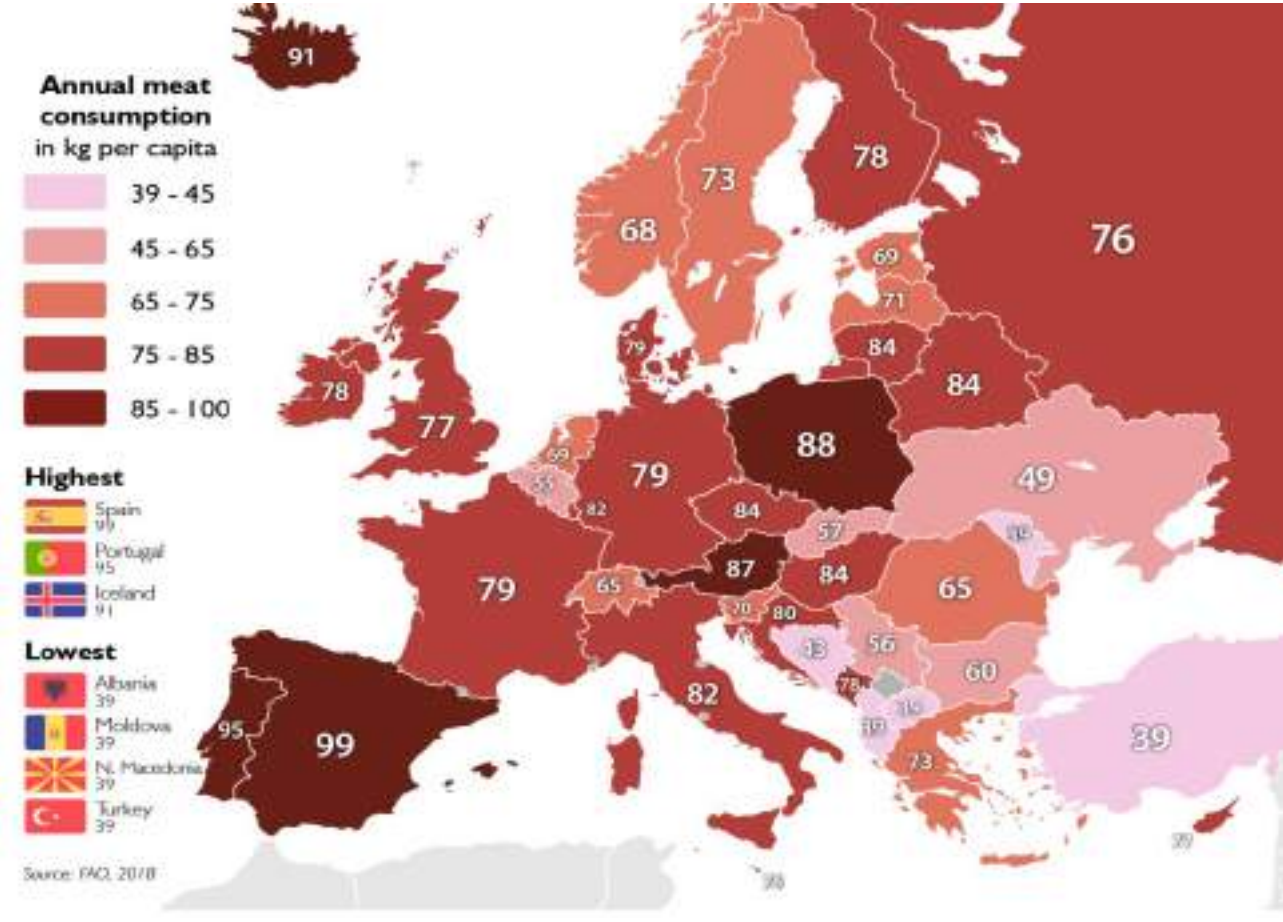




And why the maintenance of actual food patterns is a problem?

Dados de Portugal – 85 a 100kg **carne**/pessoa/ano - **~233 a 270g/pessoa/dia**





1,5 a 4,5 porções/dia

Carnes / pescado crus (30g)
Carnes / pescado cozinhados (25g)
1 ovo - tamanho médio (55g)

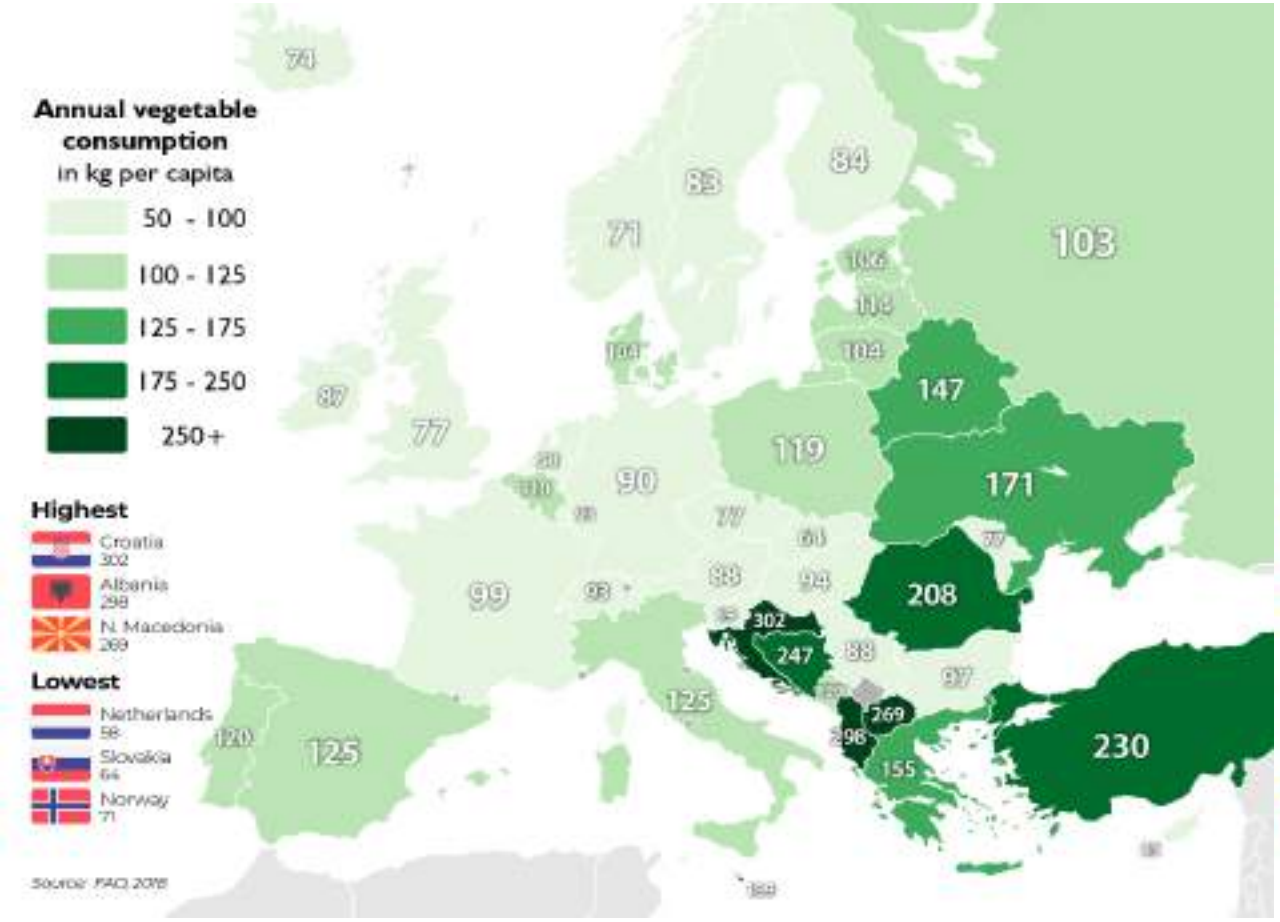
Dados de Portugal - **~233 a 270g carne /pessoa/dia**

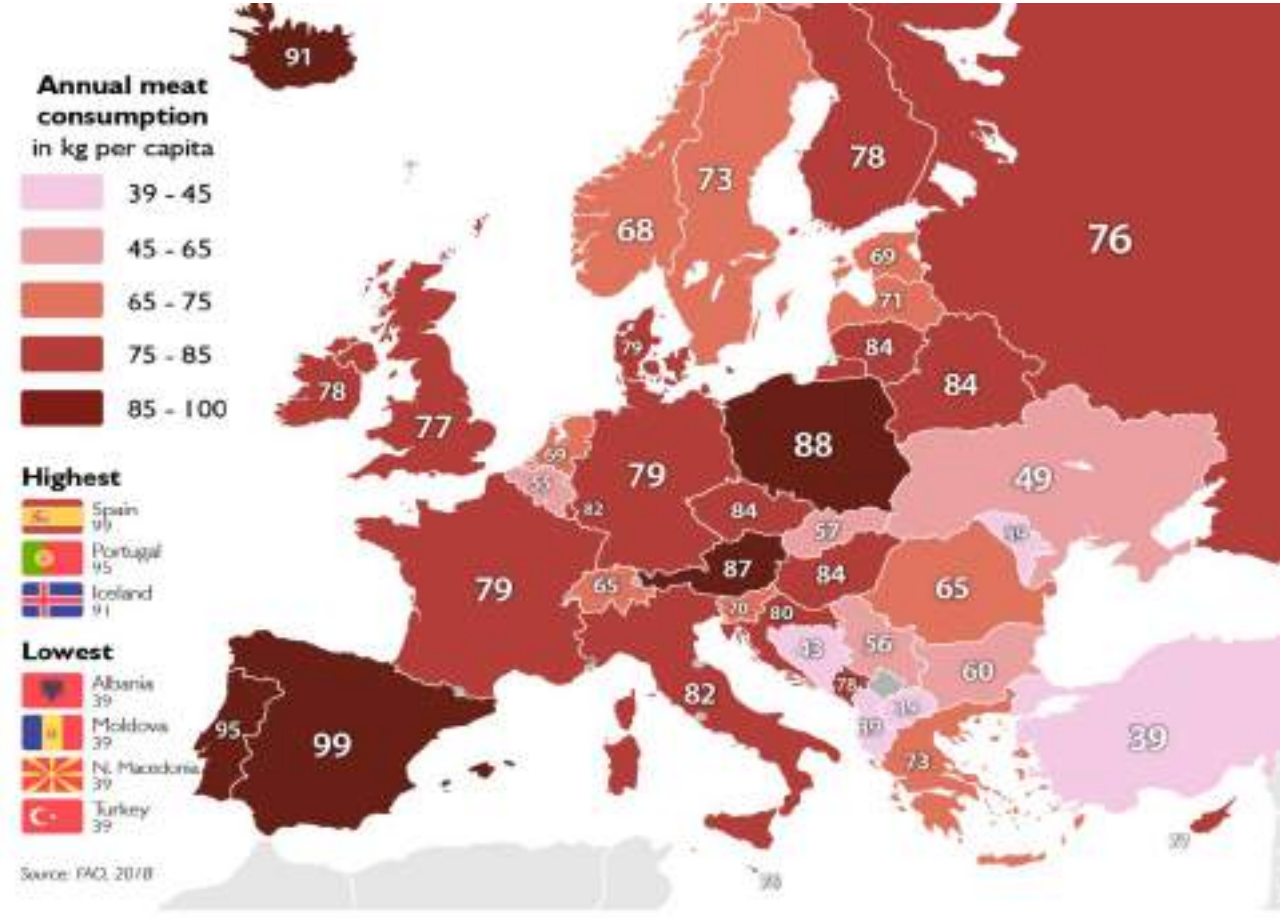
Recomendações - ~45 a 135g/pessoa/dia

Dados de consumo para Portugal - IAN-AF 2017

And why the maintenance of actual food patterns is a problem?

Dados de Portugal –**~150g hortícolas /pessoa/dia**





3 a 5 porções/dia

2 chávenas almoçadeiras de hortícolas crus (180g)
1 chávena almoçadeira de hortícolas cozinhados (140g)

Dados de Portugal –**~150g hortícolas /pessoa/dia**

Recomendações - ~420 a 700g/pessoa/dia

Dados de consumo para Portugal - IAN-AF 2017

Our eating patterns (Portugal included) are towards an excess of meat and a lack of vegetables

By maintaining these food habits, we are contributing to decrease our health quality and to increase damage to environment

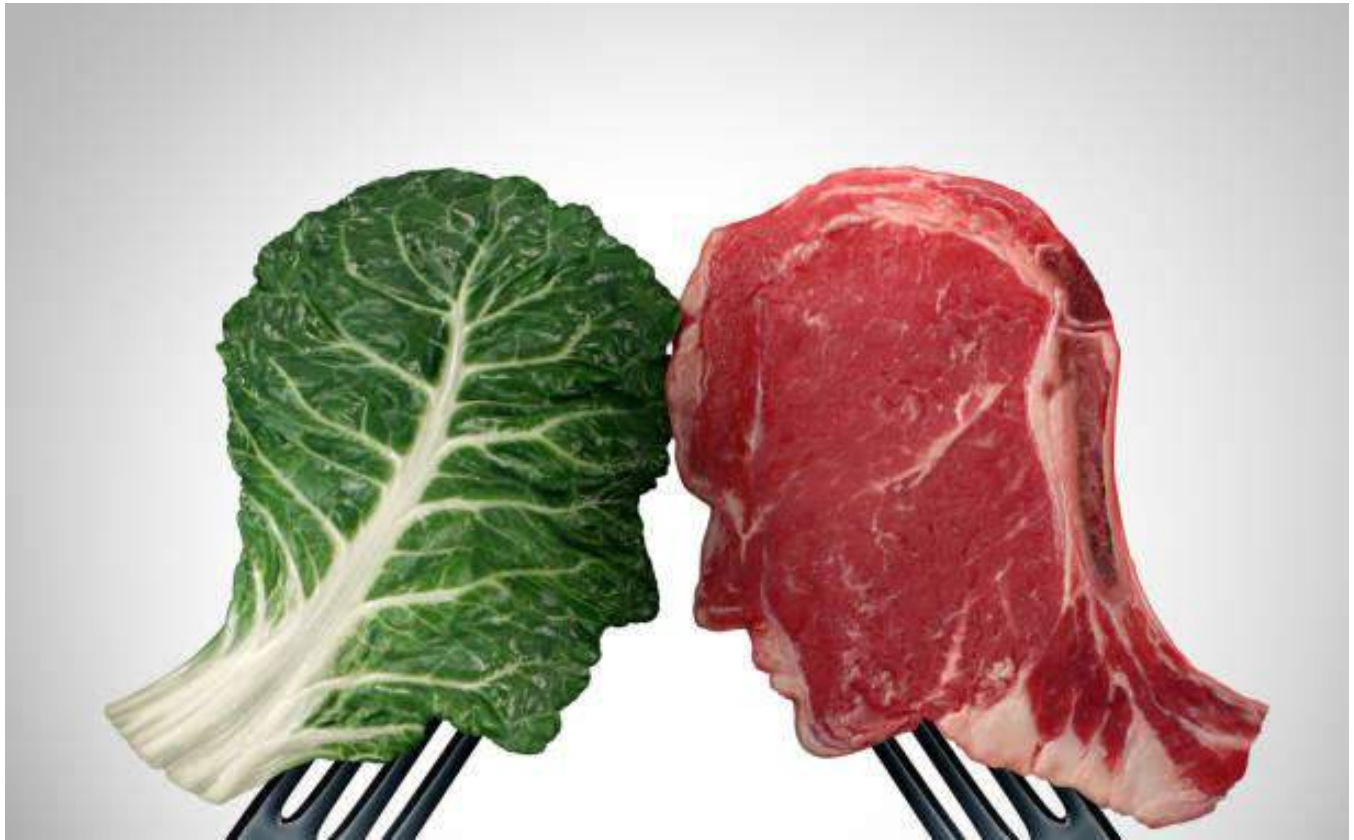
So, how should we eat????

Refira tipos de dietas que conhece

Das Dietas conhecidas, quais as que vos parecem poder ser melhores para:

- Aumentar a longevidade
- Aumentar massa muscular
- Regular o peso

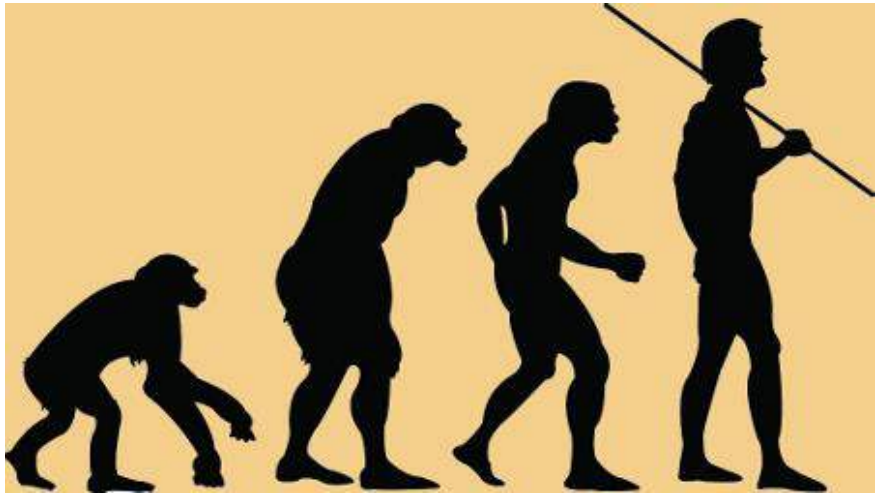
Different currents had emerged, during las years about what are the ideal Human Eating Pattern, to guarantee health, ***according to Human evolution***



Paleo – diet defenders

Eating meat is thought by some scientists to have been crucial to the evolution of our ancestors' larger brains about two million years ago.

By starting to eat calorie-dense meat and marrow instead of the low-quality plant diet of apes, our direct ancestor, *Homo erectus,* took in enough extra energy at each meal to help fuel a bigger brain.



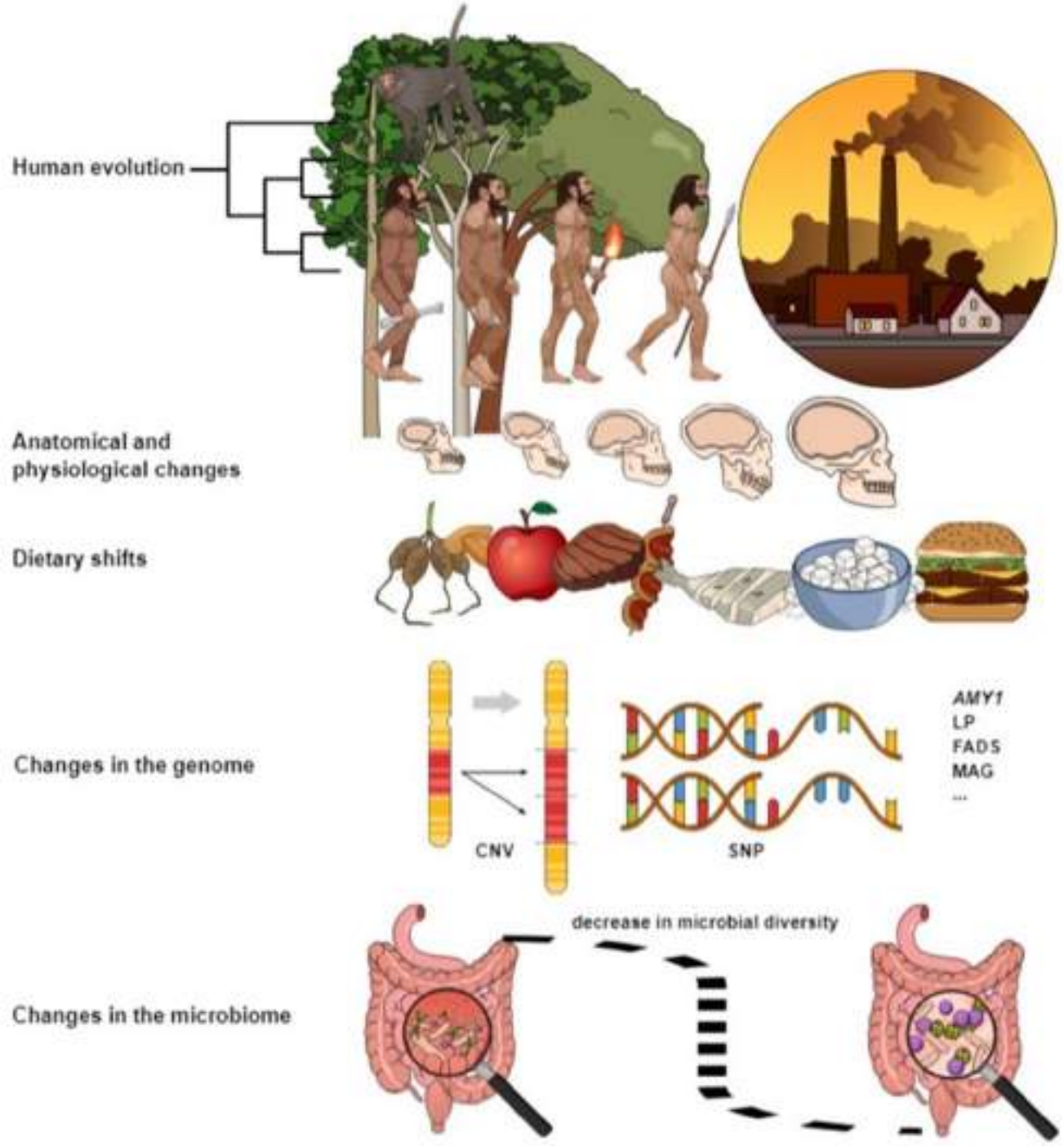
Leslie Aiello and paleoanthropologist Peter Wheeler were the first proposing Paleo Diet

BUT

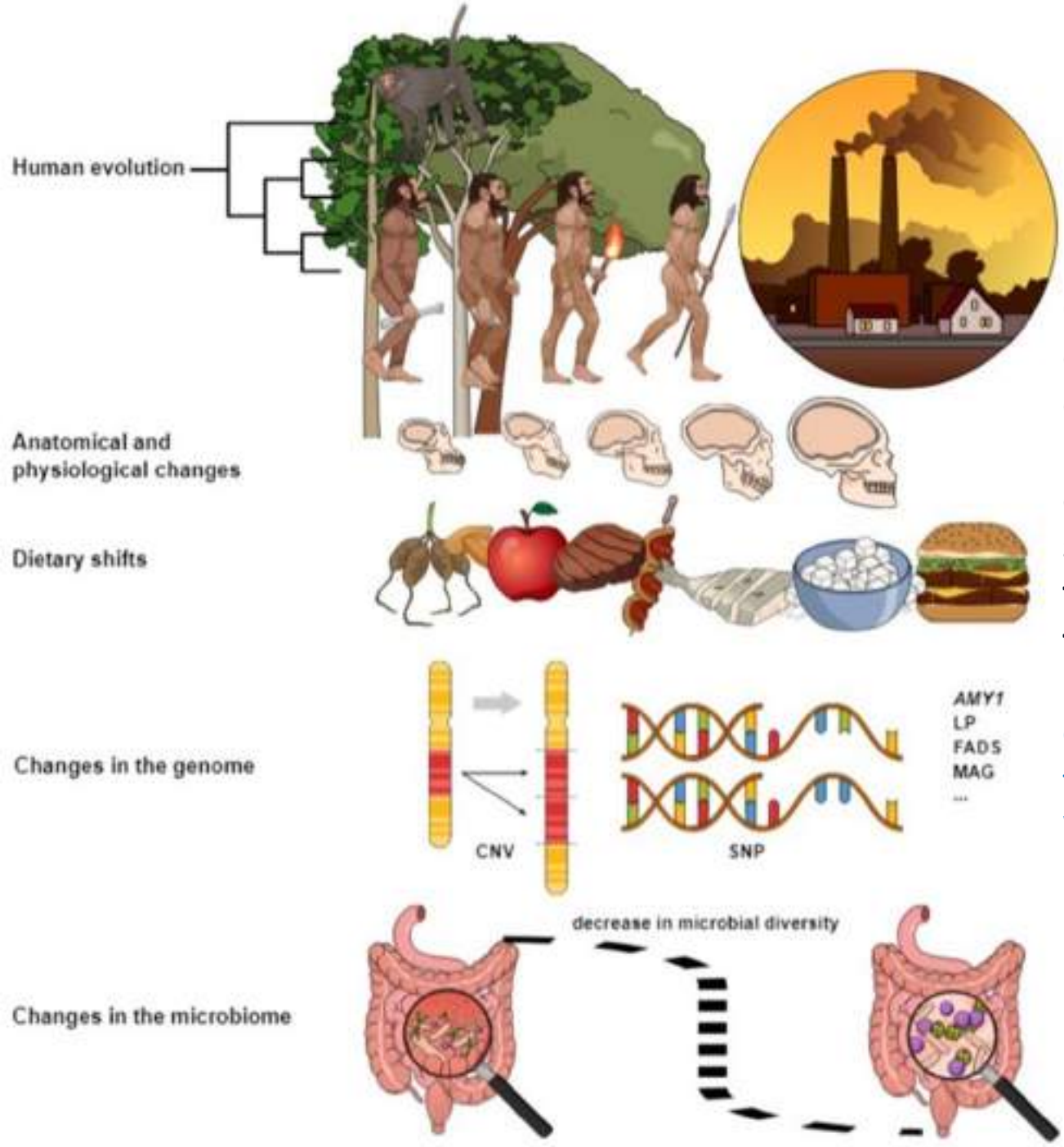
The real Paleolithic diet, wasn't all meat and marrow.

The success of hunting was limited and...

It turns out that "man the hunter" is backed up by "woman the forager," who, with some help from children, provides more calories during difficult times. **When meat, fruit, or honey is scarce, foragers depend on "fallback foods"**

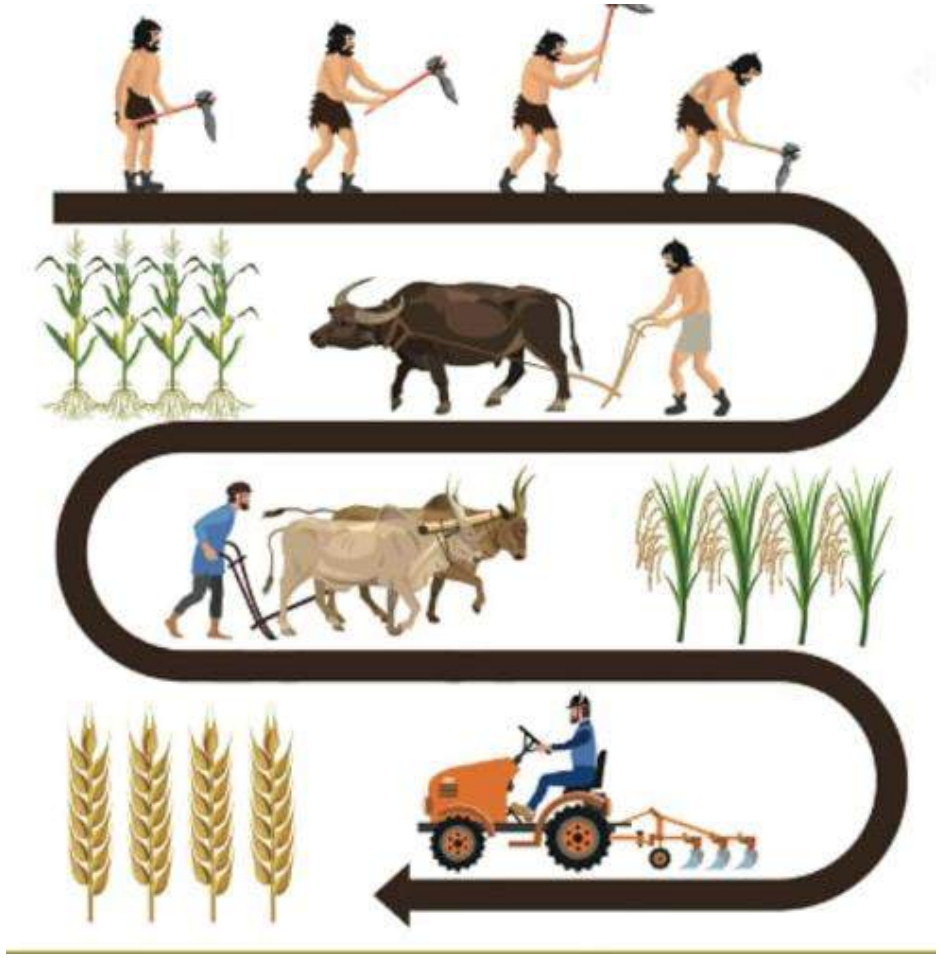


The notion that we stopped evolving in the Paleolithic period simply isn't true.
Our teeth, jaws, and faces have gotten smaller, and our DNA has changed since the invention of agriculture. "Are humans still evolving? Yes!"



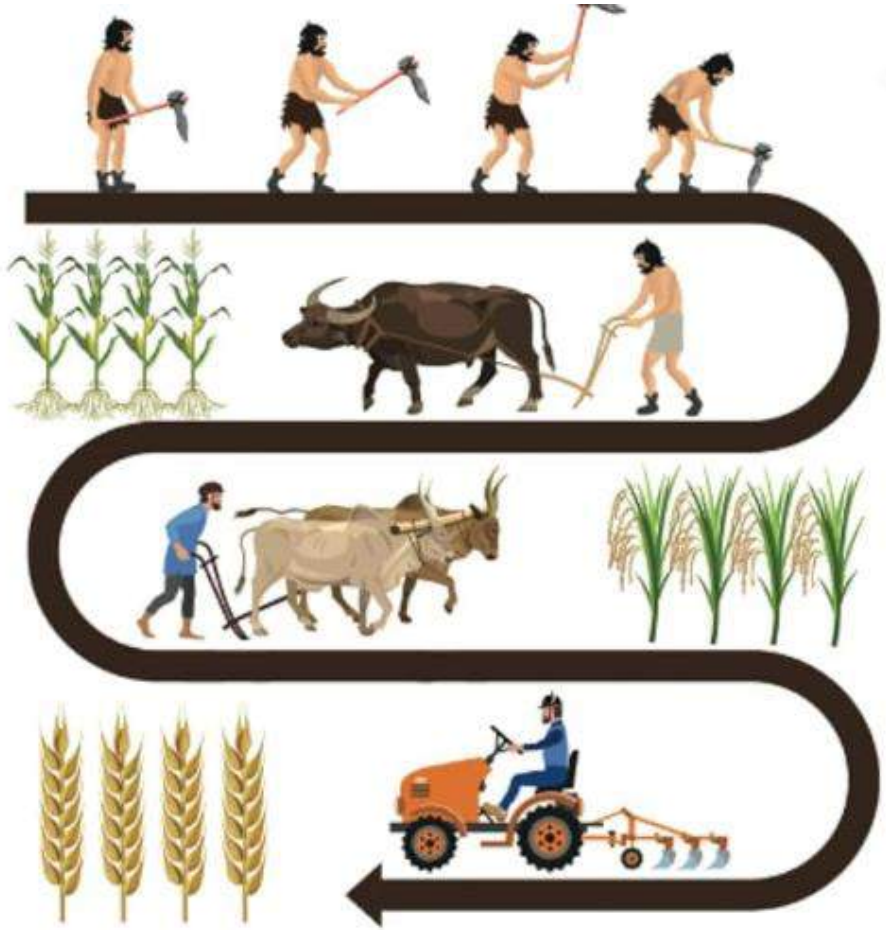
One striking piece of evidence is **lactose tolerance**. All humans digest mother's milk as infants, but until cattle began being domesticated 10,000 years ago, weaned children no longer needed to digest milk. As a result, they stopped making the enzyme lactase, which breaks down the lactose into simple sugars. **After humans began herding cattle, it became tremendously advantageous to digest milk, and lactose tolerance evolved among cattle herders.**

Groups not dependent on cattle, such as the Chinese and Thai, the Pima Indians of the American Southwest, and the Bantu of West Africa, remain lactose intolerant.



Humans also vary in their ability to extract sugars from starchy foods as they chew them, depending on how many copies of salivar amylase gene they inherit.

Populations that traditionally ate more starchy foods, have more copies of the gene and their saliva helps break down starches before the food reaches their stomachs.



nature genetics

Diet and the evolution of human amylase gene copy number variation

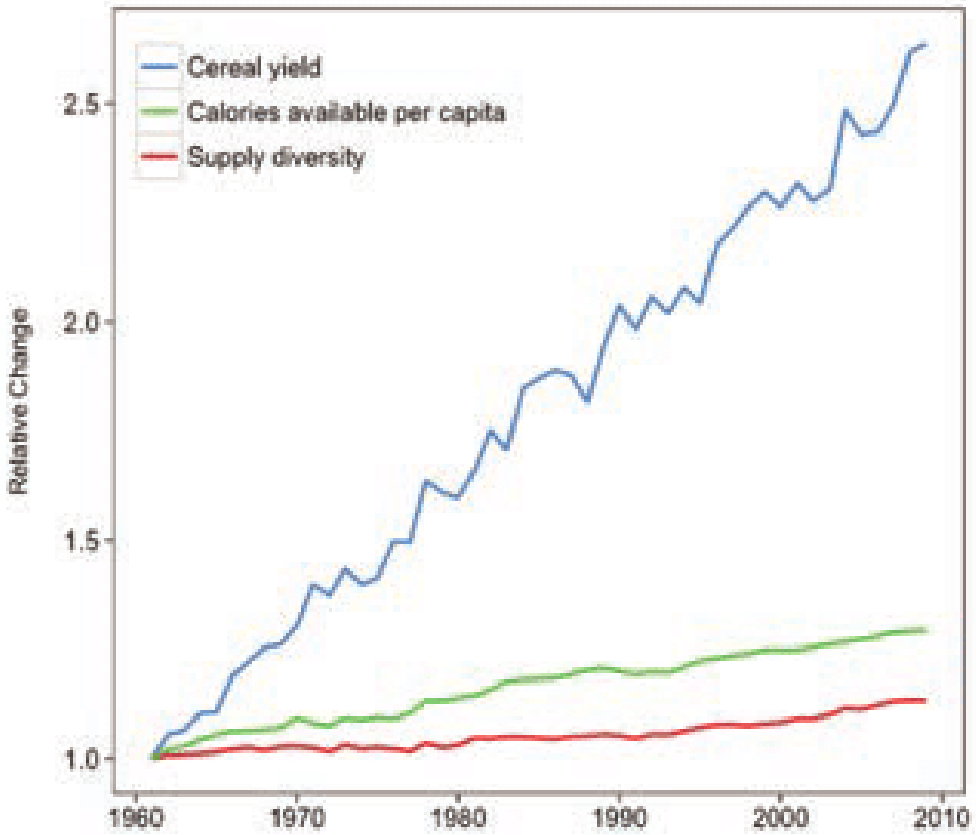
George H Perry, Nathaniel J Dominy ✉, Katrina G Claw, Arthur S Lee, Heike Fiegler, Richard Redon, John Werner, Fernando A Villanea, Joanna L Mountain, Rajeev Misra, Nigel P Carter, Charles Lee & Anne C Stone

Nature Genetics **39**, 1256–1260 (2007) | Cite this article

But we are talking about groups of foods (raw foods!).

All the dietary evolution that was referred, from paleo to agriculture, lacked the quick access to industrially processed foods and to the spread of the access to those foods, in a easy way, by the population.

Industrial revolution brought that!



Diabetes was virtually unknown, for instance, among the Maya of Central America until the 1950s. As they've switched to a Western diet high in sugars, the rate of diabetes has increased.

Siberian nomads such as the Evenk reindeer herders and the Yakut ate diets heavy in meat, yet they had almost no heart disease until after the fall of the Soviet Union, when many settled in towns and began eating market foods.

Raising availability of energy-dense and low-nutriente foods, which are also palatable

Easy access and constantly available

The Kyrgyz of the Pamir Mountains in northern Afghanistan live at a high altitude where no crops grow. Survival depends on the animals that they milk, butcher, and barter.

The people of Crete, the largest of the Greek islands, eat a rich variety of foods drawn from their groves and farms and the sea. They lived on a so-called Mediterranean diet long before it became a fad.

The Hadza of Tanzania are the world's last full-time hunter-gatherers. They live on what they find: game, honey, and plants, including tubers, berries, and baobab fruit.

The Inuit of Greenland survived for generations eating almost nothing but meat in a landscape too harsh for most plants. Today markets offer more variety, but a taste for meat persists.

The Tsimane of Bolivia get most of their food from the river, the forest, or fields and gardens carved out of the forest.

The Bajau of Malaysia fish and dive for almost everything they eat. Some live in houses on the beach or on stilts; others have no homes but their boats.

EAT-*Lancet* Commission Approach

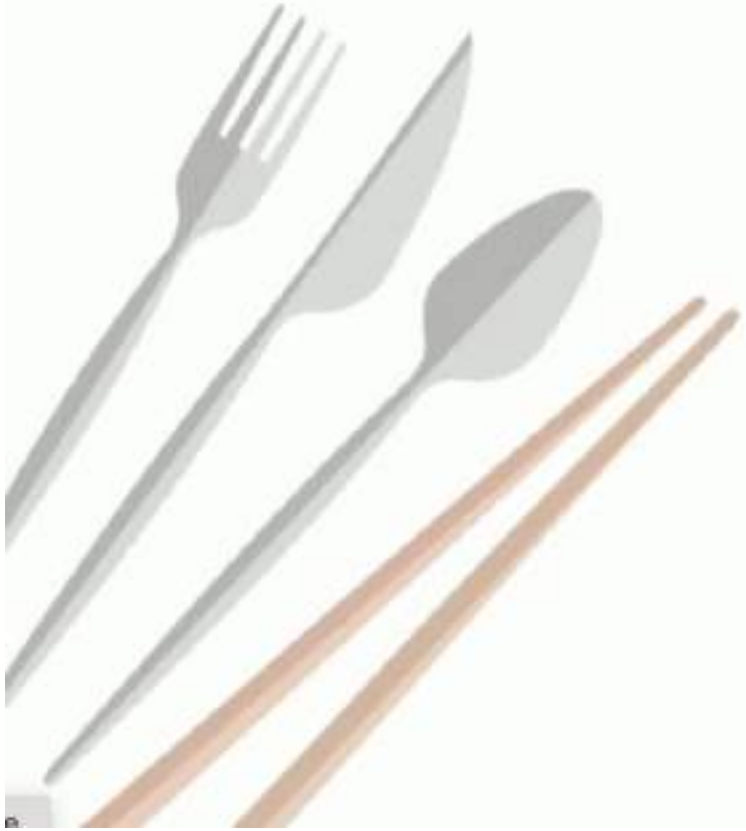
Define a healthy reference diet using the best available evidence (controlled feeding studies, long-term cohort studies, randomized trials).

Define planetary boundaries for 6 key environmental systems and processes (GHG, cropland use, water use, nitrogen and phosphorus application, extinction rate).

Apply a global food systems modeling framework to analyze what combinations of readily implementable measures are needed to stay within food production boundaries while still delivering healthy diets by 2050.

Outline Strategies to achieve the changes needed to meet the goal of healthy diets from sustainable food systems for all by 2050.

Target 1 – Healthy Diets
2500 kcal/day



	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)	153
Protein sources		
Beef, lamb and pork	14 (0–28)	30
Chicken and other poultry	29 (0–58)	62
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

Target 1 – Healthy Diets

2500 kcal/day

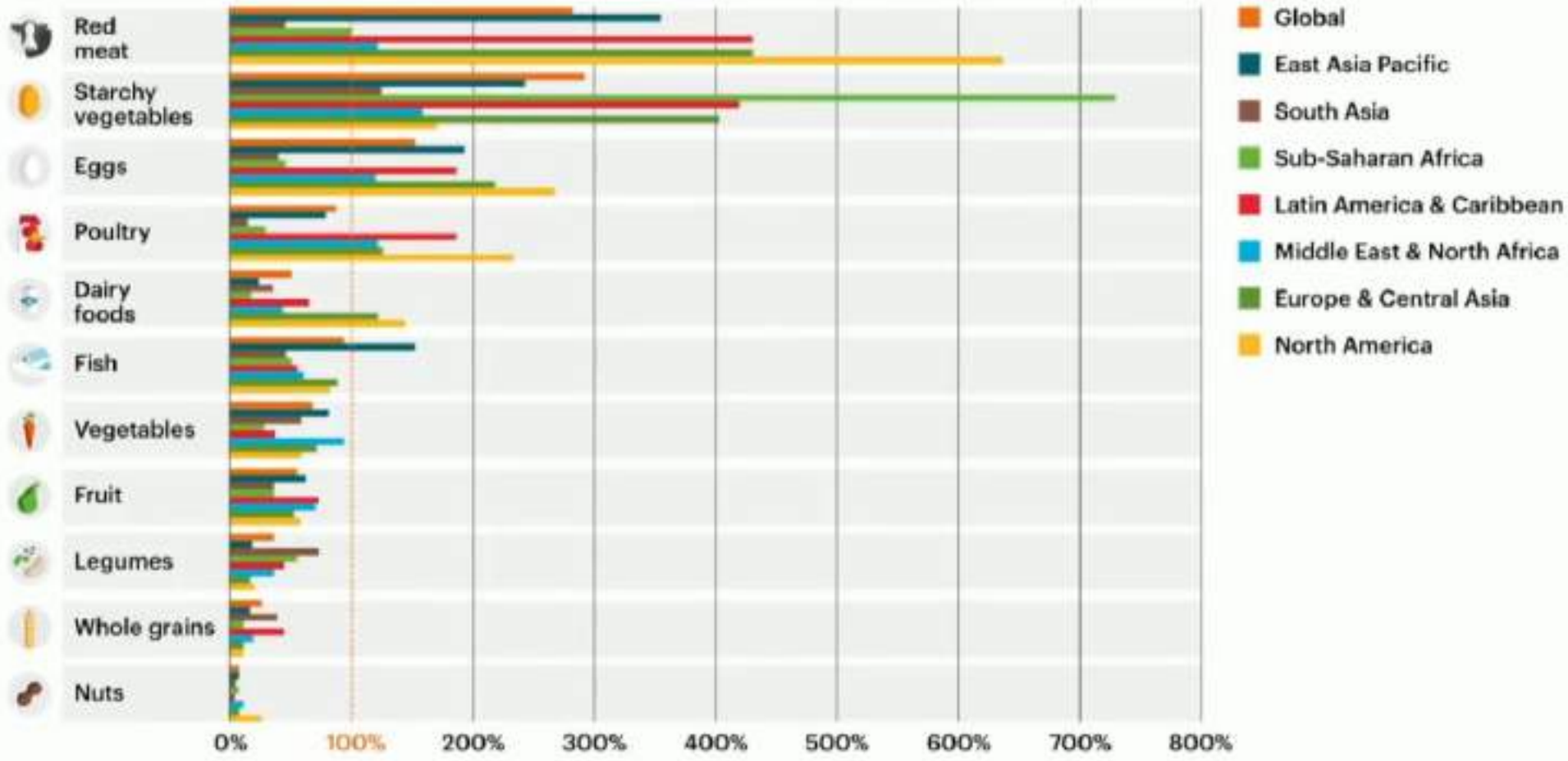
Samples of Planetary Health Plates








Current Intakes vs Planetary Health Diet



What we could being saving

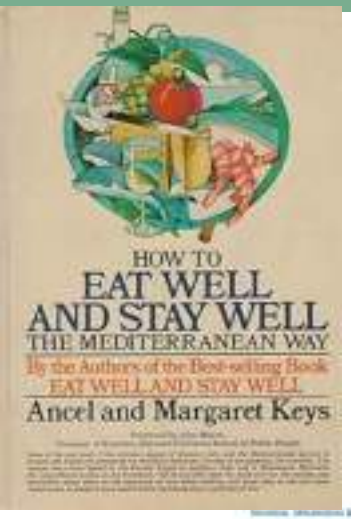
Substantial Health Benefits

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

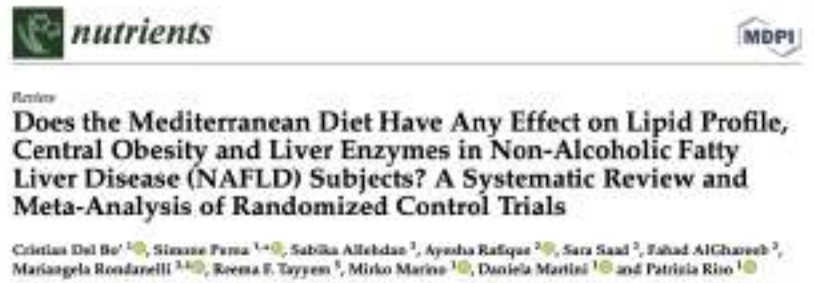
Mediterranean Diet

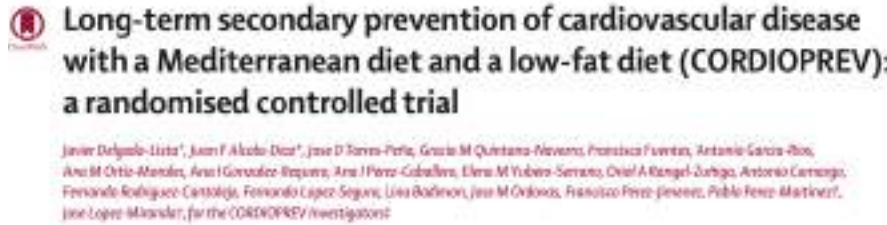
Where it enters in the actual scenario?

Module 2 – The Mediterranean Diet: adherence and health aspects

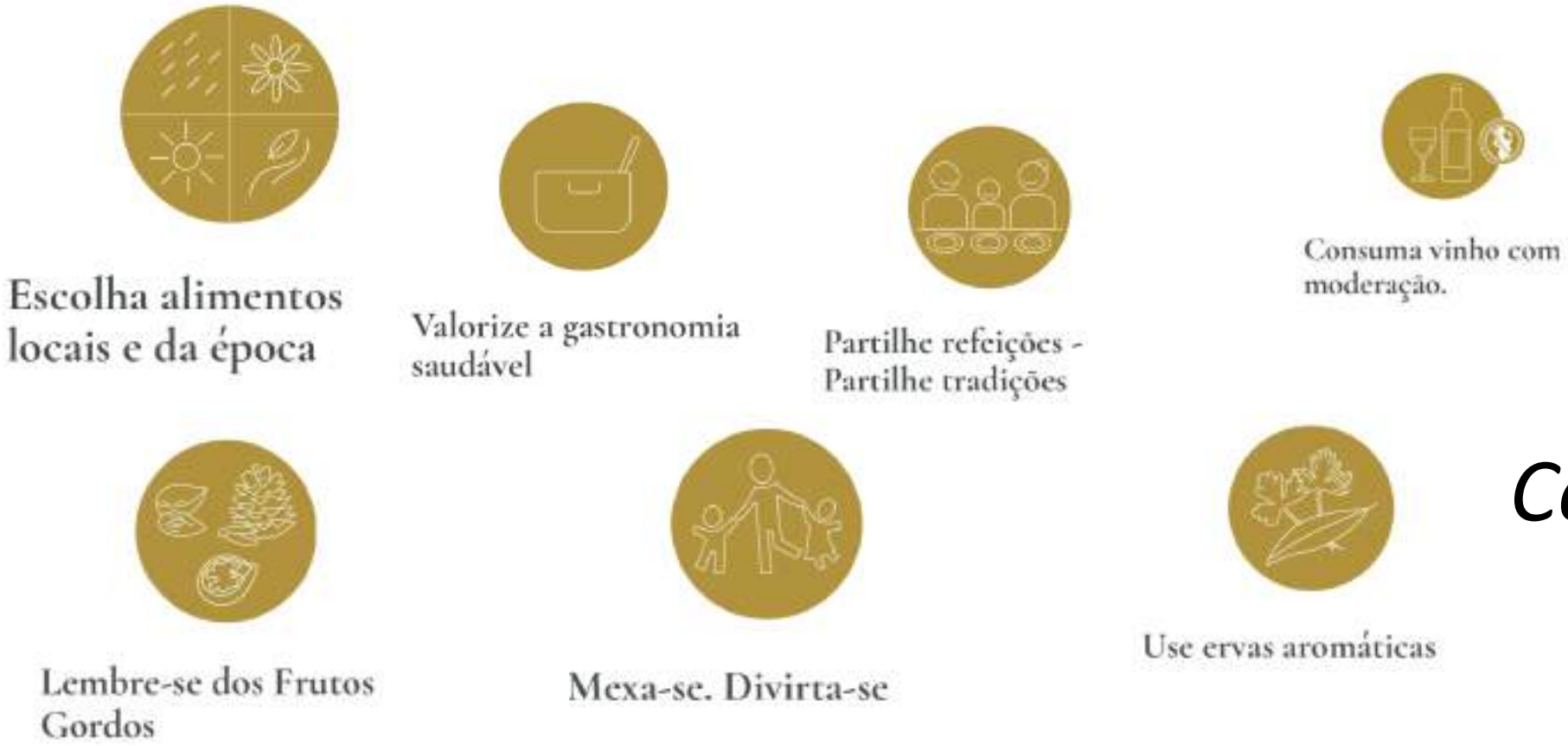


The benefits of MD in Human Health are more than recognized





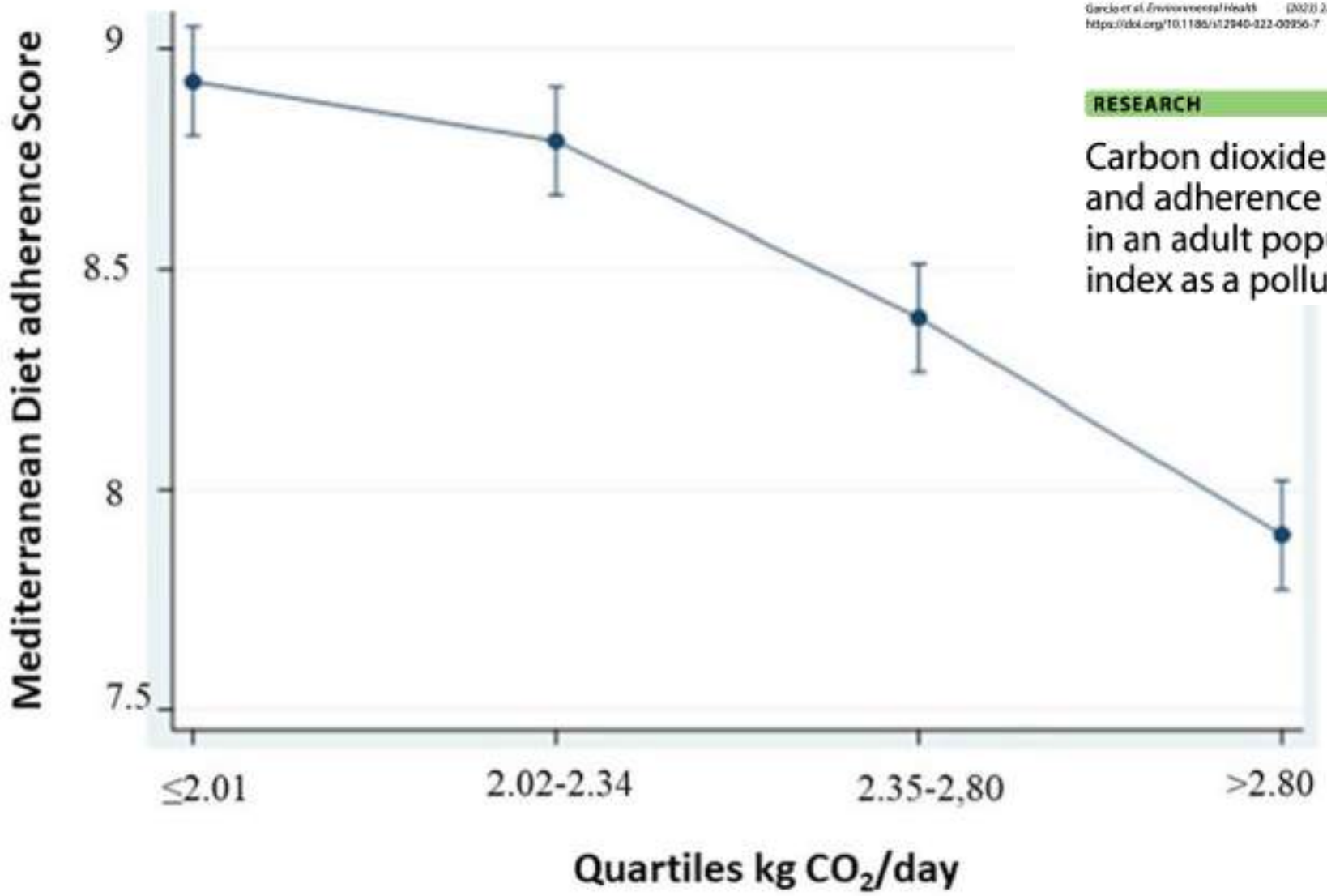
Mediterranean Diet *is set on a food pattern with more than 5000 years, originating in Mediterranean basin*



Frugal Consumption!

Diferentes modos tradicionais e ambientalmente sustentáveis de conservar e aproveitar produção em excesso

Pratos à base de plantas silvestres

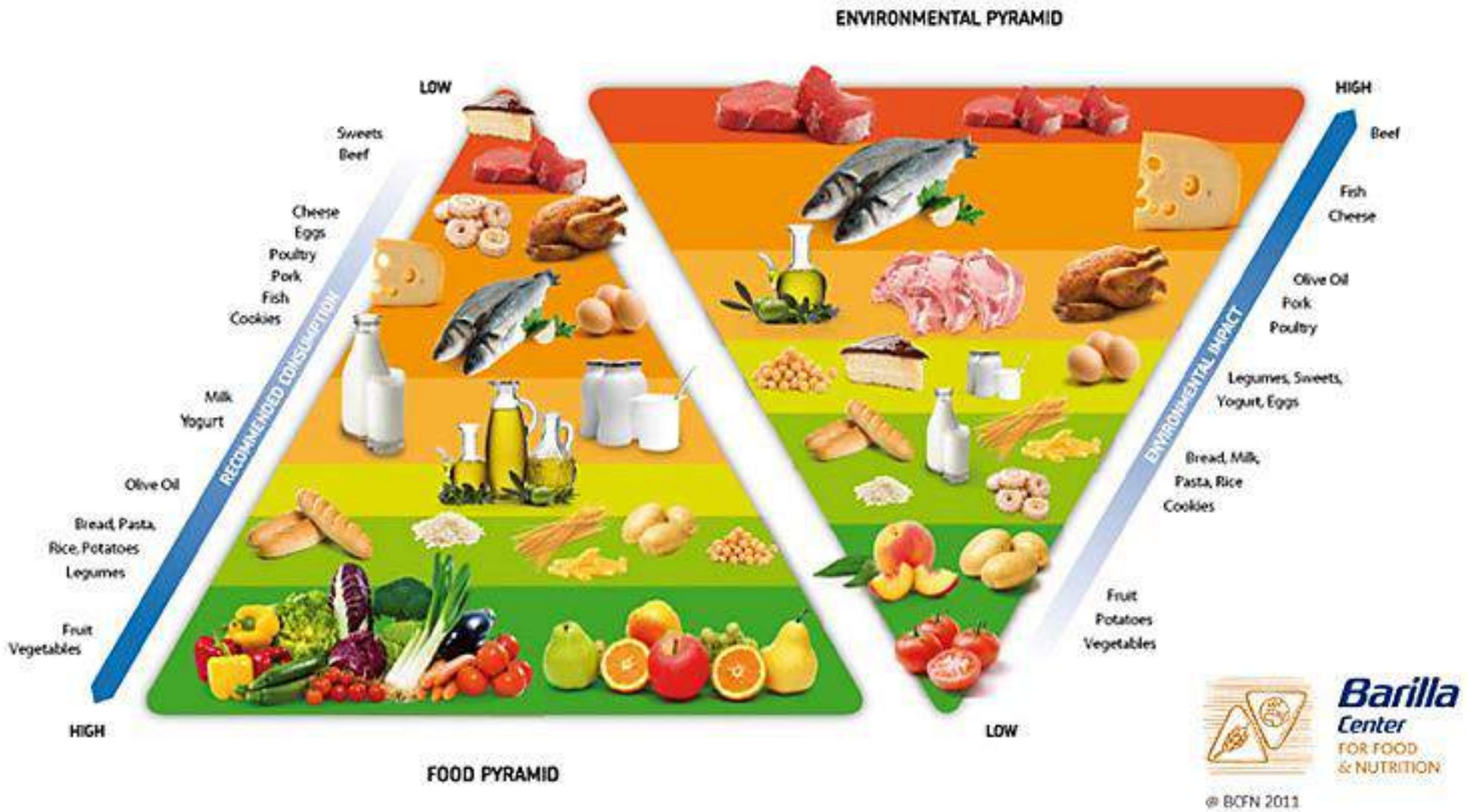


García et al. Environmental Health (2020) 22:1
https://doi.org/10.1186/s12940-022-00956-7

Environmental Health

RESEARCH Open Access

Carbon dioxide (CO_2) emissions and adherence to Mediterranean diet in an adult population: the Mediterranean diet index as a pollution level index


ENVIRONMENTAL PYRAMID
LOW
HIGH
Sweets
Beef
Cheese
Eggs
Poultry
Pork
Fish
Cookies
Milk
Yogurt
Olive Oil
Bread, Pasta,
Rice, Potatoes
Legumes
Fruit
Vegetables
RECOMMENDED CONSUMPTION
HIGH
LOW
Beef
Fish
Cheese
Olive Oil
Pork
Poultry
Legumes, Sweets,
Yogurt, Eggs
Bread, Milk,
Pasta, Rice
Cookies
Fruit
Potatoes
Vegetables
ENVIRONMENTAL IMPACT
FOOD PYRAMID
Barilla
Center
FOR FOOD
& NUTRITION
@ BCFN 2011

Can we rest, since we have Med Diet?

In actual societies to implemente all the bases of Mediterranean Diet will need adjustments

In actual societies to implement all the bases of Mediterranean Diet will need adjustments

Escolha alimentos
locais e da época

In actual societies to implement all the bases of Mediterranean Diet will need adjustments

Escolha alimentos
locais e da época

Such a system focuses limited resources at the points in the food system with the likelihood of having greatest benefit to public health. As shared kitchens, food hubs, and local food systems such as community supported agriculture are becoming more prevalent throughout the United States, so are foodborne illness outbreaks at these locations. **At these locations**, many with **limited resources**, **food safety methods of prevention are rarely the main focus**. This lack of focus on food safety knowledge is why a growing number of foodborne illness outbreaks are occurring at these locations.

In actual societies to implement all the bases of Mediterranean Diet will need adjustments

In actual societies to implement all the bases of Mediterranean Diet will need adjustments

Valorize a gastronomia saudável

Contents lists available at ScienceDirect
Nutrition
journal homepage: www.nutritionjrnl.com

Review

Influence of culinary skills on ultraprocessed food consumption and Mediterranean diet adherence: An integrative review

Juliana Aiko Watanabe [a], Juan Antonio Nieto Ph.D. [a], Teodoro Suarez-Diéguez Ph.D. [b], Mariana Silva Ph.D. [a,*]

Portuguese Journal of Public Health

Research Article

Assessment of Food and Cooking Skills: Validation of a Portuguese Version of a Tool and Characterisation of Food and Cooking Skills in Young Adults

Vânia Costa [a] Rute Borrego [a] Cátia Mateus [b] Elisabete Carolino [a] Cláudia Viegas [a]

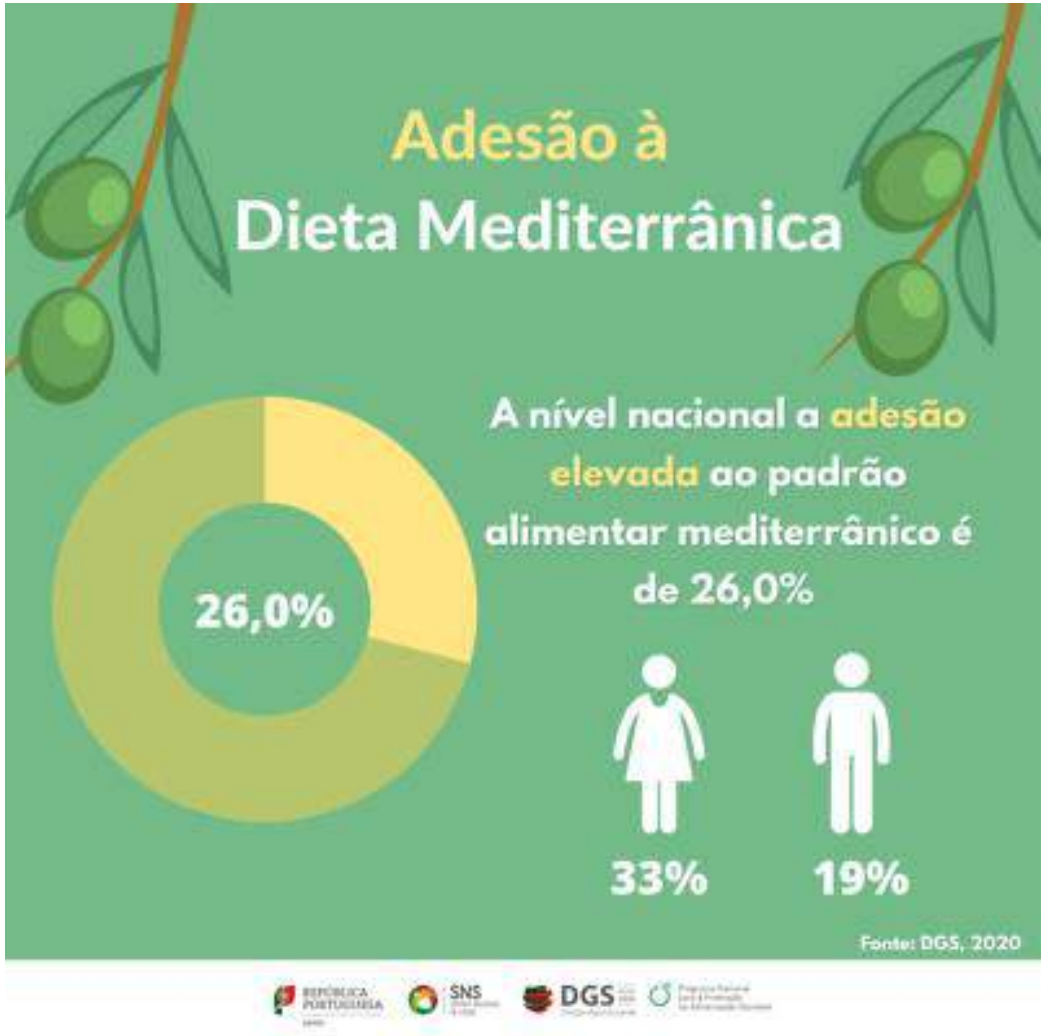
Contents lists available at ScienceDirect
International Journal of Gastronomy and Food Science
journal homepage:

High cooking skills do not lead to healthy mediterranean eating habits. Focus on catering students

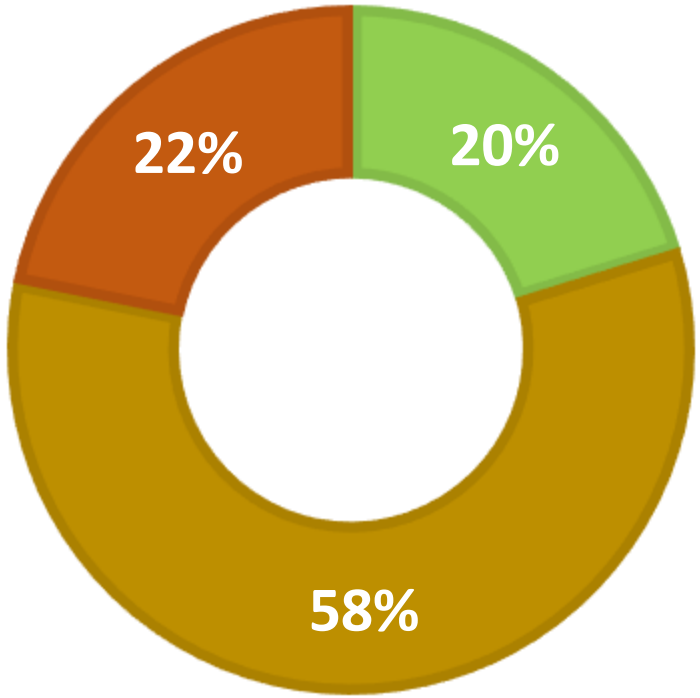
Cesare Altavilla [a], Pablo Caballero Pérez [b,*], Jose Tuells [b]

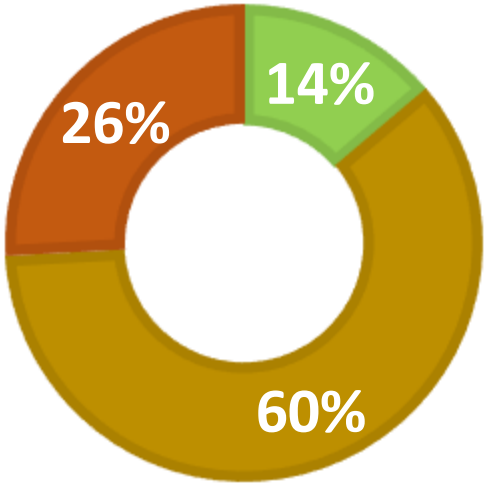
Authors identified lower FCSk competencies in cooking pulses and vegetables, which are healthy and sustainable foods.

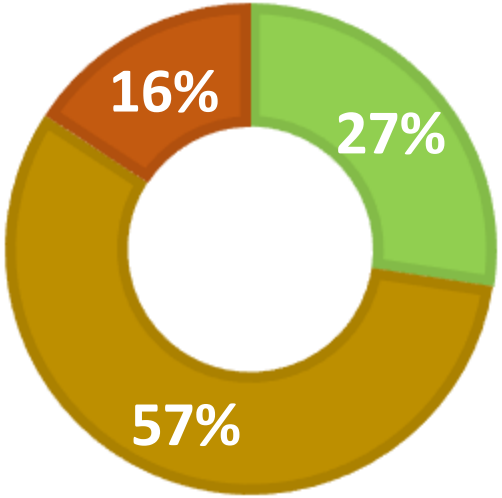
Portugal - 2020



Norte Alentejano - 2018



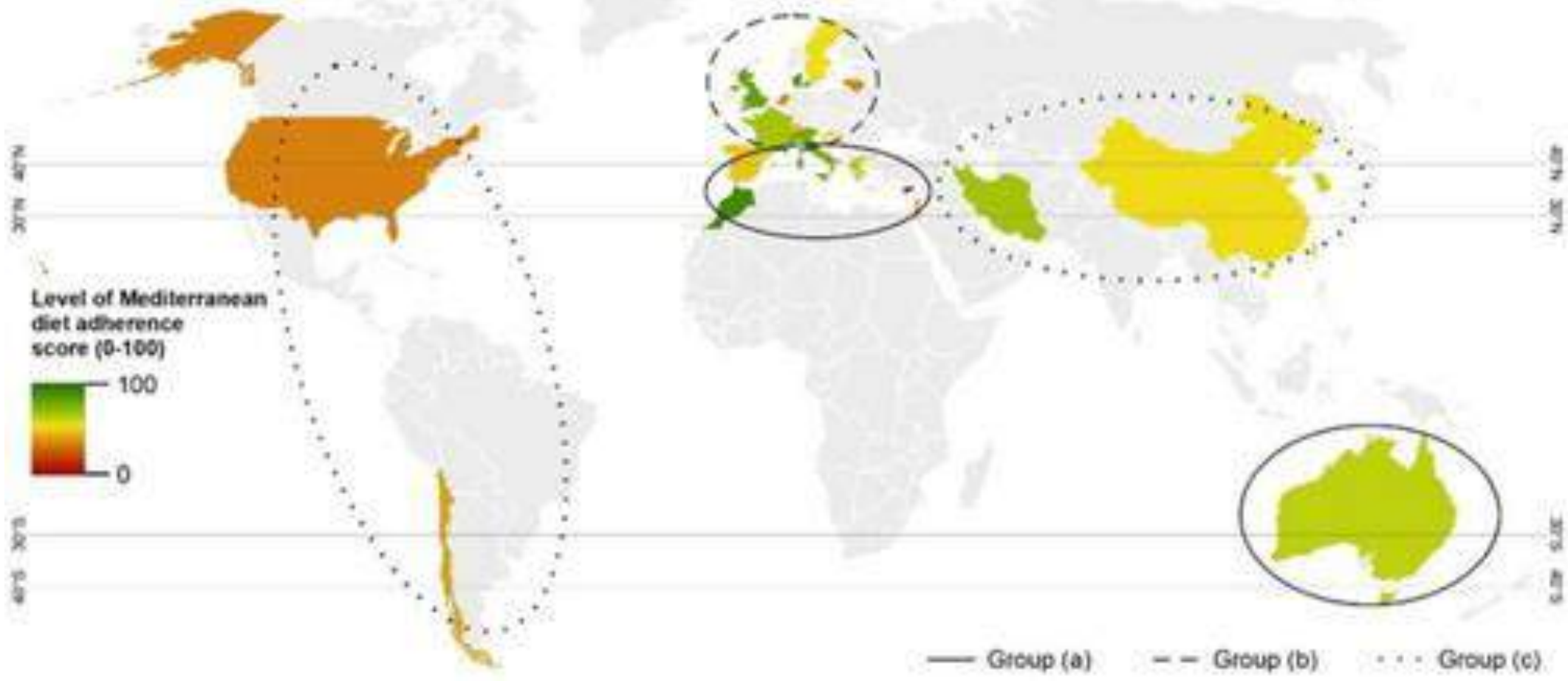




Adherence to a Mediterranean type of diet in the world: a geographical analysis based on a systematic review of 57 studies with 1,125,560 participants

Evangelia Damigou, Antigoni Faka, Matina Kouvari, Costas Anastasiou, Rena I. Kosti, Christos Chalkias & ...show all

Conclusions: Adherence to an MTD was moderate with a significant decline observed in the last decade. Geographical analysis revealed that adherence to an MTD is related to both geographic location and socioeconomic status throughout the world.



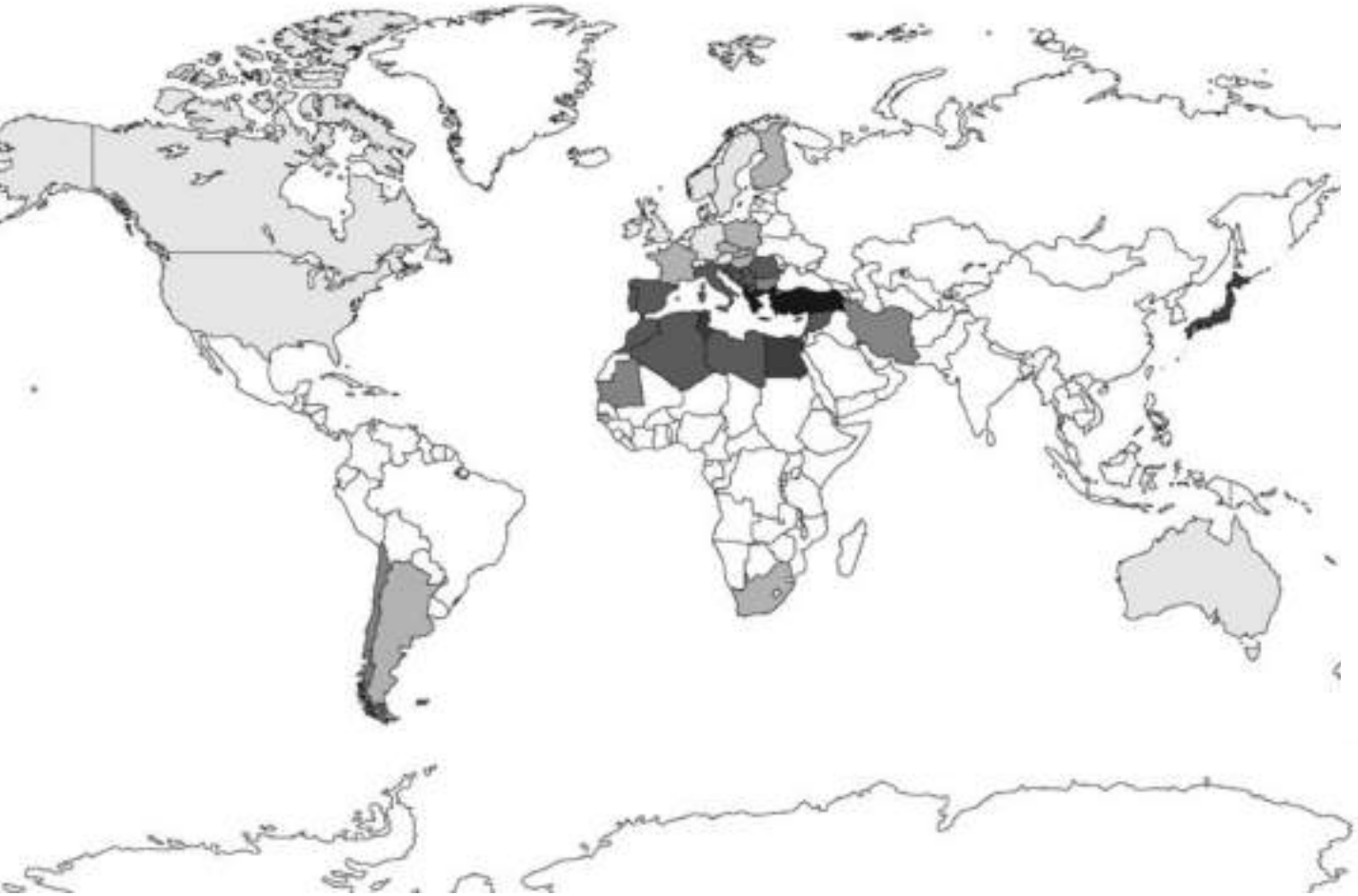


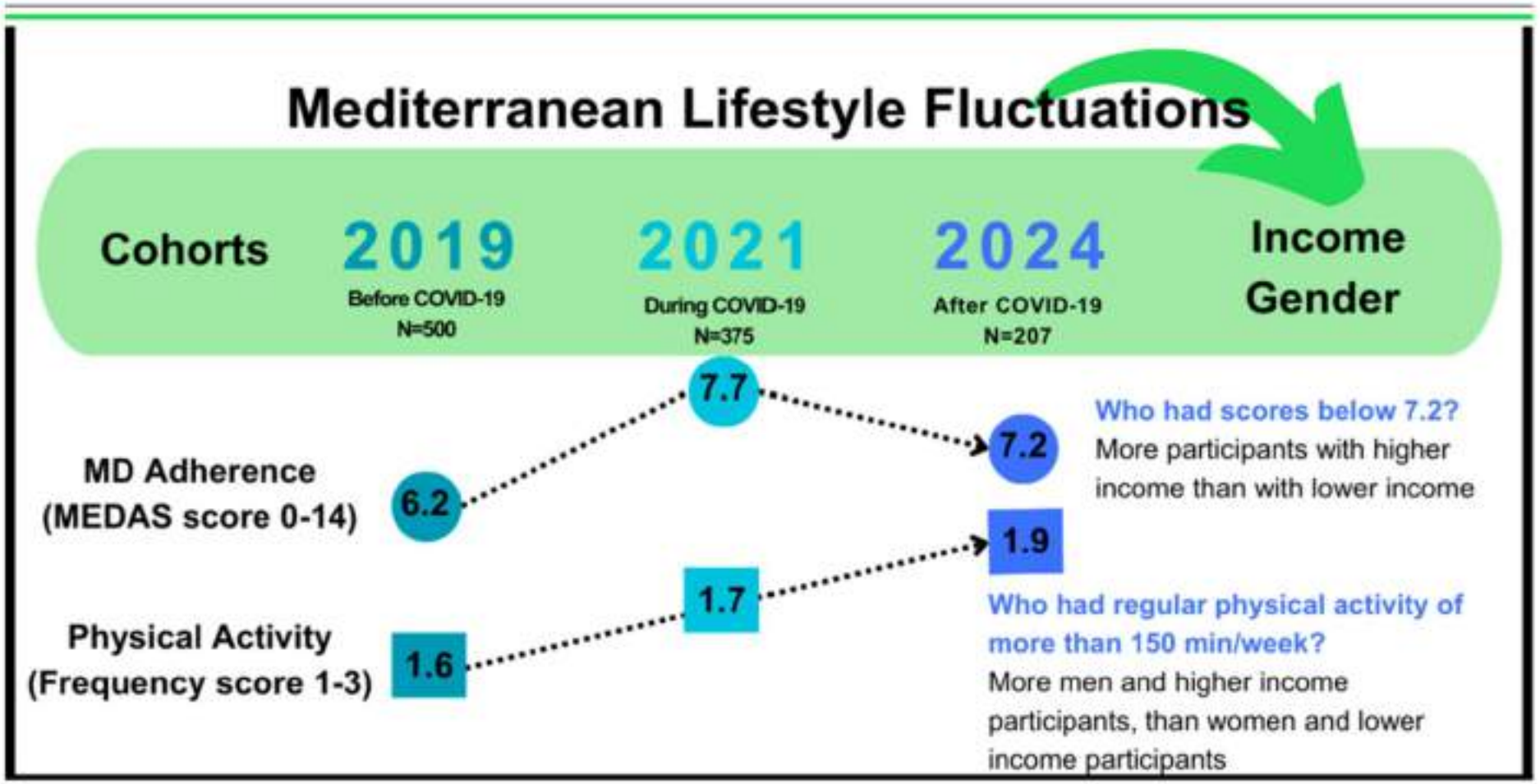
Fig. 1 World Map of the adherence to the Mediterranean dietary pattern, comparing Mediterranean adequacy index value, in the period of 1961–1965 (□, 0·00–0·99; □, 1·00–1·99; □, 2·00–2·99; □, 3·00–3·99; ■, 4·00–4·99; ■, 5·00–5·99)

Worldwide variation of adherence to the Mediterranean diet, in 1961–1965 and 2000–2003

Published online by Cambridge University Press: **01 September 2009**

Rui da Silva, Anna Bach-Faig, Blanca Raidó Quintana, Genevieve Buckland, Maria Daniel Vaz de Almeida and Lluis Serra-Majem

Fig. 2 Map of the adherence to the Mediterranean dietary pattern, comparing Mediterranean adequacy index value, in the period of 2000–2003 (□, 0·00–0·99; □, 1·00–1·99; □, 2·00–2·99; ■, 3·00–3·99; ■, 4·00–4·99)

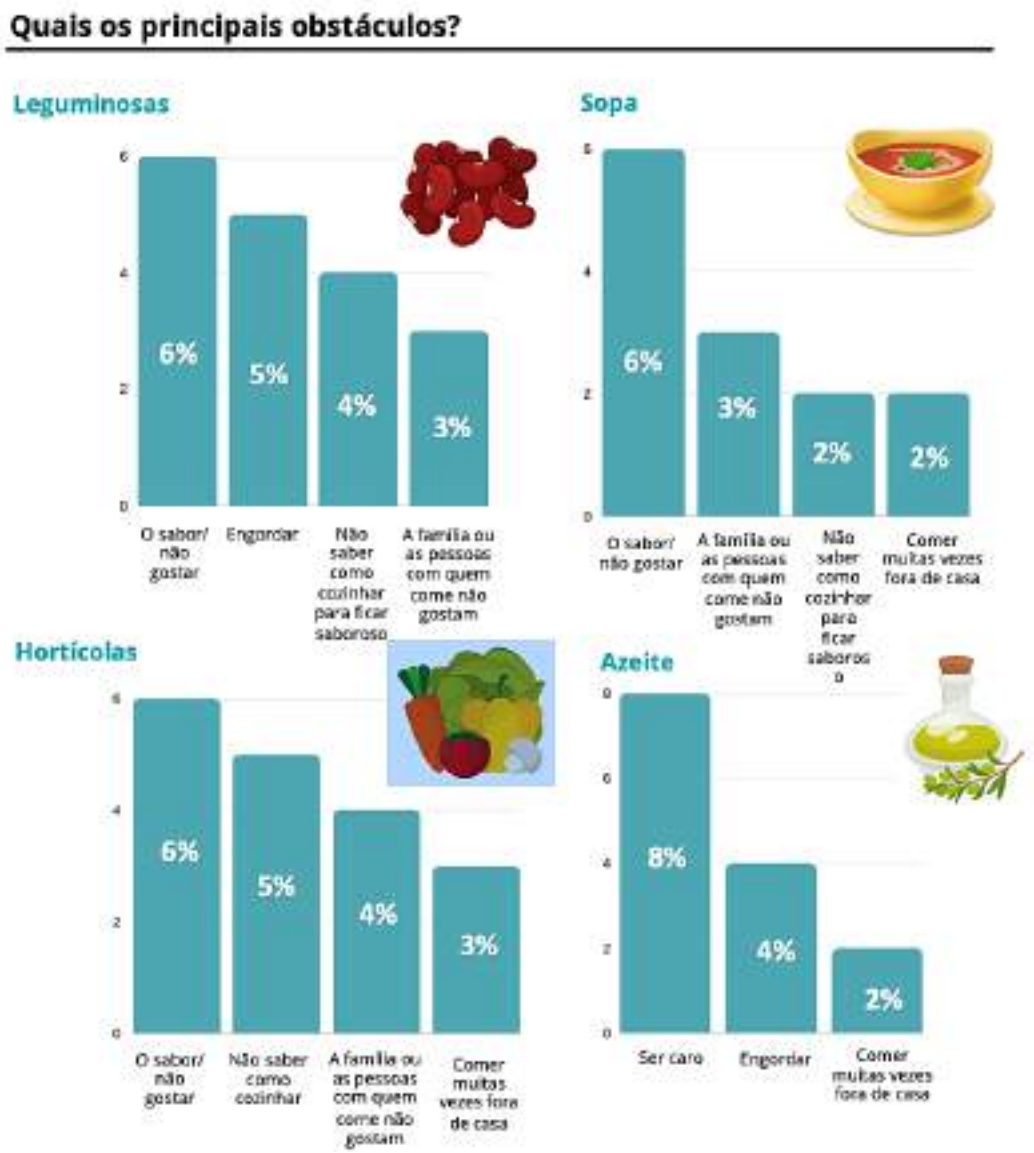


COVID-19 affected dietary habits and MD adherence...

The increase in adherence, with the pandemics, was not sustained

nutrients
MDPI
Article
Fluctuations in Mediterranean Diet Adherence Pre- and Post-Pandemic: A Study of Portuguese Cohorts 2019–2024
Vanda Lopes de Andrade and Paula Pinto

What can be the reason for low adherence to Mediterranean Diet?


Quais os principais obstáculos?
Leguminosas
6%
5%
4%
3%
O sabor/ não gostar
Engordar
Não saber como cozinhar para ficar saboroso
A família ou as pessoas com quem come não gostam
Sopa
6%
3%
2%
2%
O sabor/ não gostar
A família ou as pessoas com quem come não gostam
Não saber como cozinhar para ficar saboroso
Comer muitas vezes fora de casa
Hortícolas
6%
5%
4%
3%
O sabor/ não gostar
Não saber como cozinhar
A família ou as pessoas com quem come não gostam
Comer muitas vezes fora de casa
Azeite
8%
4%
2%
Ser caro
Engordar
Comer muitas vezes fora de casa

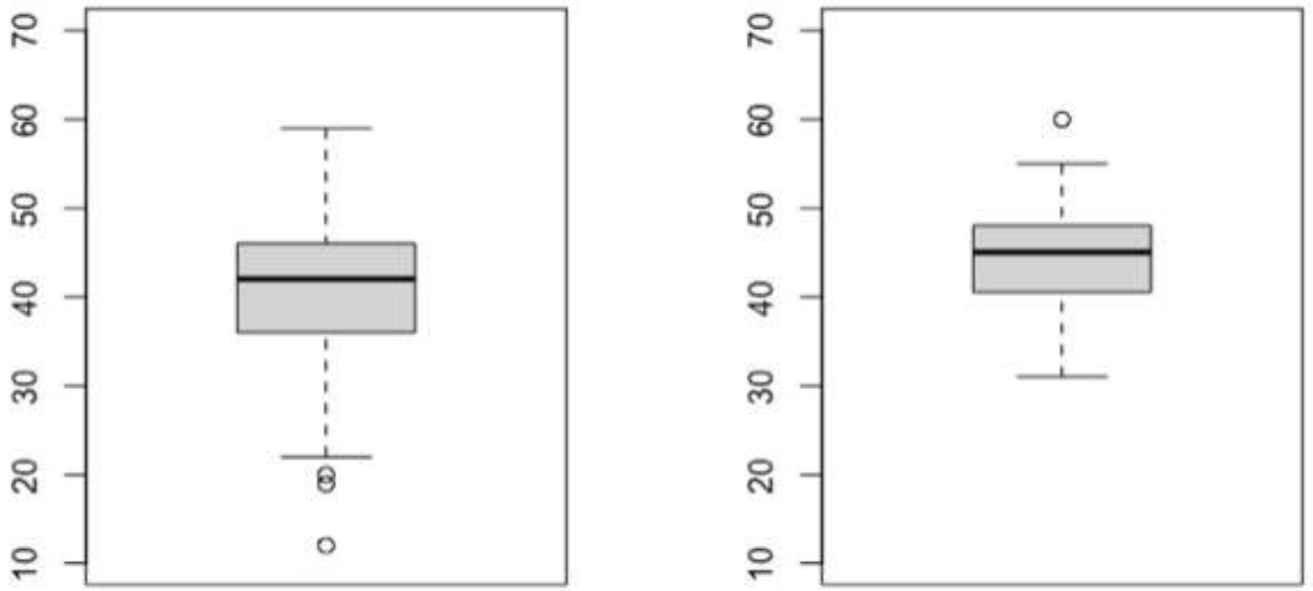
DGS, 2020

Food literacy?

UNIVERSIDADE DE ÉVORA
ESCOLA DE CIÊNCIAS E TECNOLOGIA

Adesão à dieta mediterrânica nos estudantes universitários e relação com a literacia nutricional

Adherence to MD according to food literacy

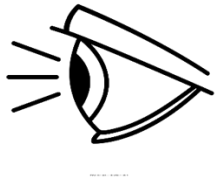


Although no extreme knowledge levels (high or low) had been observed, who has higher adherence level has higher food literacy

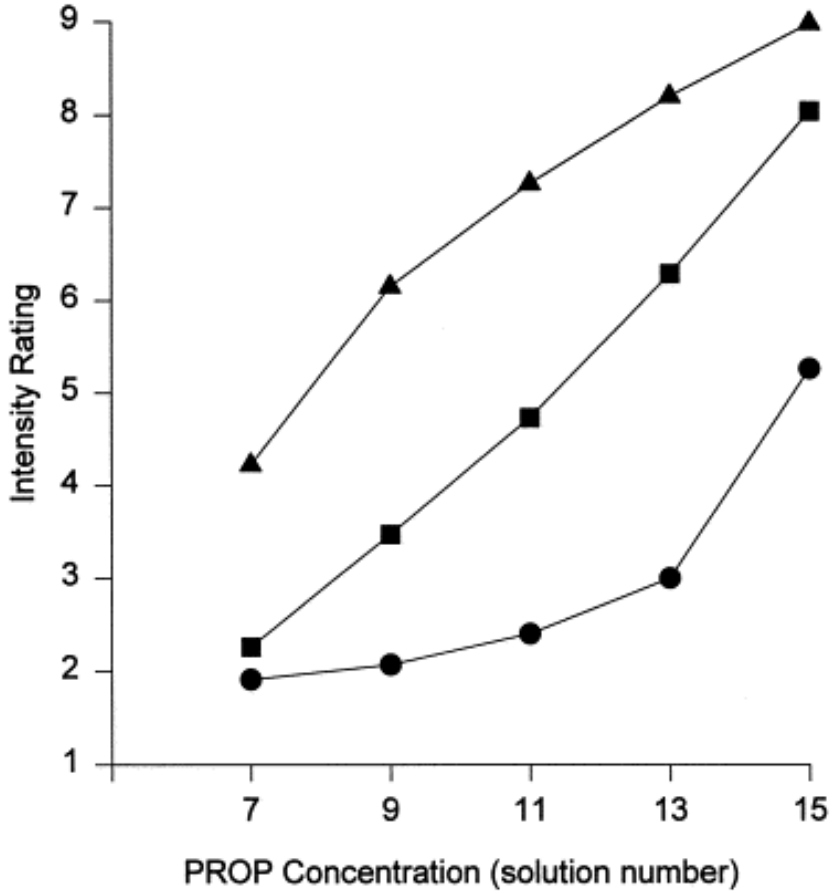
To EDUCATE is important

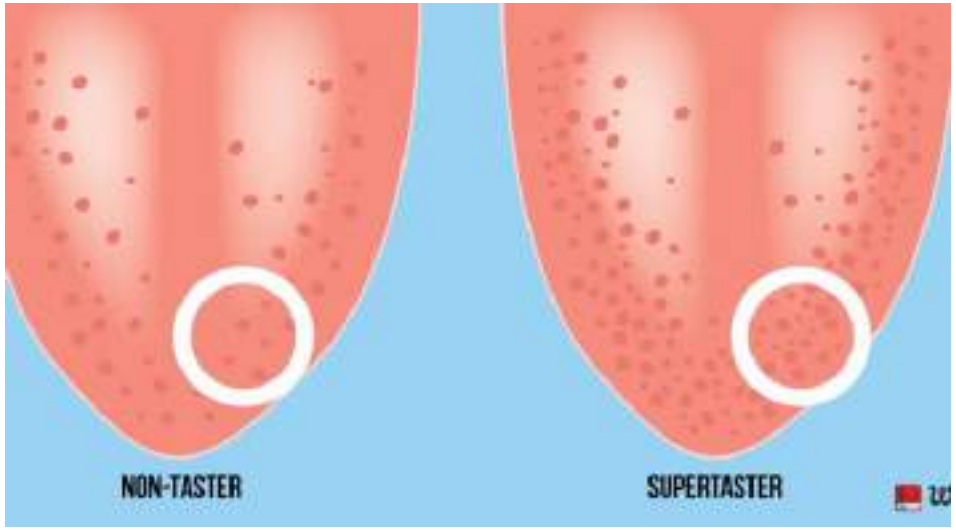
Other reasons, can include biological aspects

Sensory perception



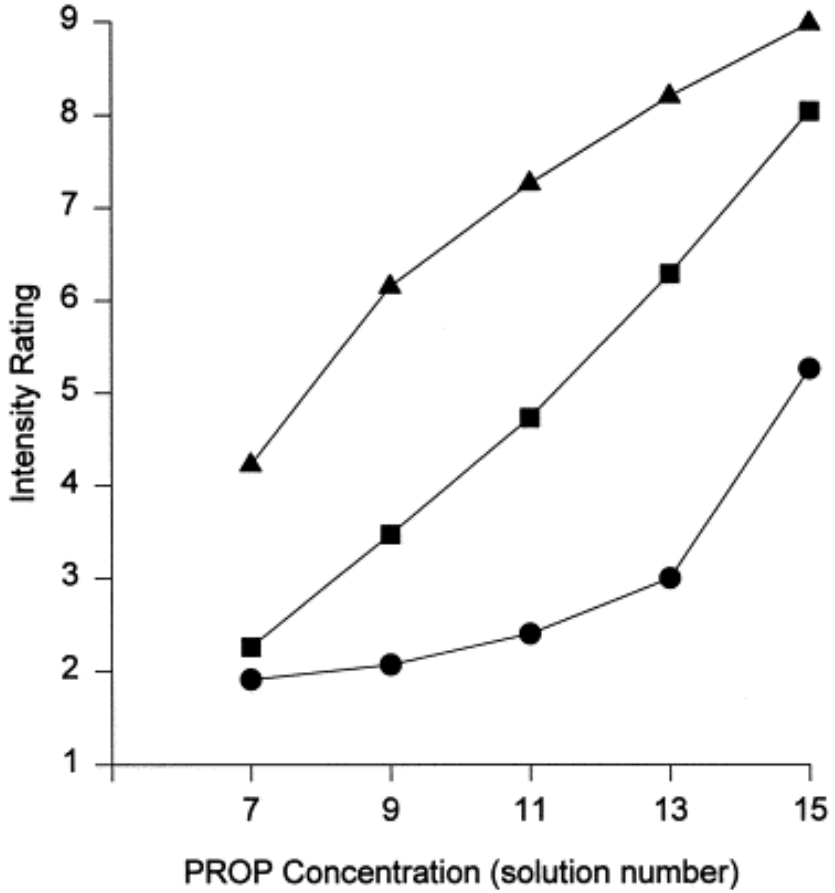
Taste sensity varies from person to person

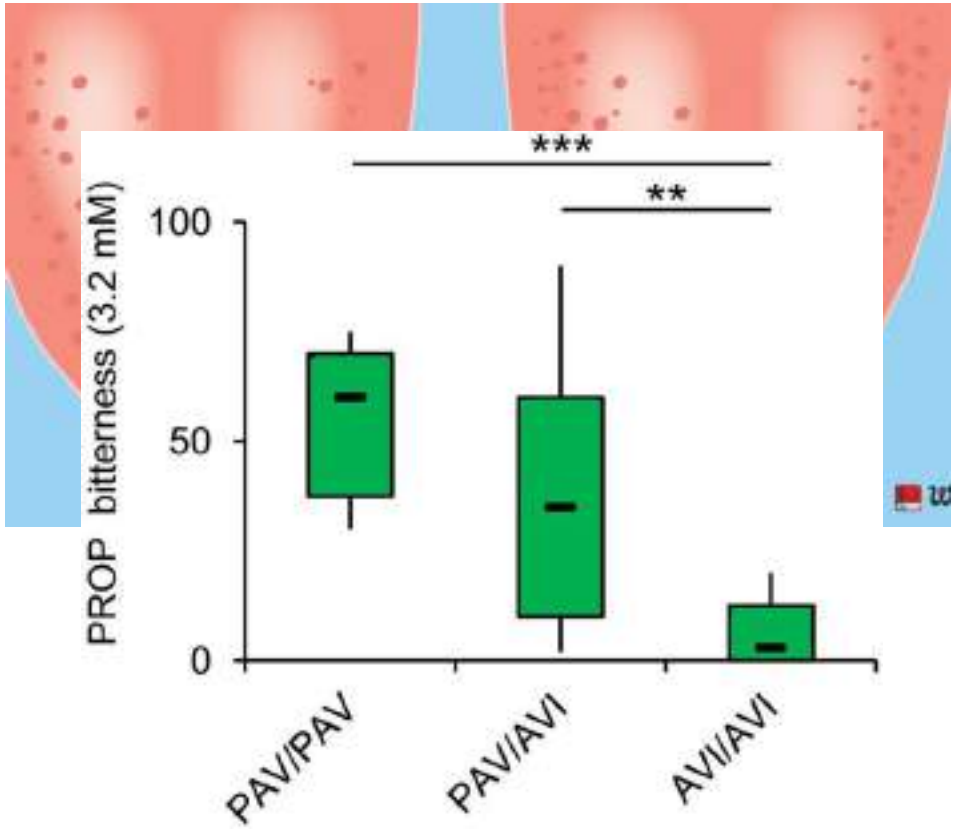




Different number of taste papillae

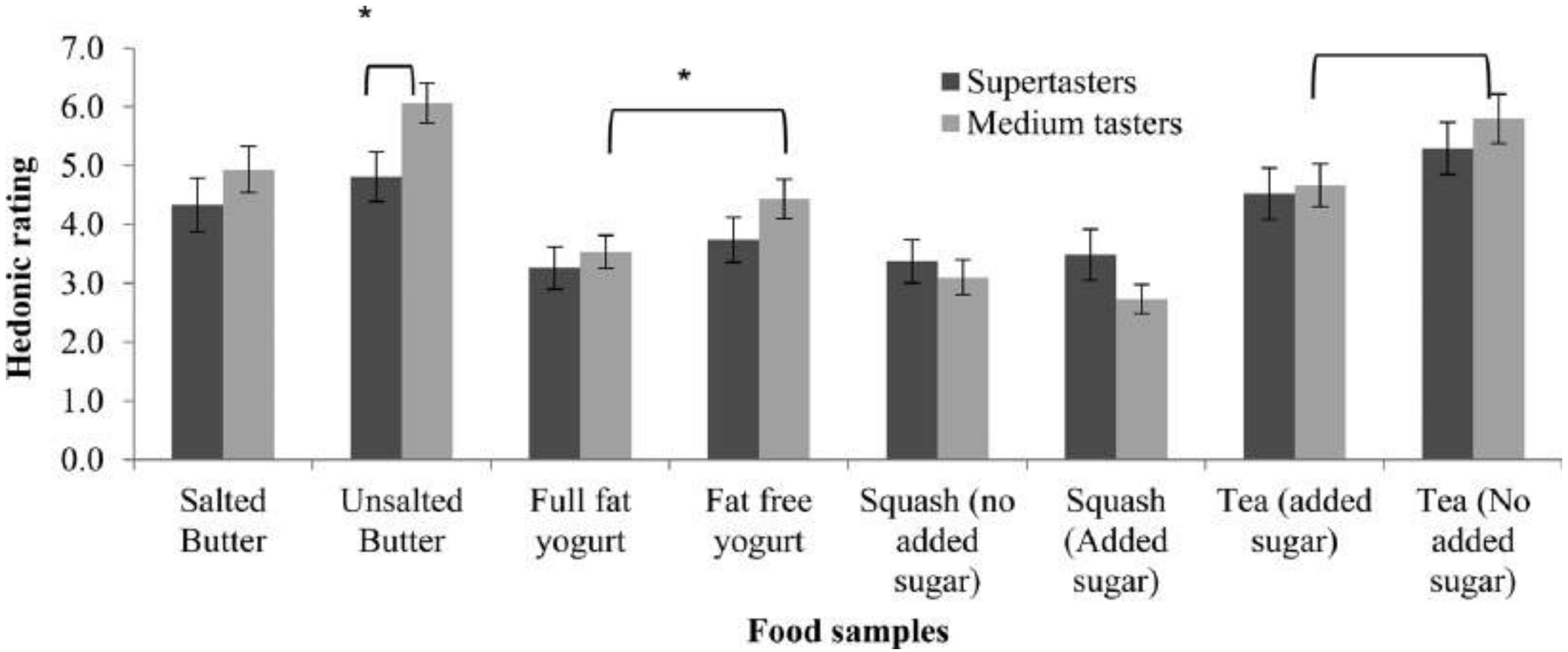
Taste sensity varies from person to person





Polymorphisms at the level of taste receptor gene

Fifference in taste sensitivity represents diferences in food preferences



According to some authors: Children with higher sensitivity to bitter taste have lower acceptance for bitter foods (e.g. vegetables)comparatively to low sensitive children

Taste sensitivity to 6-*n*-propylthiouracil predicts acceptance of bitter-tasting spinach in 3–6-y-old children[1,2]

Bianca Turnbull and Elizabeth Matisoo-Smith

Appetite (2002) 38, 3–12
doi:10.1006/appe.2001.0441, available online at http://www.idealibrary.com on IDEAL®

Original Article

Genetic taste sensitivity to 6-n-propylthiouracil influences food preference and reported intake in preschool children

Kathleen L. Keller, Lone Steinmann, Ricky J. Nurse and Beverly J. Tepper
Department of Food Science, Cook College, Rutgers University, New Brunswick, NJ, U.S.A.

Lifestyle Genomics®

Original Paper

Bitter Taste Perception and Dietary Intake Patterns in Irish Children

O'Brien S.A.[a] · Feeney E.L.[a] · Scannell A.G.M.[b] · Markey A.[b] · Gibney E.R.[a]

Although some studies do not find differences…

Taste sensitivity and lifestyle are associated with food preferences and BMI in children

Lénia Rodrigues, Rosa Silverio, Ana Rodrigues Costa, Célia Antunes, Clarinda Pomar, Paulo Infante, Cristina Conceição, Francisco Amado & Elsa Lamy ...show less

International Journal of Food Sciences and Nutrition
Pages 875-883 | Received 03 Dec 2019, Accepted 23 Feb 2020, Published online: 18 Mar 2020 Volume 71, 2020 - Issue 7

Proportion of children (%) with high level of preference for different food groups, according to their sensitivity to bitter and sweet tastes

Food	Sensitivity to bitter taste						Sensitivity to sweet taste					
	Boys			Girls			Boys			Girls		
	SS	LS	P	SS	LS	p	SS	LS	p	SS	LS	p
"Bitter" vegetables	40.7	39.3	0.879	43.8	29.3	0.168	27.9	45.6	0.056	46.2	26.2	0.040*
"Sweet" vegetables	54.7	66.7	0.194	60.6	56.9	0.730	63.4	59.5	0.676	60.0	52.5	0.456
Dairy Products	83.3	91.8	0.166	87.9	89.7	0.794	86.0	89.9	0.526	80.0	93.4	0.041*
"Sour" fruits	81.1	86.9	0.401	97.0	86.2	0.098	83.3	84.8	0.832	87.5	88.5	0.876

Taste sensitivity can be related with MD adherence?

Taste sensitivity can be related with MD adherence?

Tendency to:

Older adults, **less sensitive to salty** and **more sensitive to sweet** having higher scores of MD adherence

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	6,348	,788		8,054	,000		
	Age	,036	,018	,172	1,976	,050	,999	1,001
	Sweet Threshold	-2,804	1,578	-,164	-1,777	,078	,890	1,124
	Salty Threshold	4,771	2,414	,182	1,977	,050	,890	1,124

a. Dependent Variable: DMScore

Appetite 201 (2024) 107581

Contents lists available at ScienceDirect

Appetite

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

Adherence to mediterranean diet and aromatic plants intake are related with gustatory function: A case-study from a Portuguese region

Teresa Louro [a], Paula Midori Castelo [b], Carla Simões [a], Fernando Capela e Silva [a,c], Henrique Luís [d,e], Pedro Moreira [f], Elsa Lamy [a,*]

Higher seasoning intake associated with:

- Higher bitter and salty taste sensitivity

BUT

- Higher bitter and salty taste preference

Final cluster centers (means) of seasonings and gustatory variables (important differences that identify the clusters are colored).

	Cluster 1 Low seasonings intake	Cluster 2 High seasonings intake	Cluster 3 High sensitivity to salty and bitter	F test
Number of cases	132	41	114	
Sodium intake (from FFQ)	**1578.44**	**4221.03**	2638.62	533.1
Component 1 scores	**-0.16**	**0.43**	-0.06	6.3
Component 2 scores	-0.08	0.08	0.01	0.4
Component 3 scores	**-0.30**	**0.55**	0.09	10.5
Component 4 scores	-0.01	0.03	-0.07	0.2
Component 5 scores	0.02	0.18	0.03	0.3
Component 6 scores	**-0.15**	**0.19**	-0.12	2.1
Sex	0.47	0.56	0.50	0.4
Age	42.29	40.14	41.27	0.6
BMI	26.96	26.71	27.08	0.1
Sweet suprathresholds	2.72	3.07	2.92	0.6
Sweet Pref	3.65	**3.97**	3.63	2.4
Bitter suprathresholds	4.95	**4.06**	**5.34**	2.4
Bitter Pref	**1.43**	**1.68**	1.50	2.0
Sour suprathresholds	5.64	6.11	6.11	0.7
Sour Pref	1.70	1.81	1.64	0.4
Salty suprathresholds	3.87	**3.23**	**4.45**	3.0
Salty Pref	**2.19**	**2.72**	2.30	3.5

Conclusions

a) Mediterranean Diet is a pilar of Human and Planetary health;

b) Adherence is decreasing in different countries of Mediterranean tradition;

c) Need to consider the main drivers and barriers of Mediterranean Diet adherence, including literacy, food access (price), culture and the biological aspects of consumers.

Elsa Lamy
ecsl@uevora.pt

OBRIGADA!

MED CHANGE Global Change and Sustainability Institute

UNIVERSITY OF ÉVORA