

INTERNATIONAL WHOLE GRAIN DAY

# EMPOWERING THE NEXT GENERATIONS WITH WHOLE GRAIN

15 NOVEMBER 2023 — 16:00-17:30(CET)

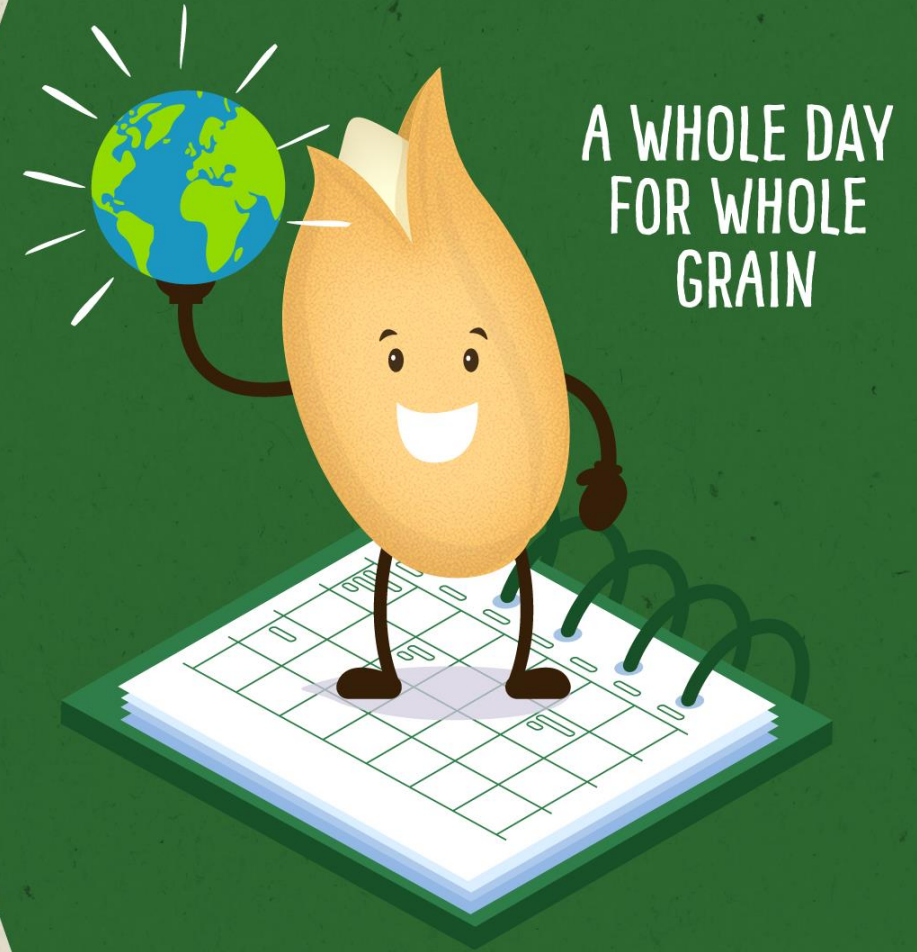


@EATWHOLEGRAINS



WHOLE GRAIN  
INITIATIVE

#INTERNATIONALWGDAY





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## Amornpan Tungarat

Project Manager at the International  
Association for Cereal Science and  
Technology (ICC), Whole Grain  
Initiative representative





# ICC's Commitment to the Whole Grain Initiative

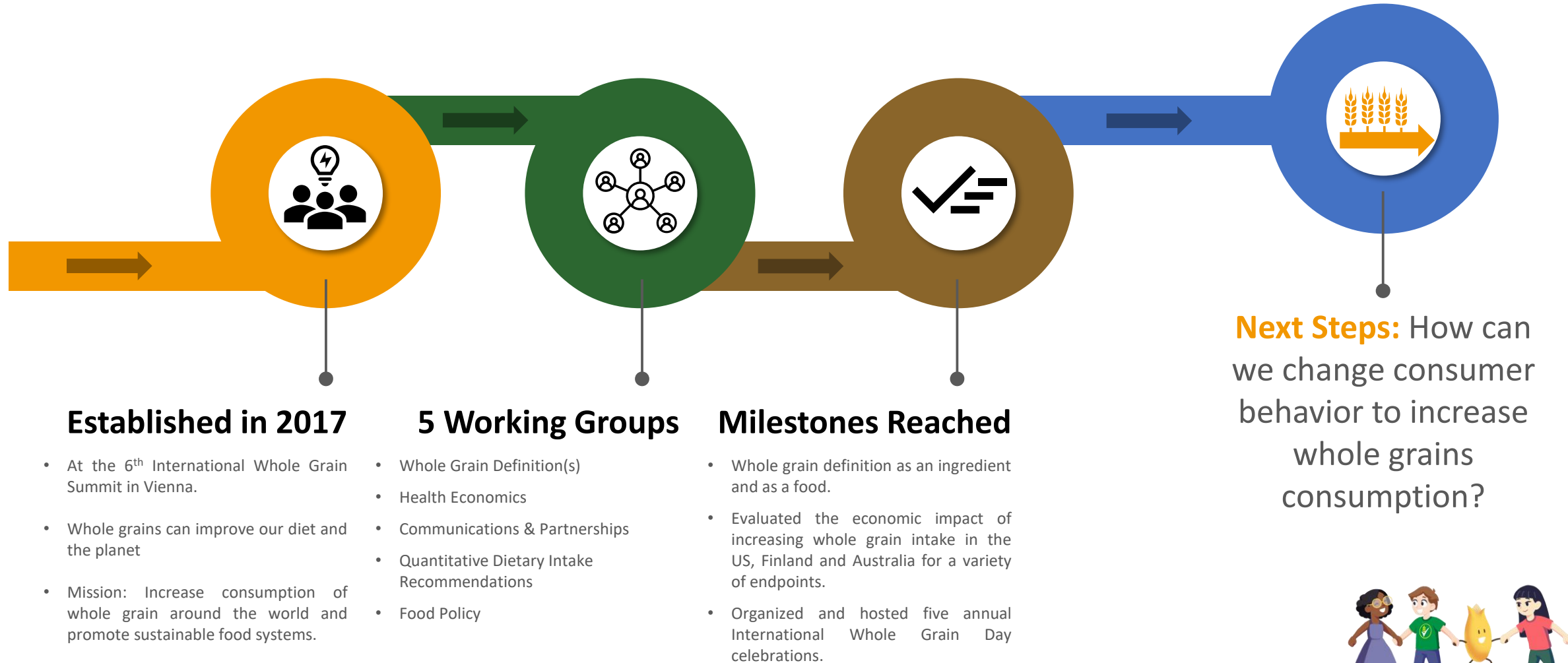
- ICC – The International Association for Cereal Science and Technology
  - **Mission: Knowledge transfer and dissemination**
    - Aim to provide a platform for gathering experts and facilitate collaboration and co-creation in the cereal sector
    - We played a crucial role in its establishment and serve as the umbrella organization for WGI.



International Association for Cereal  
Science and Technology



# Whole Grain Initiative's Journey





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# Whole Grain Initiative Activities Worldwide



Webinar

## Whole Grains for Growing Minds

Nourishing the Next Generation

November 15 • 11:00 AM E.T.







INTERNATIONAL WHOLE GRAIN DAY

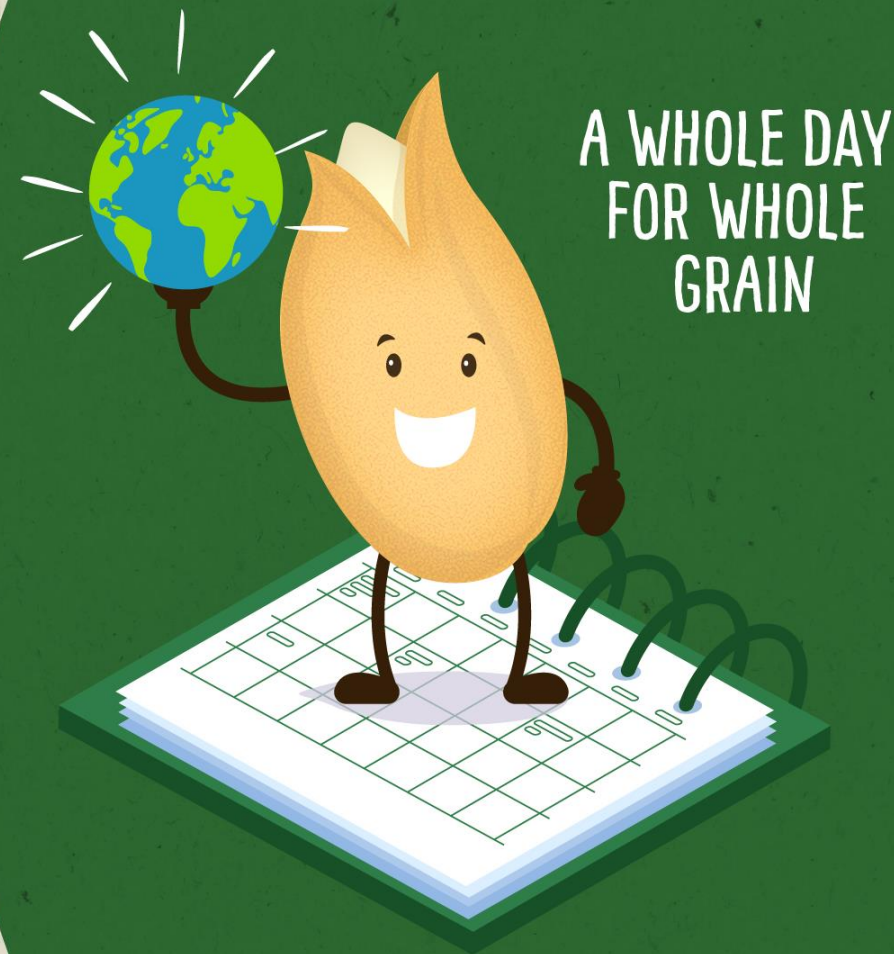
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For more information, visit:  
[www.wholegraininitiative.org/wholegrainday](http://www.wholegraininitiative.org/wholegrainday)



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**Manuela Ripa**

Member of the European Parliament,  
Germany, Group of the  
Greens/European Free Alliance







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## Panel one

# Nurturing sustainable food habits with whole grains



**Marco Springmann**

Professor in Climate Change, Food Systems and Health at the London School of Hygiene and Tropical Medicine, Senior Researcher on Environment and Health at the University of Oxford, EAT-Lancet Commission



**Sara Lamonaca**

Director of Consumer Information, Nutrition & Health, FoodDrinkEurope



**Fatima Hachem**

Senior Nutrition Officer, Leader of the Nutrition Education and Consumer Awareness Team, Food and Agriculture Organisation of the United Nations (FAO)







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## Whole grain day

**Dr Marco Springmann**

Professor in Climate Change, Food Systems and Health

London School of Hygiene and Tropical Medicine

[marco.springmann@lshtm.ac.uk](mailto:marco.springmann@lshtm.ac.uk)

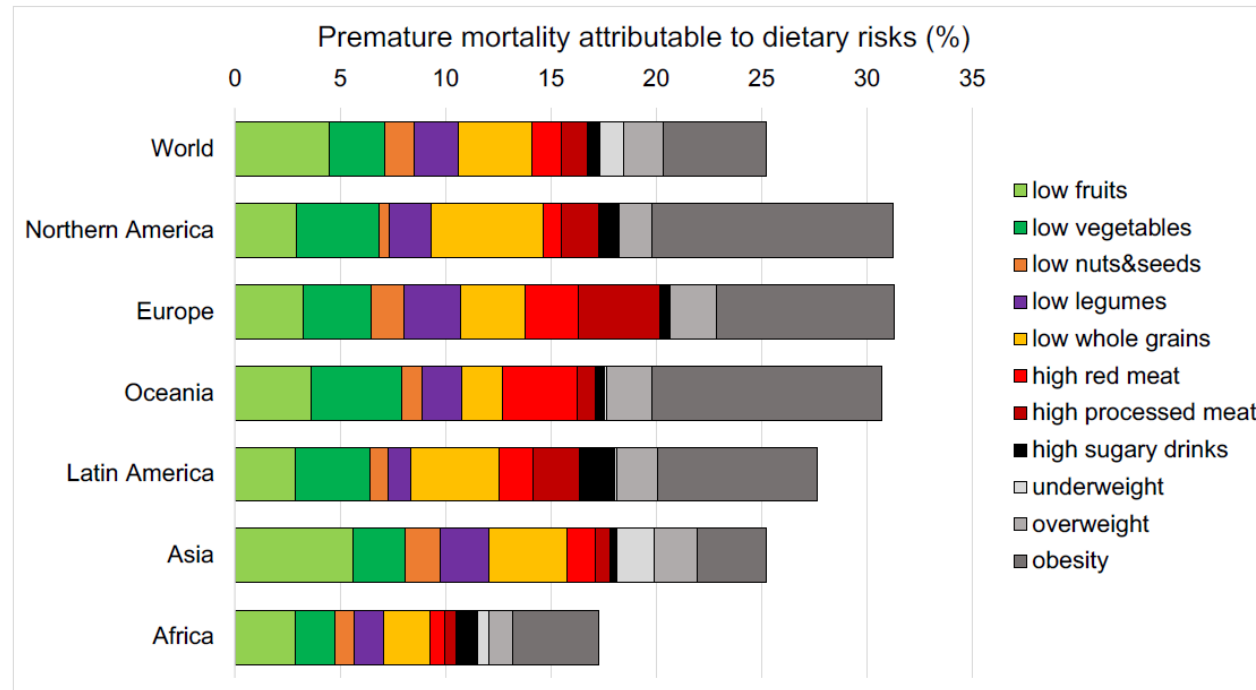
LONDON  
SCHOOL of  
HYGIENE  
& TROPICAL  
MEDICINE



**Climate Change  
& Planetary  
Health**



## Dietary risks are leading risk factors for premature mortality










GBD Diet Collaboration (Lancet 2019); Global Nutrition Report (2021)





## Recommendations for healthy and sustainable diets

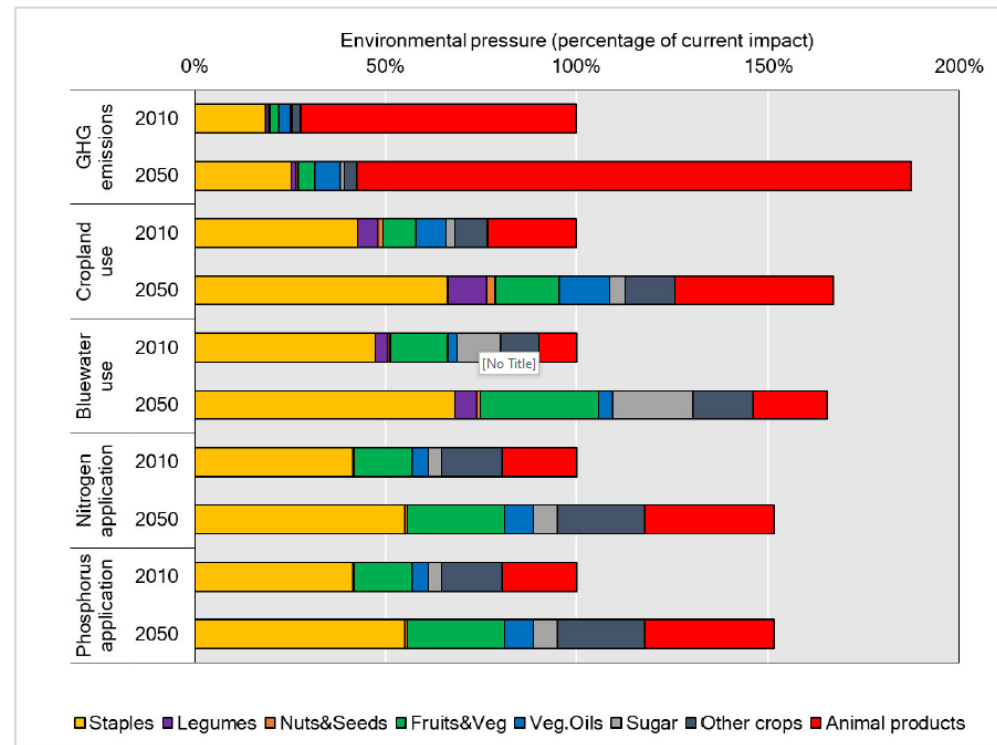
	Macronutrient intake grams per day (possible range)	Caloric intake kcal per day
 Whole grains Rice, wheat, corn and other	232	811
 Tubers or starchy vegetables Potatoes and cassava	50 (0-100)	39
 Vegetables All vegetables	300 (200-600)	78
 Fruits All fruits	200 (100-300)	126
 Dairy foods Whole milk or equivalents	250 (0-500)	153
 Protein sources	Beef, lamb and pork	14 (0-28)
	Chicken and other poultry	29 (0-58)
	Eggs	13 (0-25)
	Fish	28 (0-100)
	Legumes	75 (0-100)
 Nuts	50 (0-75)	291
 Added fats	Unsaturated oils	40 (20-80)
	Saturated oils	11.8 (0-11.8)
 Added sugars All sugars	31 (0-31)	120



EAT-Lancet Commission (Willet et al, Lancet 2019)



## Less grains for feed needs to be balanced by less meat & dairy

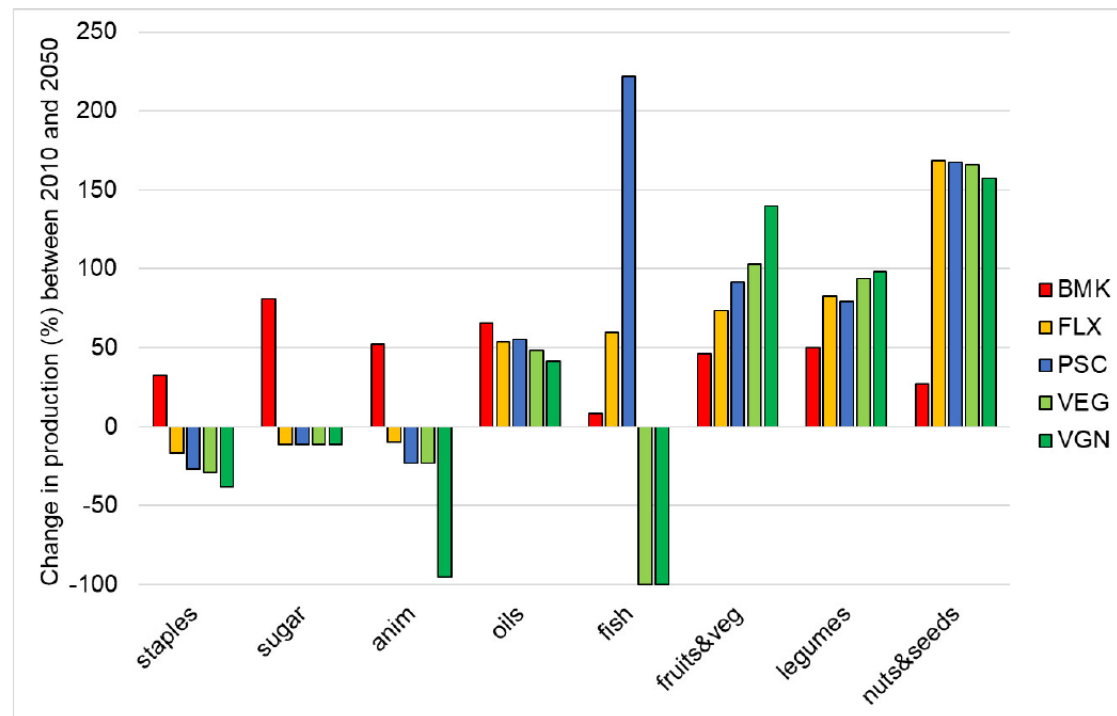


Springmann et al (Nature 2018)





## Future production needs for healthy and sustainable diets



Springmann et al (Nature 2018)





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## Panel two

# Nurturing sustainable food habits with whole grains



**Camilla T. Damsgaard**

Research Group Leader | Lifecourse  
Nutrition & Health, Associate Professor,  
PhD, Department of Nutrition, Exercise and  
Sports University of Copenhagen



**Ioanna Bakogianni, PhD**

Project Officer, European Commission's  
Joint Research Centre



**Peiman Milani**

Director of the Food Initiative, The  
Rockefeller Foundation in Africa





# Wholegrain intake in children

How does it impact health and how can we promote it?

**Camilla T. Damsgaard**

Associate Professor of Children's Nutrition & Research Group  
Leader

Lifecourse Nutrition & Health  
Department of Nutrition, Exercise and Sports  
University of Copenhagen

[ctd@nexs.ku.dk](mailto:ctd@nexs.ku.dk)

UNIVERSITY OF COPENHAGEN



# Effects on wholegrain intake on children's health?

- Observational studies among children show that wholegrain intake is associated with lower BMI and a more favourable cardiometabolic profile<sup>1,2,3,4</sup>
- There are very few randomized interventions with wholegrain in children
- **KORN randomized crossover trial in 55 children (8-13 yrs) w/ high BMI<sup>5</sup>:**



Refined grain **VERSUS** Wholegrain rye and oat



- ✓ Lower plasma LDL cholesterol and triacylglycerol ( $P < 0.05$ )
- ✓ Modulation of the gut microbiota
- ✓ Increased production of beneficial short chain fatty acids
- ✓ Lower self-reported fatigue
- No effect on BMI or other cardiometabolic markers

<sup>1</sup>Damsgaard et al. J Nutr 2017;147:816-824.

<sup>2</sup>Zanovec et al. 2010;157:578-583.

<sup>3</sup>Steffen et al. Am J Epidemiol. 2003;158:243-250.

<sup>4</sup>Fulgoni et al. Nutr Health. 2020;26:243-251.

<sup>5</sup>Madsen MTB et al. Am J Clin Nutr 2023, In Press.



# How do we promote wholegrain intake in children?

- Wholegrains in national dietary guidelines for children
- Structural strategies
  - Availability in stores and labelling - inspiration from the Danish Wholegrain Partnership
  - Build into school food programmes and day care guidelines
- Gradual transition - take into account local food culture
- Education is only part of the answer
  - Children are not in control of their food intake
  - Knowledge  $\neq$  behaviour





# International Whole Grain Day - Empowering the next generations with whole grain

**BAKOIANNI Ioanna, EC JRC**

**15<sup>th</sup> November 2023**



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## Health Promotion and Disease Prevention Knowledge Gateway



- Data on effects of whole grain on health
- Data on policies related to whole grain intake



*Scan me*

[https://knowledge4policy.ec.europa.eu/health-promotion-knowledge-gateway/whole-grain\\_en](https://knowledge4policy.ec.europa.eu/health-promotion-knowledge-gateway/whole-grain_en)



# Thank you



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# International Whole Grain Day - Empowering the next generations with whole grain

**Peiman Milani,**  
**The Rockefeller Foundation Africa**

# Why shift from refined to whole grains

3x<sup>1</sup>

more nutritious

2.2x macro-nutrients  
and 3.5x micro-nutrients  
compared to refined  
flour



\$0

incremental cost

High quality whole  
grain foods can be  
produced **at the  
same cost** as refined  
foods



25%<sup>2</sup>

lower environmental  
footprint

Whole grains can feed  
**more people** with **less  
land, water, fertilizer,  
pesticide use** and **lower  
GHG emissions**



1. Multiples for whole vs. refined maize flour; similar multiples apply to wheat and rice

2. Ranges from 20-30%



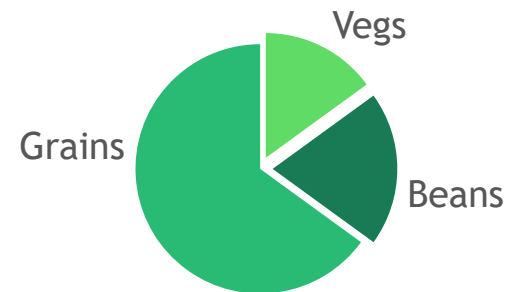
## School meals are the best entry point for whole grains: more nutrition at no additional cost

Comparative macro and micronutrient gain when switching from refined to whole maize meal

### 1 Whole grains are 3X more nutritious



With grains being ~60% of a typical school meal plate in Africa, changing to whole grains makes meals significantly more nutrient-dense



Gain	Nutrient	Multiple
Macronutrients 2.2X	Proteins	1.2
	Lipids	2.8
	Carbohydrates	0.9
	Fiber	3.8
Micronutrients 3.5X	Iron	2.6
	Zinc	4.7
	Vit. A	1.0
	Thiamin	3.3
	Riboflavin	1.3
	Pantothenic Acid	12.7
	Pyridoxine	3.8
	Folate	2.9
	Vit. E	2.8
	Calcium	3.5
	Copper	1.6
	Magnesium	4.6
	Manganese	8.2
	Phosphorus	4.5
	Potassium	3.5
Overall		3X

### 2 Whole grain foods can be produced at the same cost as refined foods thanks to the much higher extraction rate



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## Pilot study demonstrated the feasibility of a large-scale, budget-neutral shift in school meals towards whole grain foods

A pilot in Rwanda<sup>1</sup> supplied nearly 14,000 schoolchildren in 18 schools with whole grain maize meal for a school term, demonstrating that it is feasible to:

Produce high quality whole grain flour  
at the same cost as refined flours



Shift consumer preferences towards  
whole grain foods



Leverage school meals and institutional  
markets to improve diets for the most  
vulnerable in a budget-neutral way



By the end of the pilot ...

72% of all schoolchildren  
preferred whole grain maize  
meal to refined equivalent; so  
did 97% of children in Grade 6

➤ Whole grains adopted and expanded to 74,000 schoolchildren in 81 schools and included in school feeding guidelines; nearly 320,000 children currently reached across East Africa

1. The Rockefeller Foundation supported a pilot between August 2020 and December 2021 in Rwanda to replace refined maize flour in school meals with FWG flour. The pilot, implemented by Vanguard Economics in collaboration with the World Food Programme (WFP), developed an FWG maize flour for procurement by WFP for its school feeding program.





# Thank you!

For more information, visit:  
[www.wholegraininitiative.org](http://www.wholegraininitiative.org)

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