

INTERNATIONAL WHOLE GRAIN DAY

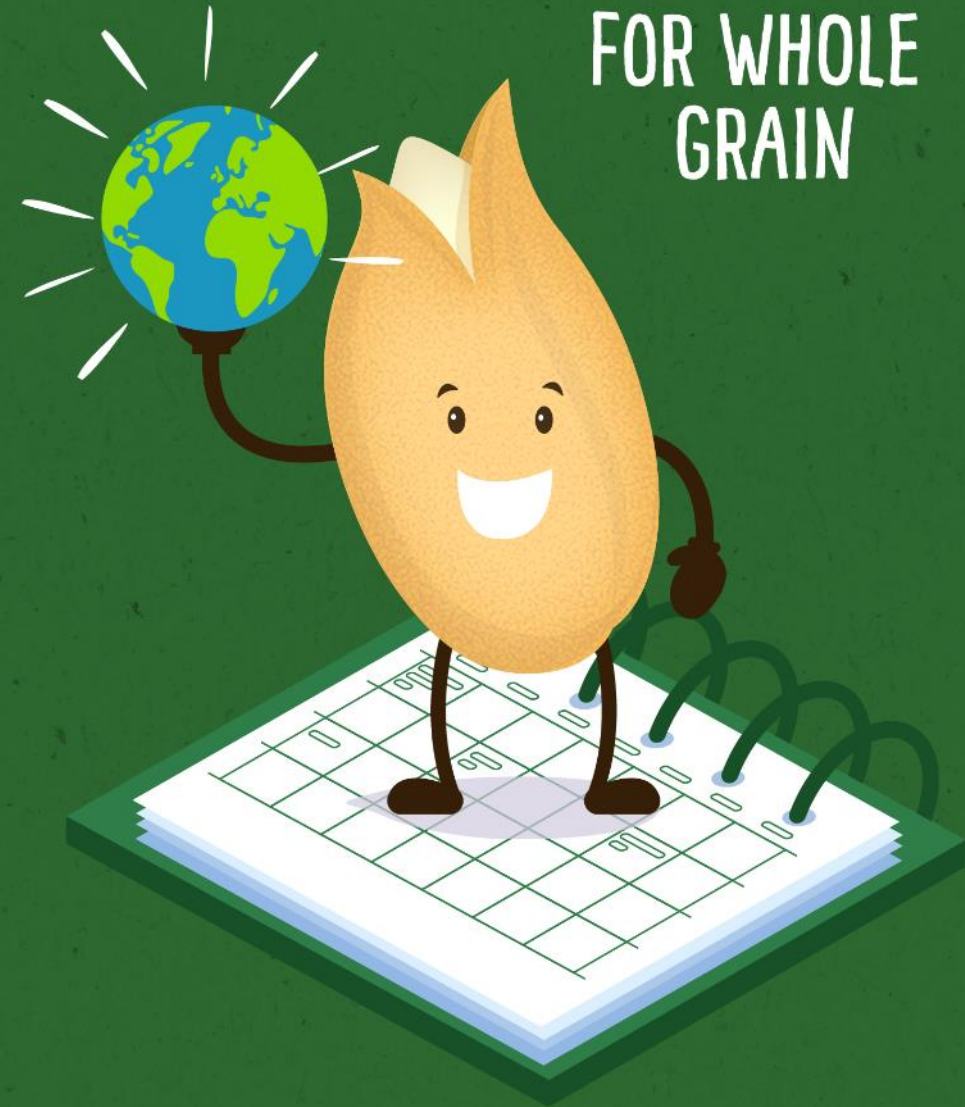
WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?

15 NOVEMBER 2022 — 15:30-17:00(CET)



@EATWHOLEGRAINS #INTERNATIONALWGDAY

A WHOLE DAY
FOR WHOLE
GRAIN





- VISION & MISSION

Whole Grain Summit 2017 → **VIENNA WHOLE GRAIN DECLARATION**

- experts' consensus on the principal goals
- actions that must be taken to increase whole grain intake
- cooperation in a global "**Whole Grain Initiative**" with international working groups

Whole Grain Initiative's VISION:

To globally increase whole grain intake.

Whole Grain Initiative's MISSION:

Worldwide interdisciplinary collaboration driven by principles of

- engagement,
- sharing knowledge, information and resources,
- transparency and inclusivity

to increase whole grain intake worldwide.

To act as overarching independent counterpart for policy makers, health orgs, and others.



- ACTIVITIES / Working Groups

International Working Group on **Whole Grain Definitions**

Aims: Reach consensus on a global definition of whole grain raw materials; Reach consensus on a whole grain food definition

International Working Group on **Best Practices for Public-Private Partnerships & Communication**

Aims: Create cohesive and consistent messaging and strategies around the promotion of whole grains to help capture consumer attention; Provide a framework that can be used in communities/countries/regions around the globe to form public-private partnerships

International Working Group on **Economic Evaluation of Increased Whole Grain Intake**

Aims: Give insight into the economic impact of whole grains and health care costs relative to increasing whole grain consumption beyond current levels

International Working Group on **Sustainability of Whole Grains**

Aims: Develop data that will clarify the role that cereal grains might play in promoting the most sustainable food supply; Evaluate the whole grain supply chain to build a holistic understanding of whole grain sustainability.

International Working Group on **Food Policy**

Aims: Advocate for harmonized, coherent food policies that promote the consumption of whole grains including national dietary guidelines and front-of-pack nutritional labelling



- ACCOMPLISHMENTS so far

International Working Group on **Whole Grain Definitions**

- Reached consensus and disseminated the **definition of whole grain** (as an ingredient) and the **definition of a whole grain food**
- Definitions **published in *Nutrients*** in December 2021

International Working Group on **Best Practices for Public-Private Partnerships & Communication**

- Secured recognition for International Whole Grain Day
- Planned today's 4th annual Whole Grain Day event and webinar

COMING SOON....

International Working Group on **Whole Grain Recommendations**

Aims: Make a global definition that helps drive consistency in intakes around the world.

International Working Group on **Economic Evaluation of Increased Whole Grain Intake**

- Responsible for four independent studies evaluating the economic impact of increasing whole grain intake
- Studies include data from US, Finland, and Australia, looking at cardiovascular disease, coronary heart disease, diabetes, and colorectal cancer

- ### International Working Group on **Food Policy**
- Active in the FOP labelling space looking for ways to include whole grains in algorithms
 - In collaboration with the Communications Group: Beginning to pursue a UN "Year of the Whole Grain"

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WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?



Keynote address

The role of whole grain in the shift to a healthy and balanced diet

What are the benefits of a healthy, balanced diet that includes whole grains? What benefits does wholegrain consumption bring to the healthcare systems?



Prof. Roberto Volpe



Professor - Medical researcher and representative of the Italian Society for Cardiovascular Prevention (SIPREC) at the European Heart Network (EHN)



Prof. Janne Martikainen

Professor, Pharmacoeconomics | School of Pharmacy, University of Eastern Finland (UEF)
Head (Health Sciences) of UEF House of Effectiveness



  @EATWHOLEGRAINS #INTERNATIONALWGDAY

WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?



Figure 1.3a Deaths under 65 years by cause, males, latest available year, Europe

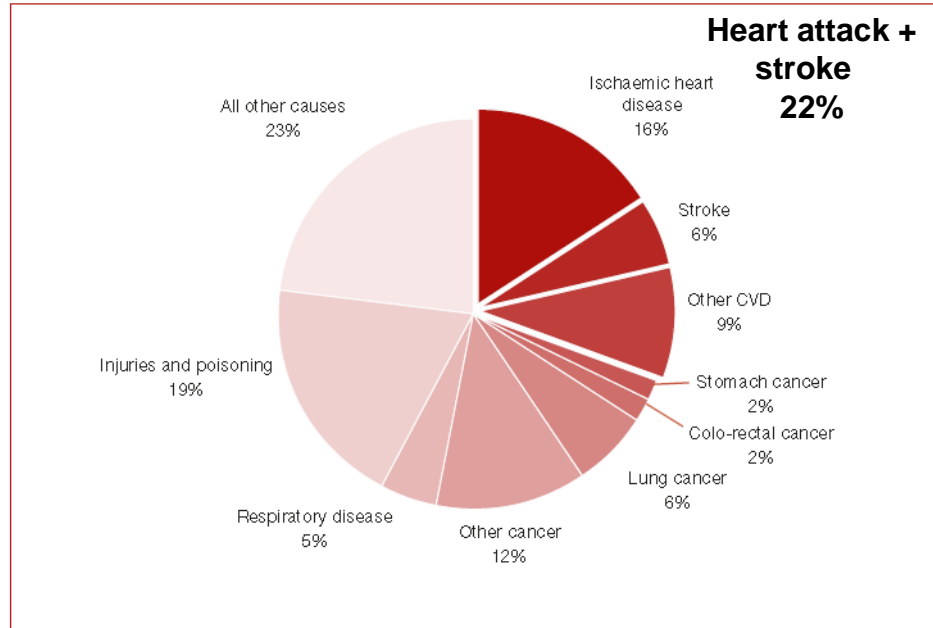
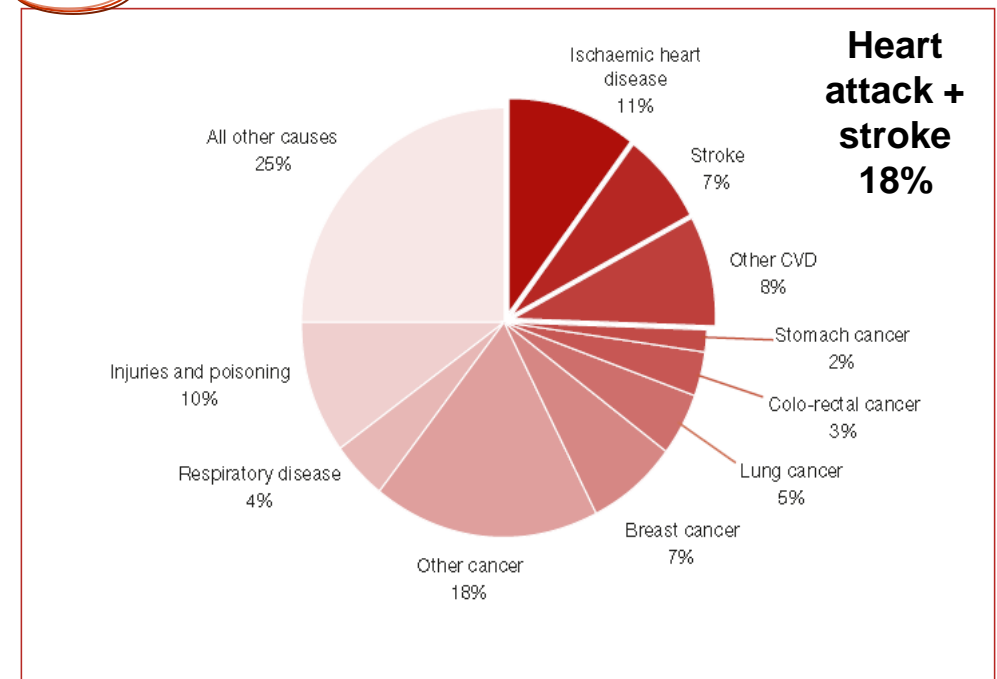
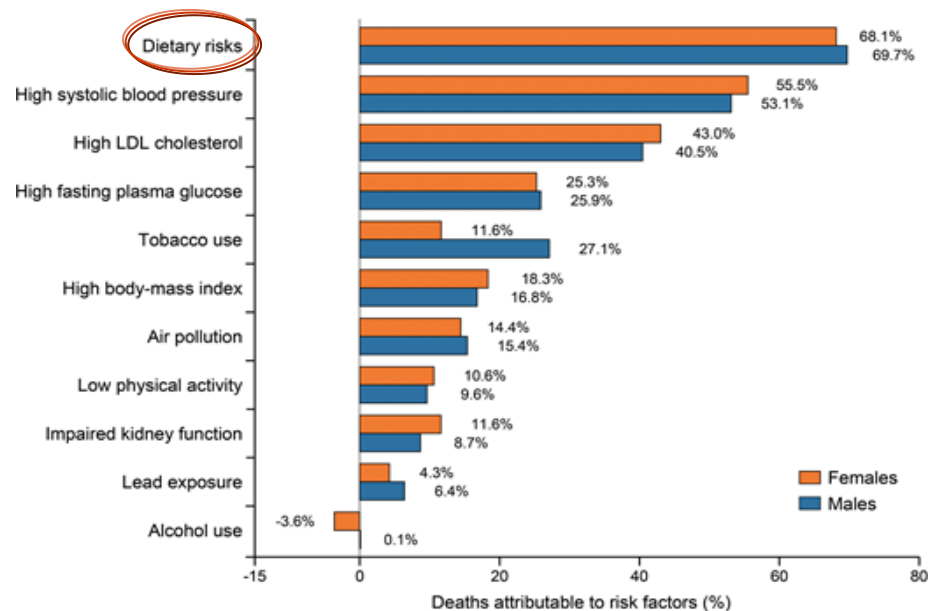


Figure 1.3b Deaths under 65 years by cause, females, latest available year, Europe

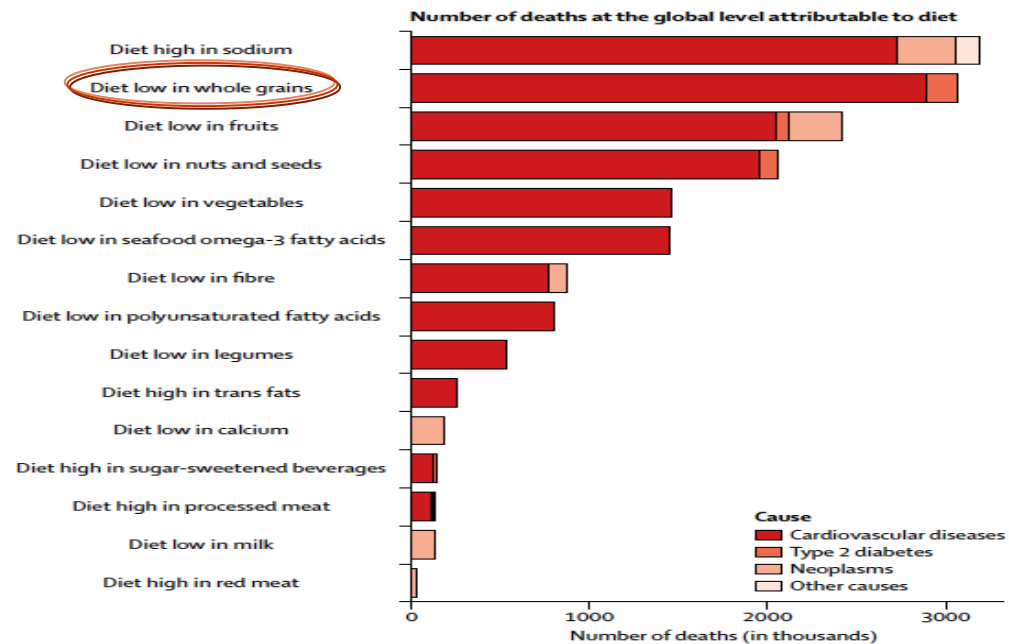


WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?



Percentage contributions of major risk factors to ischaemic heart disease age-standardized deaths by sex, 2017.
GBD 2017 Diet Collaborators, Lancet, 2019

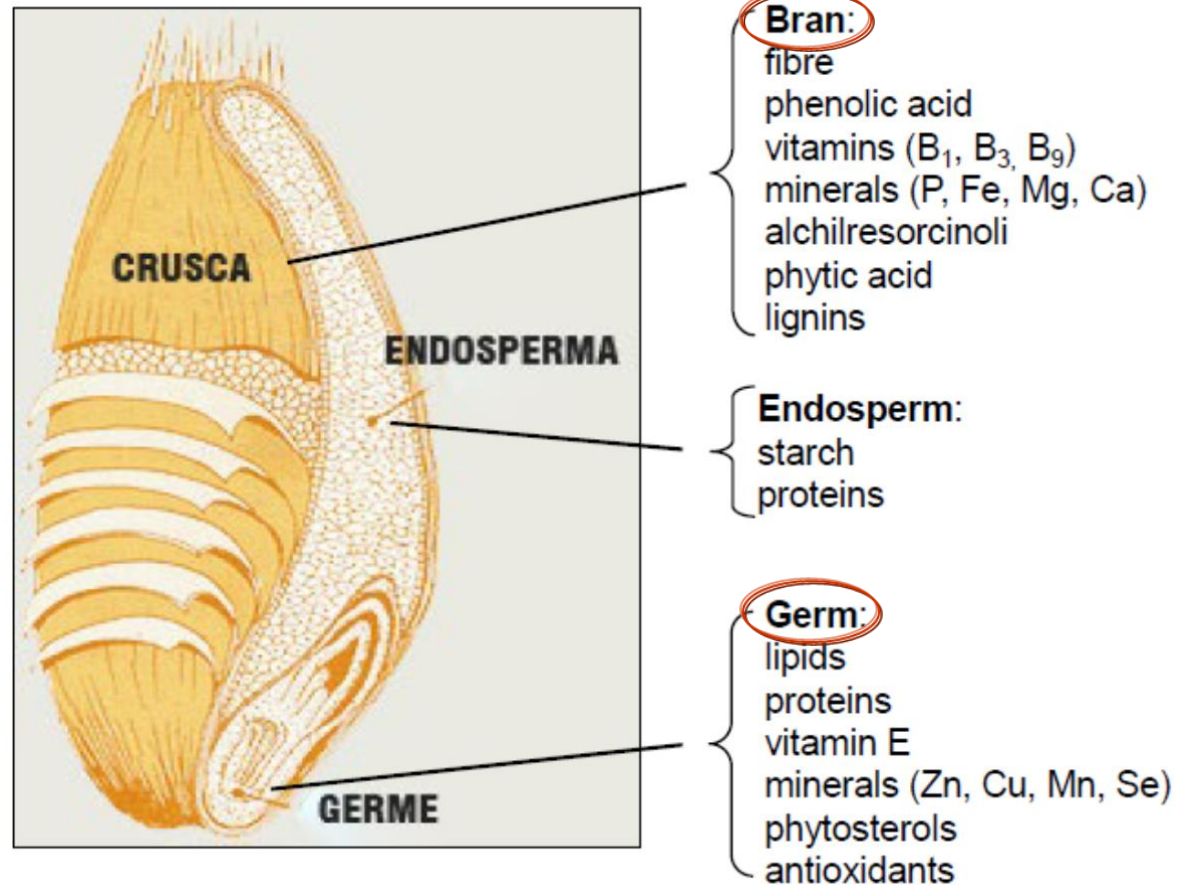
Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017, Lancet, 2019



WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?

Whole grain bioactive compounds: fibre + ...

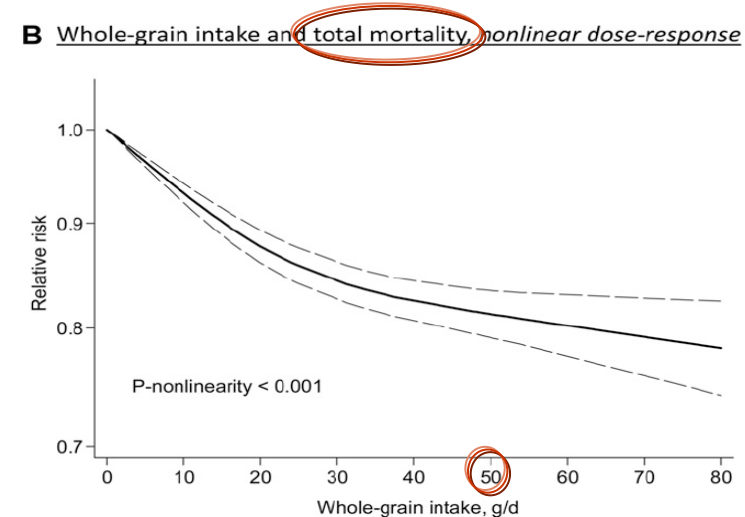
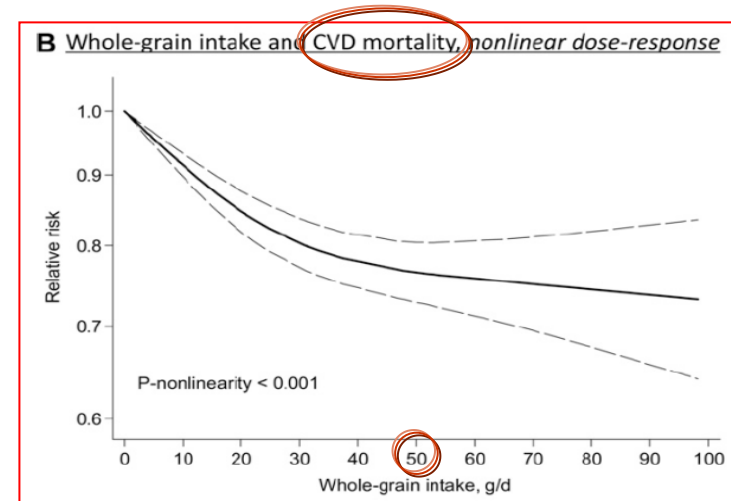
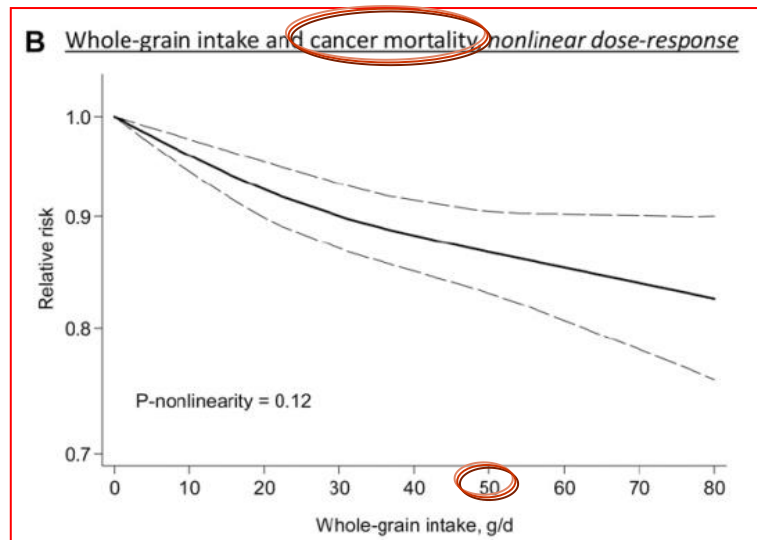
Whole grains (caryopsis)



Diet rich in whole grains is a protective factor

Whole-grain intake and cardiovascular, cancer, and total mortality (n.104,061): a systematic review and meta-analysis of prospective studies (n. 13)

Chen GC et al, Am J Clin Nutr 2016



Carbohydrate quality and human health: a series of systematic reviews and meta-analysis. Reynolds A, et al: The Lancet, 2019

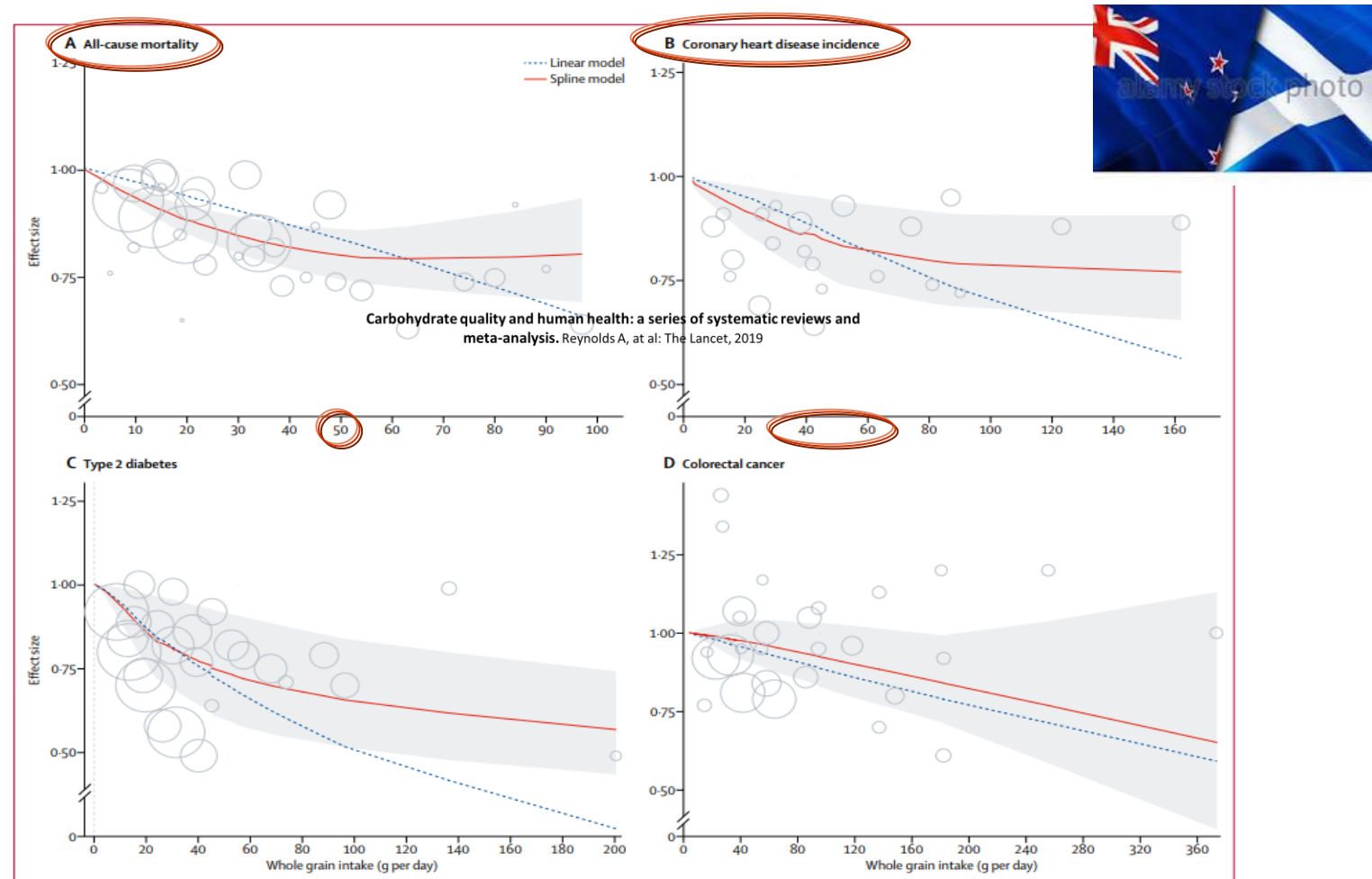


Figure 2: Dose-response relationships between whole grain intake and critical clinical outcomes based on data from prospective studies

WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?



Several scientific evidence (Chan 2016, Aune 2016, Reynolds 2019) **clearly indicate quantitative recommendations for whole grains that would help consumers (and also reformulation for manufacturers):**

about 50g per day = 3 portions
(1 portion = 16g of dry weight, US 2015 Dietary Guidelines)

1 slice of bread

4 crispbreads

half a cup of breakfast cereals (without added sugar)

80 g of pasta

80 g of rice



However, the number of portions depends on the WG content in the product



supports



DEFINITION OF A WHOLE-GRAIN FOOD

DEFINITION - INCLUDING REQUIREMENTS FOR DESIGNATING WHOLE GRAIN FRONT-OF-PACK

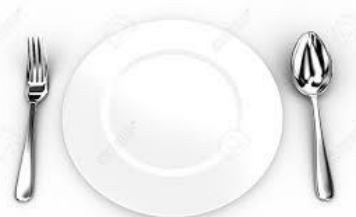
1. Definition of a whole-grain food

A whole-grain food shall contain at least 50% whole-grain ingredients based on dry weight

WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?



**Who would have thought we could fight diabetes,
hypercholesterolemia, hypertension, obesity,
cardiovascular disease and some cancer
with a fork and a spoon of whole grains?!**



Health Economics of Whole Grain

Findings from the recent four international studies

Janne Martikainen, PhD, Professor, Head of UEF House of Effectiveness, University of Eastern Finland

Health Economics

- Health economics provides methodologies and approaches to estimate **the expected health and economic outcomes** of different interventions and policy actions
 - Health outcomes measured as e.g., life years gained or Quality Adjusted Life Years (QALYs)
 - Economic outcomes measured as
 - ✓ Direct social and health care costs
 - ✓ Direct non-health care costs (e.g., travel costs related to hospital treatments)
 - ✓ Productivity costs related to reduced daily functioning, reduced work ability, and work absenteeism
- Results of health economic analyses are commonly used **to assist in selecting programs and interventions with the greatest expected return on their investment, both health and economic outcomes**

Health Economics of Whole Grain

Findings from the recent four international studies 1/2

- Dietary patterns including higher intakes of whole cereal grain consumption have been consistently associated with reduced incidence of **cardiovascular diseases, type 2 diabetes, and certain gastric cancers**
- Recently, **four economic analyses** assessing the impact of whole grain on health care, productivity costs, and health outcomes (in terms of QALYs) have been published utilizing data from the US (1), Australia (2-3), and Finland (4)
- These studies explored health economic outcomes associated with the increased whole grain intake at the population level



Nutrition economics: Four analyses supporting the case for whole grain consumption

Kevin B. Miller^{a,c}, Sara J. Grafenauer^{b,c}, Janne Martikainen^d

^a General Mills, Bell Institute of Health and Nutrition, Global Science & Regulatory Affairs, Minneapolis, MN 55427, USA

^b School of Medicine & Health, University of New South Wales, Randwick, NSW, 2052, Australia

^c Grains & Legumes Nutrition Council, North Ryde, NSW, 2113, Australia

^d School of Pharmacy, University of Eastern Finland, 70211, Kuopio, Finland

References:

1. Murphy, M.M., Schmier, J.K., 2020. Cardiovascular healthcare cost savings associated with increased whole grains consumption among adults in the United States. *Nutrients* 12 (8), 2323. <https://doi.org/10.3390/nu12082323>.
2. Abdullah, M.M.H., Hughes, J., Grafenauer, S., 2021a. Whole grain intakes are associated with healthcare cost savings following reductions in risk of colorectal cancer and total cancer mortality in Australia: a cost-of-illness model. *Nutrients* 13 (9), 2982. <https://doi.org/10.3390/nu13092982>.
3. Abdullah, M.M.H., Hughes, J., Grafenauer, S., 2021b. Healthcare cost savings associated with increased whole grain consumption among Australian adults. *Nutrients* 13, 1855. <https://doi.org/10.3390/nu13061855>.
4. Martikainen, J., Jalkanen, K., Heiskanen, J., Lavikainen, P., Peltonen, M., Laatikainen, T., Lindstrom, J., 2021. Type 2 diabetes-related health economic impact associated with increased whole grains consumption among adults in Finland. *Nutrients* 13 (10), 3583. <https://doi.org/10.3390/nu13103583>.

Health Economics of Whole Grain

Findings from the recent four international studies 1/2

- All studies support the inclusion of whole grain in healthy diets
- Great potential to **support the sustainability of health care systems** around the globe
 - “From treatment to prevention”
 - Small shifts in consumer behaviour to increase whole grain intake has the potential to save (or at least release resources for other purposes...) thousands (dollars/euros) per person at the population level
- **Next steps**
 - “A holistic economic analysis” assessing the expected total benefits of whole grain
 - Cost-effectiveness of alternative implementation programs supporting the changes in consumer behaviour, such as front-of-pack nutrition labelling, etc.

Table 1

Comparison of study methodology.

Country	USA	Finland	Australia (a)	Australia (b)
Disease examined	CVD, CHD	T2DM	T2DM & CVD	Total Cancer Colorectal Cancer (CRC)
Current Whole Grain Intake	0.95 oz-eq (14.8g) (10) (2018)	Model baseline assumed 1 serving WG/day	21 g/d	21 g/d
Gap in consumption ^a	2.04 oz-eq (30.6g) (8)	Model examined increasing from 1 to 2 servings/day	27g/day	27 g/d
RR applied (range)	CVD RR 0.96 @ 1 serv & CHD RR 0.95 @ 1 serv (Aune et al., 2015)	T2DM RR@ 1 serv WG -27% (88); 0.73@ RR@ 2 serv WG -35% (Ho et al., 2020)	T2DM RR -32% (13-42); CVD RR -39% (3-22) (Aune et al., 2011, 2018)	Total Cancer RR 0.85 (0.80-0.91); CRC RR 0.83 (0.78-0.89) (Aune et al., 2011, 2018)
Source of Health Care Costs	American Heart Association (Benjamin et al., 2017)	Finnish Diabetes Association (Gustav 2014)	Australian Institute of Health and Welfare (AIHW 2011)	Australian Institute of Health and Welfare (AIHW)
Included costs	Direct and indirect (dependent values)	Direct and indirect	Direct costs of healthcare and productivity loss	Estimate of annual healthcare costs of CRC and all cancers from disease expenditure
Productivity loss included	Yes, as Indirect Cost	Yes	Yes	No
Discounted rates applied	Not included	5% applied to the base case; 1 and 3% tested in sensitivity analysis	7%	7%
Cost savings @ 50% recommended intake	Did not calculate 50% 1 serving increase: CVD: 9.6 billion USD direct savings CHD: 6.3 billion USD direct savings	Not examined in model	T2DM AUD 375.3 mill; CVD AUD 356.7 million	Total Cancer AUD 302.6 mill; of which CRC AUD 18.39 million
Cost savings @100% recommended intake	100% DGA req (2.34 oz-eq) CVD: 21.9 billion USD CHD: 14.0 billion USD direct savings	Not examined in model	T2DM AUD 750.7 mill; CVD AUD 717.4 million	Total Cancer AUD 405.1 mill; of which CRC AUD 37.17 million
Adoption over time?	Assumptions based on immediate adoption	Immediate adoption and 10, 20, and 30 year alternative time horizon	Adoption over time every 5 years (2020-2039)	Adoption over time every 5 years (2020-2039)

RR: Relative Risk; oz-eq: ounce-equivalents; CVD: cardiovascular disease; CHD: coronary heart disease; T2DM: Type-2 Diabetes Mellitus; CRC: colorectal cancer; USD: United States Dollars; AUD: Australian Dollars.

^a Gap between current intake and US Dietary Guidelines for Americans recommended intake for whole grain is based on one-half total grain being whole grain and not a quantitative amount (i.e., 48g). Data presented based on the total grain intake of the average adult (6.34 oz-eq per day) to derive the one-half recommendation (3.17 oz-eq per day).

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WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?



Panel one

Whole grain as enabler of a diet shift to address sustainability and food security challenges

What role do whole grains play in sustainable and resilient food systems that can feed a growing global population?



Patrizia Fracassi, PhD

Senior Nutrition and Food Systems Officer, Food and Agriculture Organisation (FAO)



Saskia de Pee, PhD



Chief Analytics & Science for Food & Nutrition, World Food Programme (WFP)



Kelly LeBlanc

Director of Nutrition, Whole Grains Council



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WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?



Food and Agriculture
Organization of the
United Nations

Promotion of Wholegrains: Walking the Talk

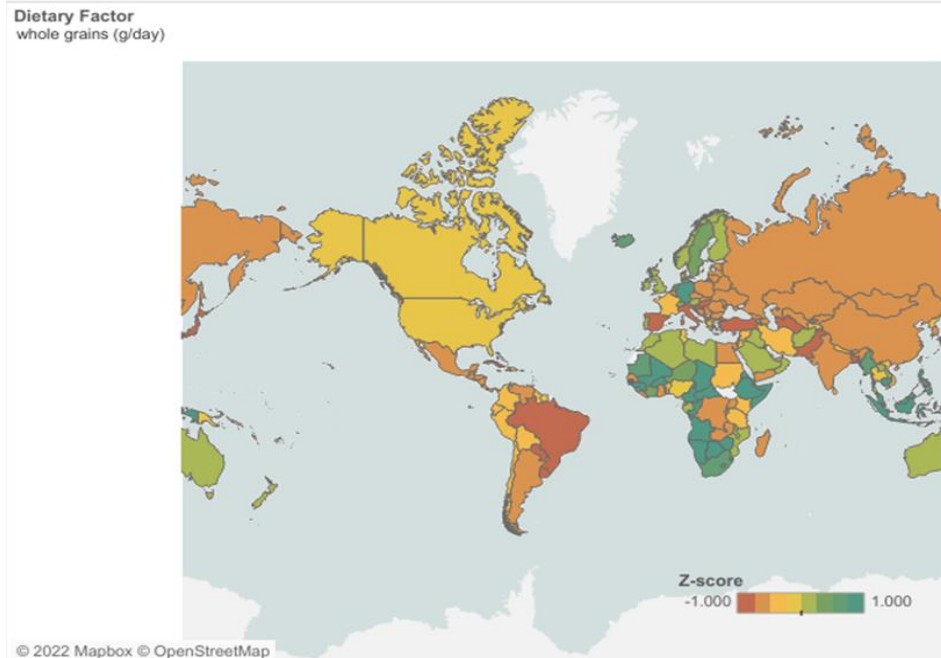
Dr. Patrizia Fracassi, *Senior Nutrition and Food System Officer*
Food and Nutrition Division (ESN)
Food and Agriculture Organization of the United Nations



Food and Agriculture
Organization of the
United Nations

Wholegrain consumption

Dietary Intake of Foods and Nutrients by Country



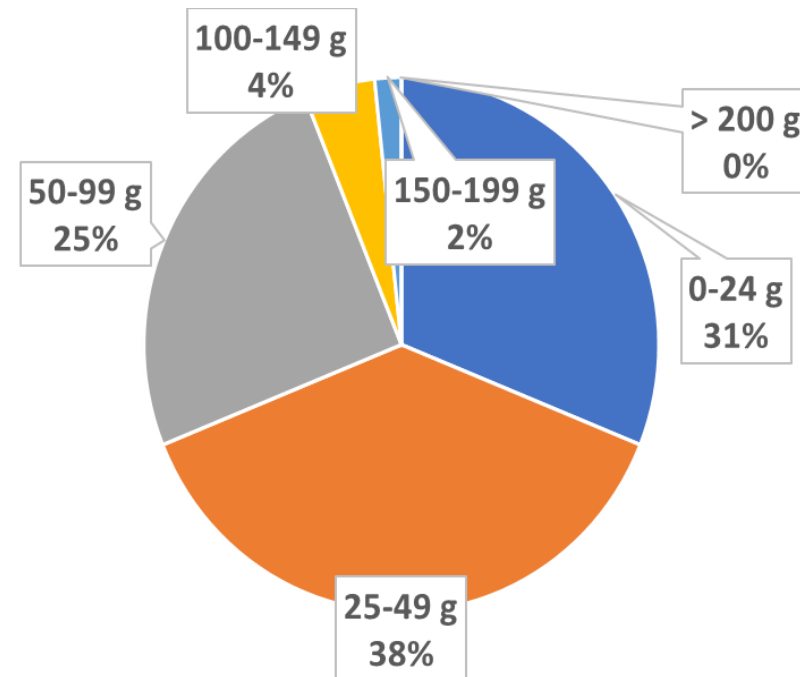
Whole grain intakes by the 'Global Dietary Database' team ¹

Intakes as low as 0.05 g/day in Brunei and as high as 195 g/day in Somalia

Red indicates a detrimental consumption pattern 1+ standard deviations from the global mean

Yellow indicates a consumption patterns close to the global mean

Green indicates a beneficial consumption pattern 1+ standard deviations from the global mean

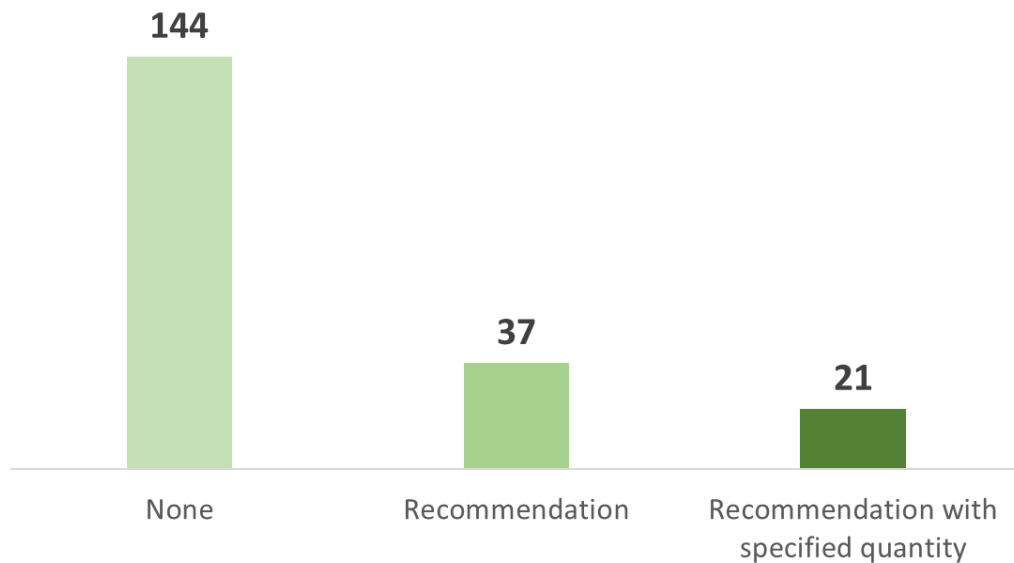


References:

Global Dietary Database. (2022). Dietary data by country. Retrieved from

<https://www.globaldietarydatabase.org/our-data/data-visualizations/dietary-data-country>

Promoting wholegrain consumption



References:

FAO. Food-based dietary guidelines. 2020. Available at: <http://www.fao.org/nutrition/education/food-dietary-guidelines/en>

The International Year of Millets

- Proposed by **Republic of India** and proclaimed by the **75th Session of the UN General Assembly**
- Promoted through a multi-stakeholder partnership
- **Three objectives:**
 - **Increase** awareness of the contribution of millets to food security and nutrition
 - **Inspire** all stakeholders to work towards improving sustainable production and quality of millets
 - **Focus** to enhanced investment in R&D, technical networks and extension services
- **Activities** at all levels:
 - **Global** opening and closing (Dec. 2022 – early 2024)
 - **Regional** committees set up to promote symposia, seminars, exhibitions
 - **Country:** field activities, demonstrations and exhibitions



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WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?



World Food Programme



SAVING
LIVES
CHANGING
LIVES

Maximizing grains' contribution to health & nutrition

Saskia de Pee, Analytics & Science for Food & Nutrition, Nutrition Division, WFP



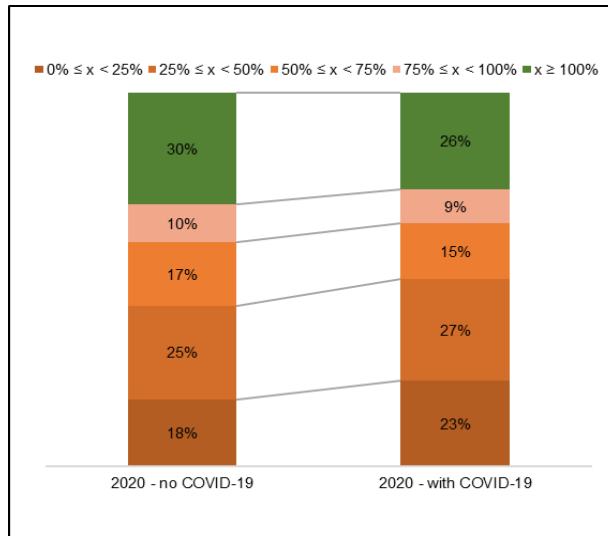
  @EATWHOLEGRAINS #INTERNATIONALWGDAY #MAKEYOURGRAINSWHOLE #CHOOSEWHOLEGRAINS

Very high unaffordability of healthy, nutritious diets

THREE INCREASING LEVELS OF DIET QUALITY



SOFI report 2020

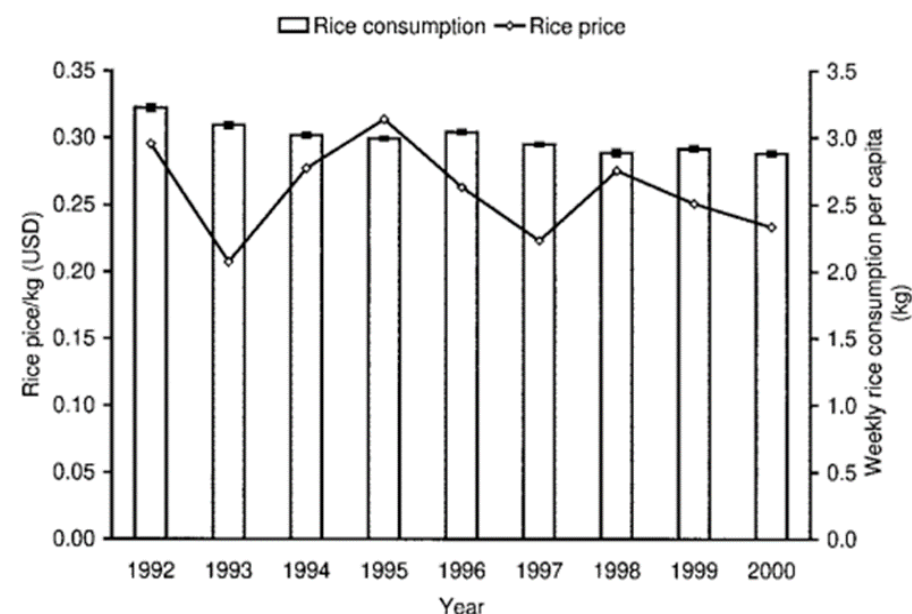
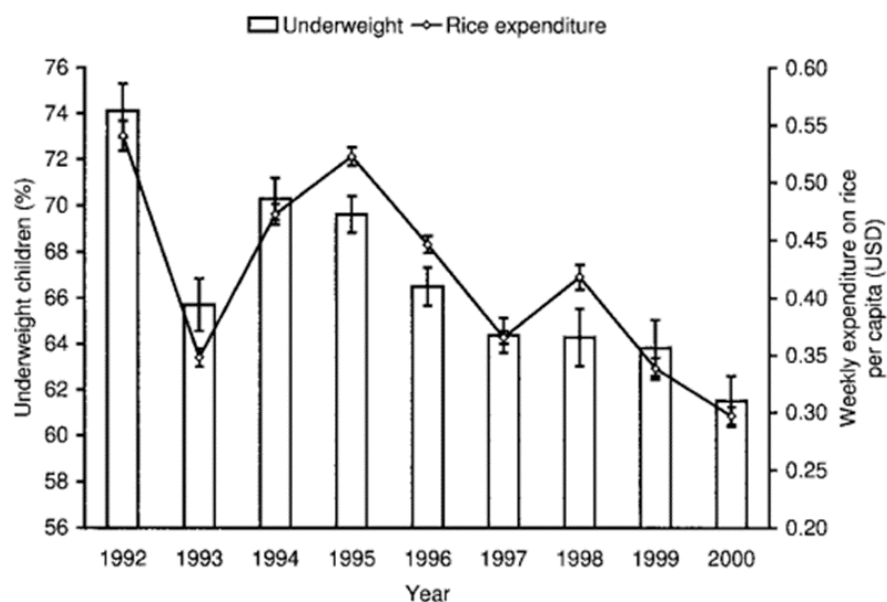


The depth of unaffordability
determines the quality of
the diet, and what forms of
malnutrition prevail

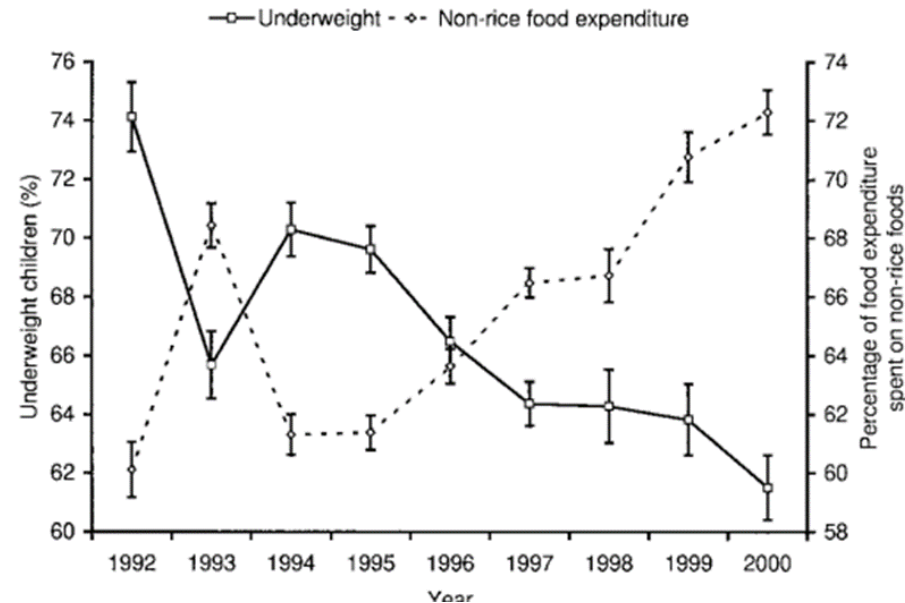
Association of Household Rice Expenditure with Child Nutritional Status Indicates a Role for Macroeconomic Food Policy in Combating Malnutrition

Harriet Torlesse,^{*1} Lynnda Kiess[†] and Martin W. Bloem[‡]

^{*}Helen Keller International, Gulshan 1212, Dhaka, Bangladesh; [†]Helen Keller International Asia-Pacific Regional Office, Jakarta Pusat, Indonesia; and [‡]Helen Keller International, World Headquarters, New York, NY 10010



WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?



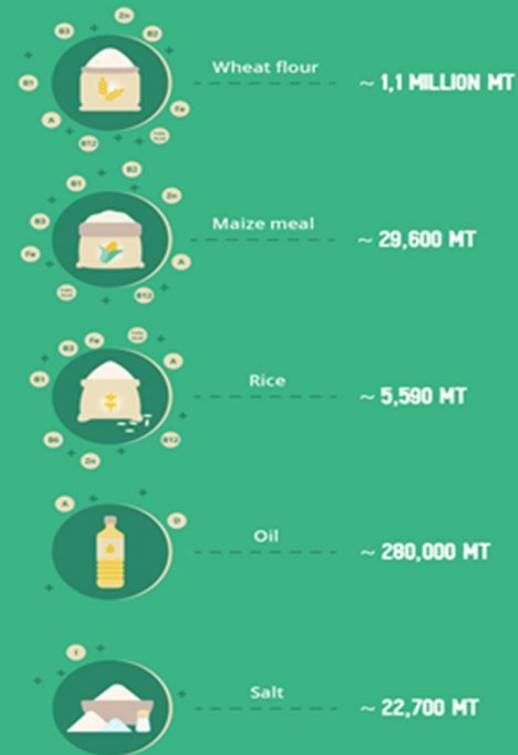
- * People 'safe guard' their staple food consumption
- * Higher rice prices → lower expenditure on other foods
 - > Reduced dietary diversity -> increased risk of micronutrient deficiencies & undernutrition

WFP'S 2021 FOOD FORTIFICATION OVERVIEW

WFP sources and provides fortified staple foods, such as cereals, oils and salt, for our programmes and food distributions across the world.

The total quantity of fortified staple foods distributed by WFP in 2021 is ~ **1,5 MILLION MT**

Quantities of fortified staples foods handed over to cooperating partners in 2021



WFP mandated fortification of wheat & maize flours >20 years ago

Vegetable oil and salt are also fortified, and use of fortified rice is increasing

1.5 million MT of fortified foods:
3 billion x 500 g
17 million people consume their staples fortified for 6 months

Considerations for fortified WHOLE GRAIN flour

-Further health & nutritional value added – NCD risk reduction, fiber, B-vitamins

Cost saving as less is discarded from milling, use the savings for fortification = WIN WIN

Shelf life, 3-6 months -> domestic production for domestic use

Institutional demand can stimulate production and promote adaptation of preparation and consumption practices

More drought resilient crops, e.g. sorghum, millet – consumed as whole grain

<https://www.wfp.org/publications/food-fortification-0>



Rwanda's wholegrain trailblazers:

Reflections on a fortified wholegrain maize meal pilot in school meals

While food fortification is an effective and widely used approach to reduce micronutrient deficiencies, vitamins and minerals are normally added to the refined versions of staple grains, where the fibre- and nutrient-rich bran and germ have been removed in processing. Fortification of wholegrain flours, where most of the grain remains in the processed product, remains largely uncharted territory but represents a promising way to increase the micronutrient content through fortification while maintaining the health benefits of wholegrains.

"WFP in Rwanda trialled a shift from providing its usual fortified refined maize meal to a new fortified wholegrain maize meal."

In 2021, together with the Rockefeller Foundation and a local implementing partner, Vanguard Economics, WFP in Rwanda trialled a shift from providing its usual fortified refined maize meal to a new fortified wholegrain maize meal. The new product was purchased from a local miller and was served as part of school lunches to

14,000 students in 18 schools participating in WFP's Home-Grown School Feeding programme.

"The pilot demonstrated that the substitution can be feasible, budget-neutral and be well accepted by students and the school community."

Based on its success, WFP and partners plan to increase distribution of fortified wholegrain maize meal to more WFP-supported schools (reaching 81 schools by January 2023) and support the government of Rwanda to include wholegrain fortified maize meal into the national school meal programme, which serves 3.5 million students, starting in the 2022-2023 academic year.

We sat down with school feeding and nutrition colleagues from the WFP Country Office in Rwanda to ask about lessons learnt and reflections on the project so far.



Pakistan – small mills already produce whole grain flour – enhancing nutritional value through fortification

“Much of Pakistan’s wheat flour is produced and consumed in a traditional system, with mills handed down through generations”

“What was unique about this project compared to other fortification projects was that as WFP we were not buying and distributing the flour ourselves, but rather leveraging an existing system,”

“These producers had never been given any opportunity to participate in programmes for social good, and it gave them a tangible way to help their communities through the activity they were already doing.”



Small mills, big opportunity:

Engaging small producers in Pakistan to fortify wheat for the hardest to reach

Adding vitamins and minerals to commonly eaten foods through fortification is generally done via large-scale production systems. But in Pakistan, most people, including the poorest and most at risk of malnutrition, buy their wheat flour from one of the country’s 70,000 small-scale mills, or *chakkis*, which produce around 0.5 to 2 metric tonnes per day and sell directly to local households.

“Much of Pakistan’s wheat flour is produced and consumed in a traditional system, with mills handed down through generations”

“Much of Pakistan’s wheat flour is produced and consumed in a traditional system, with mills handed down through generations”, explains Rabia Zeeshan, Food Technologist with the World Food Programme (WFP) Pakistan country office. “The same goes for customers: People buy their everyday wheat flour from local *chakkis*, as their parents and grandparents did before them. It’s a system based on trust between all parties.”

* FAOSTAT Food Balances <https://www.fao.org/faostat/en/#data/FBS>

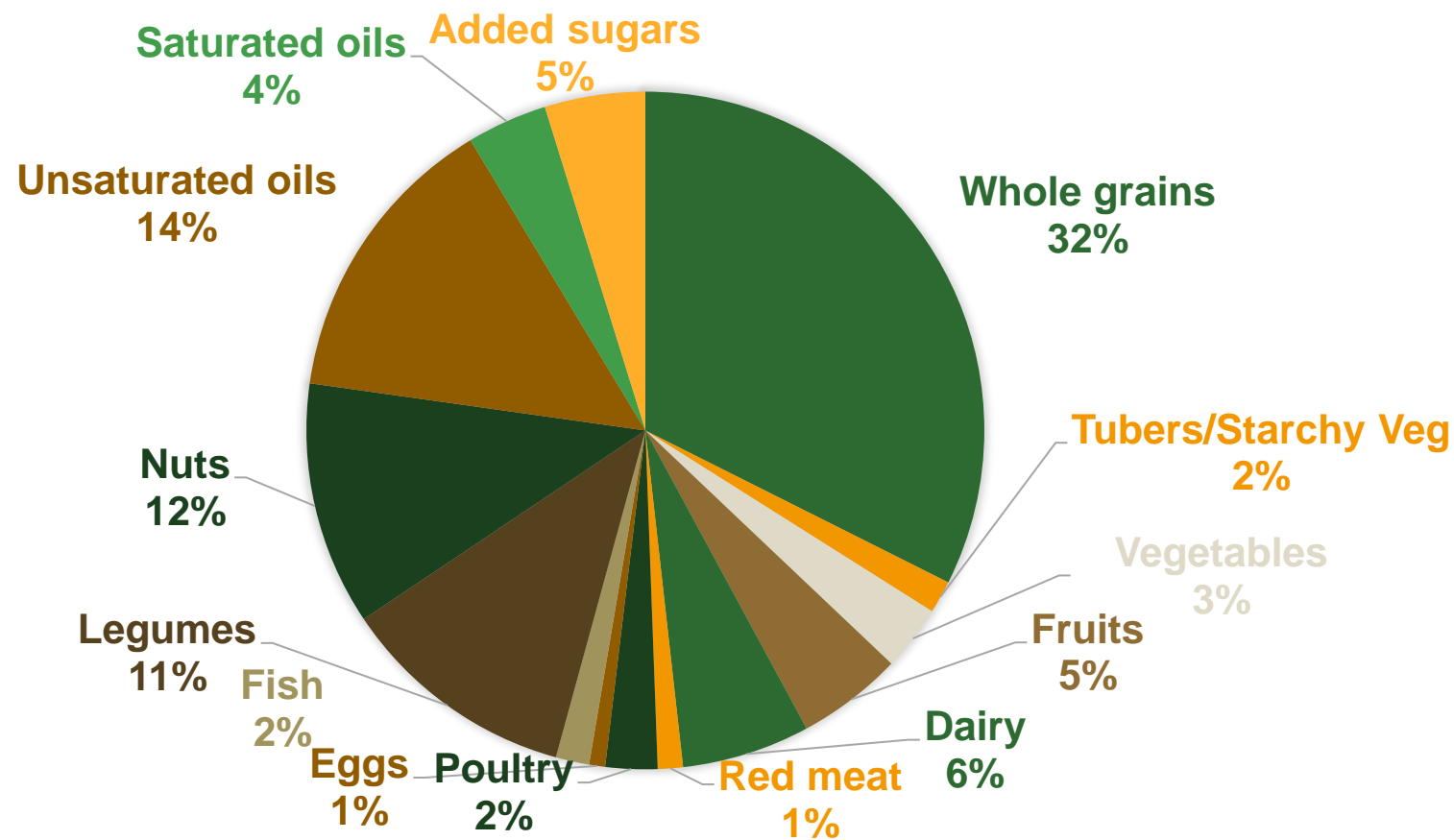
In 2018, in collaboration with the National Fortification Alliance, the WFP Pakistan country office carried out a fortification feasibility study which revealed that 70 percent of people in Pakistan bought their wholegrain wheat flour from local *chakkis*. Wheat is a main staple in Pakistan, with Pakistanis consuming 104 kilograms of wheat and wheat products per person per year compared to 20 kilograms of rice (FAOSTAT 2019).

*“But we realized that unless we worked with small *chakkis*, the majority of people in Pakistan would miss out on the benefits of fortification.”*

“Studies from other countries have suggested that fortification is difficult to do when millers are small scale, scattered and not well organized,” said Zeeshan. “But we realized that unless we worked with small *chakkis*, the majority of people in Pakistan would miss out on the benefits of fortification.”

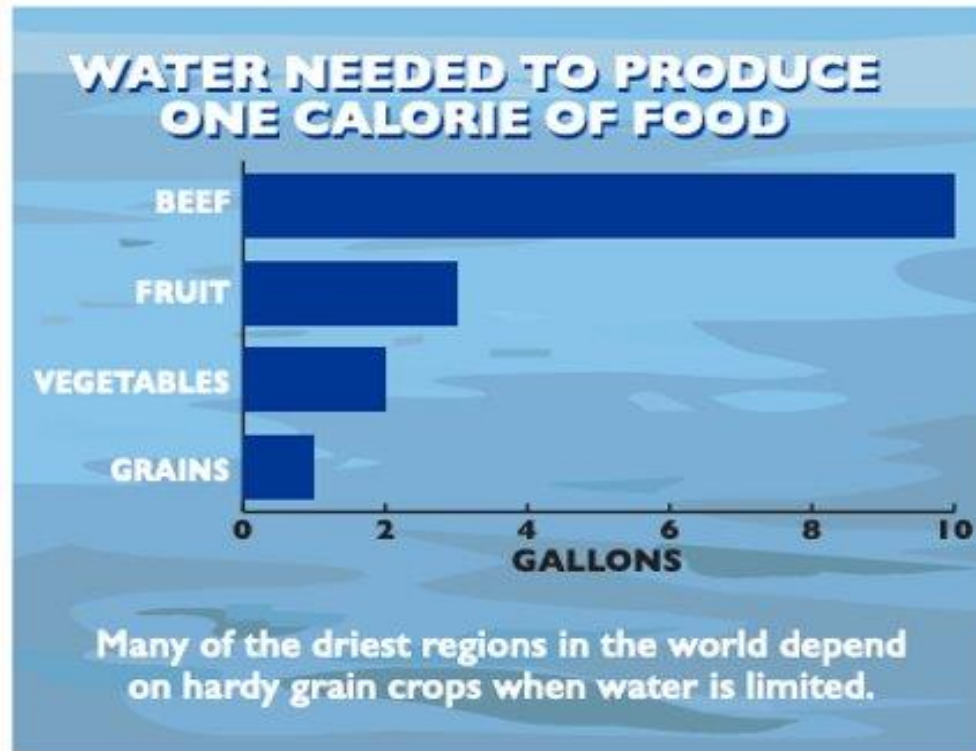
August 2022

RECOMMENDED SOURCES OF CALORIES IN EAT-LANCET REPORT¹



1. Willett W, Rockström J, Loken B, et al. Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems [published correction appears in Lancet. 2019 Feb 9;393(10171):530] [published correction appears in Lancet. 2019 Jun 29;393(10191):2590] [published correction appears in Lancet. 2020 Feb 1;395(10221):338] [published correction appears in Lancet. 2020 Oct 3;396(10256):e56]. *Lancet*. 2019;393(10170):447-492. doi:10.1016/S0140-6736(18)31788-4

Whole Grains Save Water



ANCIENT GRAINS ARE MORE TOLERANT OF EXTREME WEATHER. FOR EXAMPLE:

- **MILLET** has one of the lowest water requirements of any grain crop.
- **TEFF** thrives in drought and also grows well in water-logged soils.



CREATING THE BUN
6.4 GALLONS OF WATER



CREATING THE BURGER
197 GALLONS OF WATER

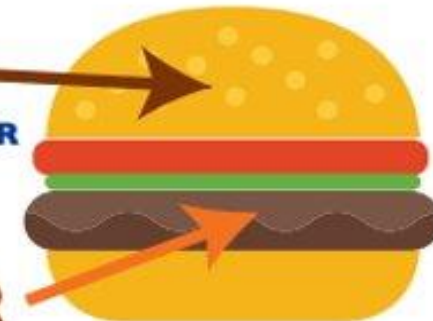


Image source: Oldways Whole Grains Council, https://wholegrainscouncil.org/sites/default/files/atoms/files/WG_SustainableFood_infographic.pdf

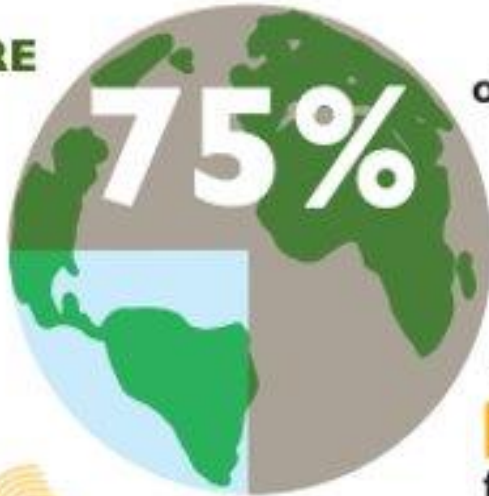
2. Mesfin M. Mekonnen and Arjen Y. Hoekstra, "A global assessment of the water footprint of farm animal products," Ecosystems 15 (2012):401-415.

3. Board on Science and Technology for International Development and National Research Council, Lost Crops of Africa: Volume 1: Grains, (Washington, D.C.: National Academies Press, 1996).

WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?

Whole Grains Support Better Land Use

EATING MORE GRAIN-BASED MEALS COULD FEED MORE PEOPLE WITH LESS LAND.



of global agricultural land is used for animal products which only supply **17%** of our food (in calories).



IMPROVE SOIL FERTILITY



Rotating crops with whole grains like barley, oats, rye, and triticale in the off-season can help protect against soil erosion, and also deliver nutrients back to the soil.

WHOLEGRAINCOUNCIL.ORG

Image source: Oldways Whole Grains Council, https://wholegrainscouncil.org/sites/default/files/atoms/files/WG_SustainableFood_infographic.pdf

4. Mario Herrero and Philip K. Thornton, "Livestock and global change: Emerging issues for sustainable food systems," Proceedings of the National Academy of Sciences 110, no. 52 (2013): 20879, accessed December 2, 2016, doi:10.1073/pnas.1321844111

5. Hans Hurni, et al., "Key Implications of Land Conversions in Agriculture", Wake Up Before It Is Too Late, Trade and Development Review 2013, UNCTAD, 221, http://unctad.org/en/PublicationsLibrary/ditcted2012d3_en.pdf

6. Sarah Carlson and Amber Anderson, "Cover crops do double duty: cover and grain," Practical Farmers of Iowa, Research Report, March 3, 2012.

WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?

Whole Grains Provide More Food, Less Waste



Image source: Oldways Whole Grains Council,
https://wholegrainscouncil.org/sites/default/files/atoms/files/WG_SustainableFood_infographic.pdf
 7. Kansas Wheat Commission, <https://nationalfestivalofbreads.com/nutrition-education/wheat-facts>

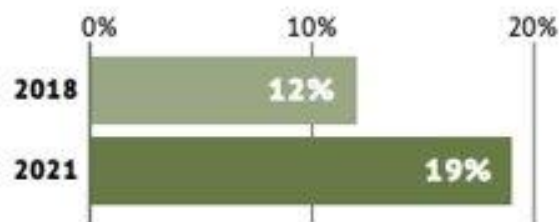
Consumer Awareness is Growing



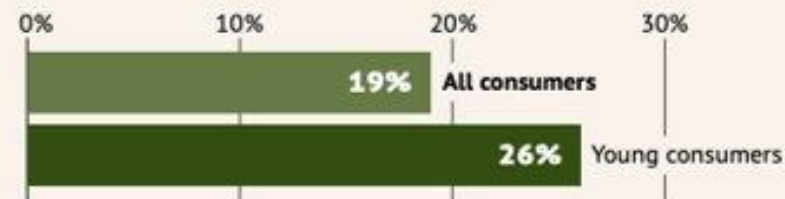
2/3 of consumers see whole grains as sustainable

Sustainability is increasingly a motivation for choosing whole grains.

Sustainability as a motivation for choosing whole grains over time



Young consumers (Gen Z and Millennials) are more focused on sustainability, with **26%** saying they choose whole grains for that reason in 2021.



40% of plant-based eaters (vegan, vegetarian, pescatarian, and plant-based) choose whole grains for environmental reasons.

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WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?



Panel two

Changing social norms and consumer behaviour around whole grain

What prevents citizens from eating whole grains?
Which policy nudges can enable the shift to more plant-based diets that comprise whole grains?



Prof. Eleanor Beck

Discipline Leader Nutrition and Dietetics in the School of Medicine, Faculty of Science, Medicine and Health - University of Wollongong



Betty Chang



PhD, Research - Area Lead, The European Food Information Council (EUFIC)



Carla Valeiras Alvarez

Policy Officer
SAFE Food Advocacy Europe



  @EATWHOLEGRAINS #INTERNATIONALWGDAY



Whole grains – trying to decrease consumer confusion



*Professor Eleanor Beck
Discipline Leader, Nutrition & Dietetics, UOW*



Acknowledgements

Dr Eden Barrett BND Hons APD PhD
Dr Katrina Kissock BND Hons APD PhD



Dietary Guidelines

AUSTRALIA

Enjoy a wide variety of nutritious foods from these five food groups every day:

- Grain (cereal) foods, mostly **whole grain** and/or high cereal fibre varieties, such as breads, cereals, rice, pasta, noodles, polenta, couscous, oats, quinoa and barley

UNITED KINGDOM

Base meals on potatoes, bread, rice, pasta or other starchy carbohydrates.

- Starchy food should make up just over a third of the food we eat. Choose higher fibre **whole grain** varieties, such as wholewheat pasta and brown rice, or simply leave skins on potatoes.

UNITED STATES

Focus on meeting food group needs with nutrient-dense foods and beverages, and stay within calorie limits

- Healthy dietary patterns include **whole grains** and limit the intake of refined grains. At **least half** of total grains should be whole grains. Individuals who eat refined grains should choose **enriched grains**. Individuals who consume all of their grains as whole grains should include some that have been fortified with folic acid.



WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?

Whole-grain food must provide a minimum of 8 g/serving.

Foods must be $\geq 51\%$ whole grain by weight per RACC.

Whole grain rich defined as $\geq 50\%$ whole grain by weight or first ingredient: whole grain or ≥ 8 g whole grain/serving.

Breakfast cereals were considered to be whole grain if the product contained $\geq 25\%$ whole grain or bran by weight,

Specifically, whole grain foods included dark bread, whole grain breakfast cereal, popcorn, cooked oatmeal, wheat germ, brown rice, bran, and other grains (eg, bulgur, kasha, and couscous).

**** most countries do not have a regulatory definition of whole grain foods**

Acknowledgement: Katrina Kissock

NEW WGI DEFINITION

Whole grain food definitions





Focus Groups Sample Results

From a nutritional and health perspective grain food consumption is prioritised significantly less than other foods.

Individuals are generally unfamiliar with whole grains, including dietary recommendations and what constitutes as a serve, resulting in misperceptions of whole grain intake.

Individuals are more open to changing their whole grain intake when provided with the knowledge to do so.

Acknowledgement: Eden Barrett, Shara Foster – Barrett et al, Appetite 2020

WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?



“I don’t associate anything healthy with it (whole grain) really. If something calls out fibre yes ok I understand, but if something calls out whole grain, my first thought is wheat, flour, bread, no.” - FG5F2

If I see the term whole grain in the packaging that usually gets my attention, but then I find myself looking at the sugar and the fat content... and I try and decide whether the fact that its whole grain is kind of lost by the fact that it’s got other additives in it.” - FG5F3

“It seems to be everything else, low sugar, low fat, low GI, low... but you don’t really see...extra grains or whole grains” - FG2F2

Would consistent labelling help?

Make whole grains front and centre of labels
and packaging?

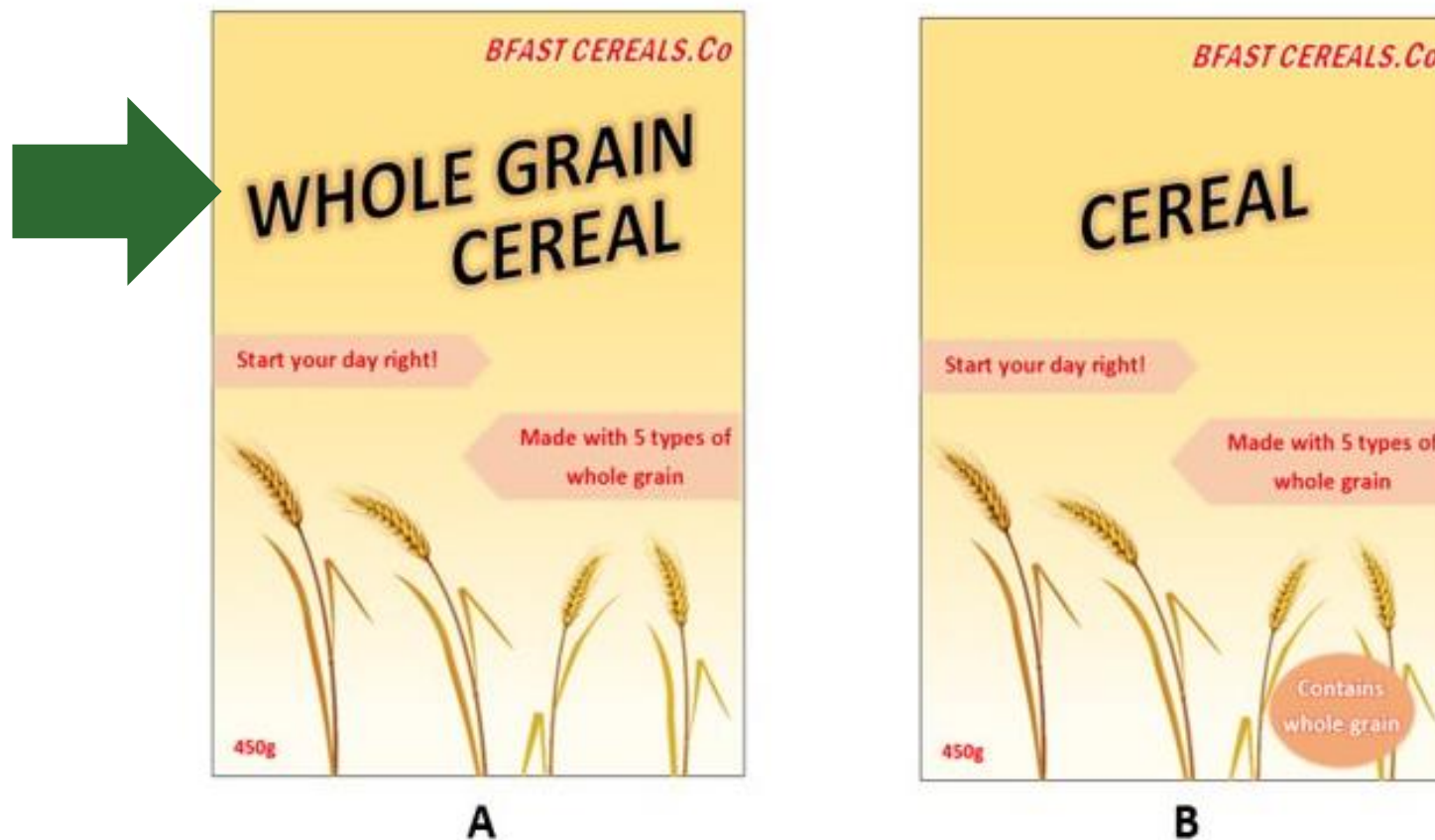
What would this look like?

What are consumer preferences?

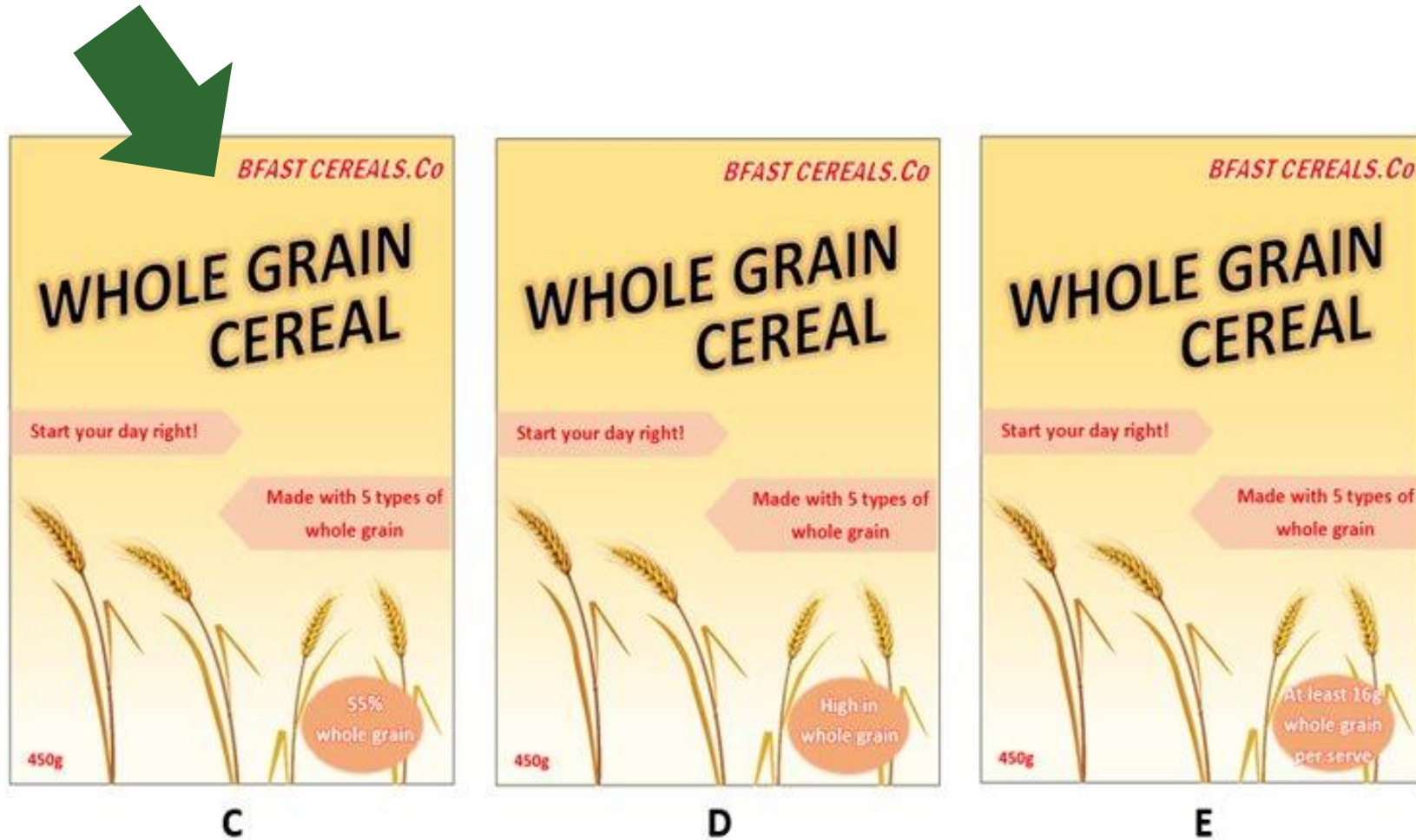
What is a whole-grain food?

Kissock, K.R., Neale, E.P. & Beck, E.J. (2022) Knowledge, messaging, and selection of whole-grain foods: Consumer and food industry perspectives, *Journal of Nutrition Education and Behavior*,

WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?



WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?





What do we need?

Make whole grains front and centre of labels and packaging

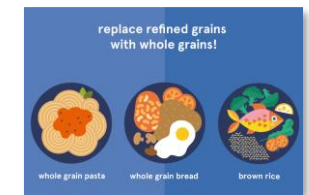
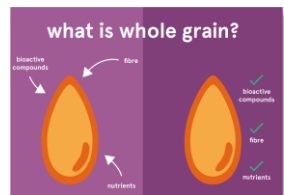
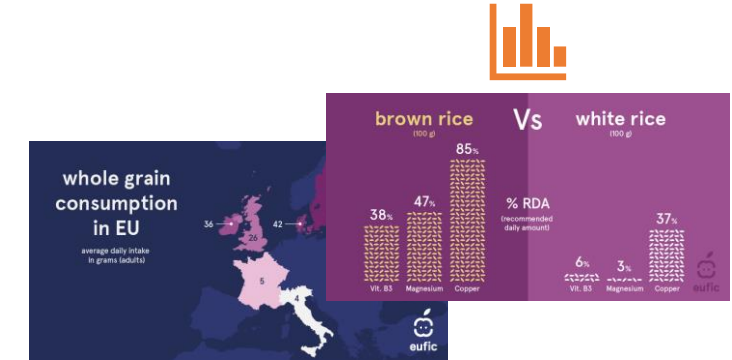
Consistent definitions; whole-grain labels on foods with significant whole-grain content only.

Define a percentage (not grams or adjectives)

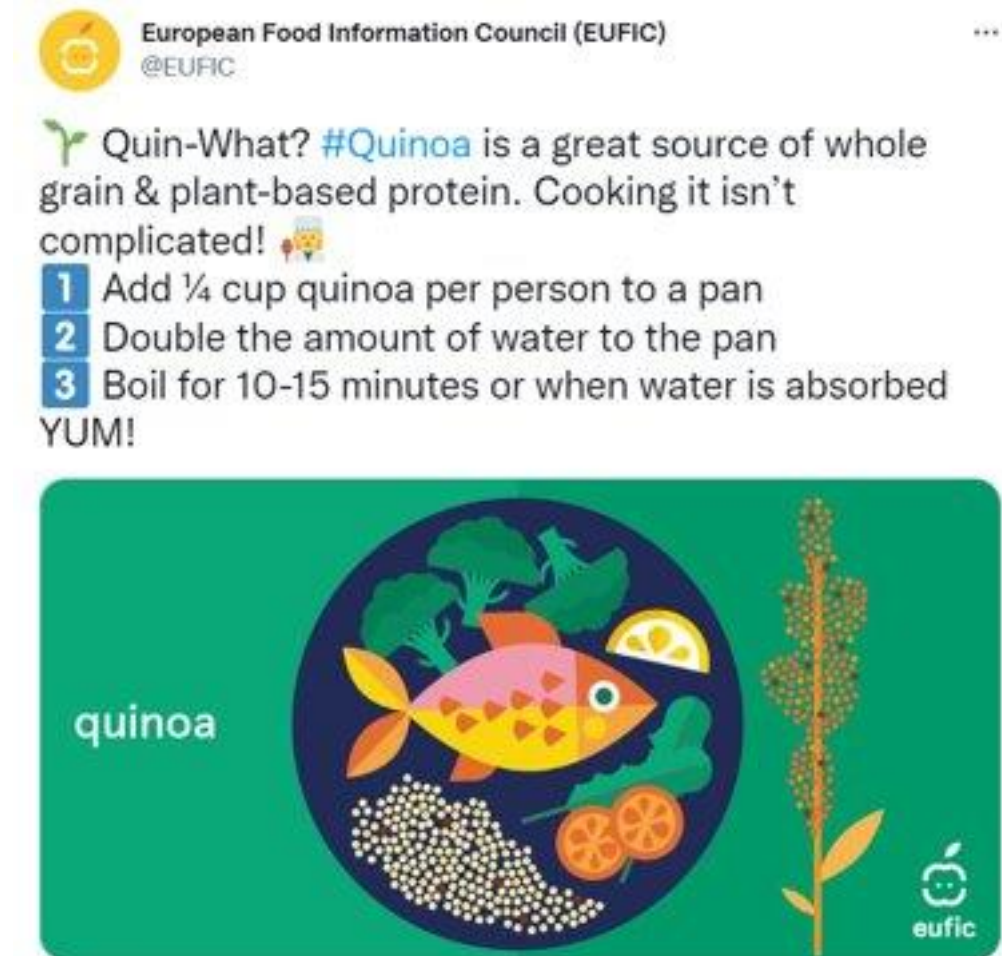
EUFIC's “Hungry for #wholegrain” campaign (2018)



What is whole grain?
 Why choose whole grain?
 How to eat more whole grain?






Consumers more open to change when they know how






Barrett, Foster, & Beck (2020)

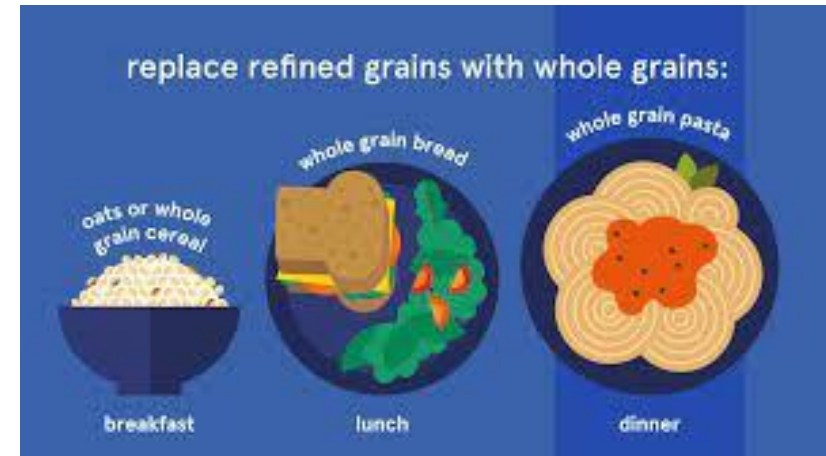
Consumers unfamiliar with whole grains

 There are many ways to introduce [#wholegrains](#) into your diet!

[#Choosewholegrains](#) such as buckwheat, bulgur, oatmeal, quinoa or brown rice, and look for the words “whole” or “whole grain” before the name of the cereal on the label.   [#InternationalWGDay](#) [@eatwholegrains](#)

-  Look for **quinoa, brown rice, oats, buckwheat, barley, bulgur** etc. They all count as whole grains!
-  Look for **“whole”** or **“whole grain”** on the label. It should be the first or second ingredient.
-  Some products high in whole grain can also be high in sugar, fat or salt. **Check the label!**

Barrett, Foster, & Beck (2020)



- 1 serving of grains =
- 1 slice of bread
- 75-120g (½ cup) of cooked rice, or pasta, about the size of an adult’s fistful
- 30 g (⅓ cup) dry oats, or other cereal

Consumers have misperceptions about wholegrain

 European Food Information Council (EUFIC)
@EUFIC

Not all brown pasta is high in [#fibre](#).
 Not all darker-colour wheat is whole grain.
 Not all white bread is refined grain.

Don't assume a grain product is whole grain from its colour! When looking for [#wholegrains](#) to include in your diet, make sure to [#readthelabel!](#)



Looks can be deceiving!

"multigrain" bread "seven-grain" cereal "100% wheat" pasta "bran" muffins brown bread

Always check the ingredients: check for words such as 'whole' or 'wholegrain'




Barrett, Foster, & Beck (2020); Kisson, K. R., Neale, E. P., & Beck, E. J. (2022)

Specific dishes may determine product choice



Kissock, K. R., Neale, E. P., & Beck, E. J. (2022).

“Best Digital Campaign” at the European Association Awards 2019



“This was an excellent campaign with impressive reach, especially given the low budget. A science-based approach addressing a clear gap in consumer information. It had impressive social media impact”

- Judges at the awards ceremony



EU policy needs around whole grains

Carla Valeiras Alvarez, EU Policy
Officer

SAFE – Food Advocacy Europe

IDENTITY AND MISSION

SAFE is an **independent non-profit organization** which strives to **protect and advance consumers' rights in EU food policy**

Main activities

- Lobbying to improve the EU legislative framework
- Raising public awareness and training consumers
- Leading several EU projects on food safety and agriculture



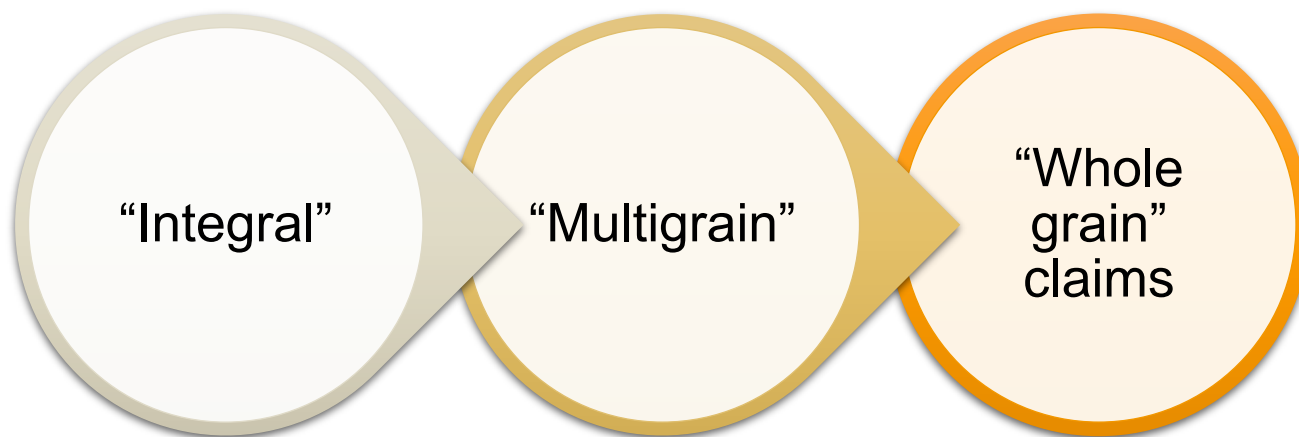
EU scene

- Section on the EC website on “*Health Promotion and Disease Prevention Knowledge Gateway*”
 - Different definitions of whole grain
 - Nutritional value
 - Labelling in the EU
 - Examples of international policy recommendations to address whole grain intake...
- Legal definitions of “high in fibre” and “source of fibre” (Regulation (EC) No 1924/2006)
- However, **no EU harmonised** definition of whole grain food nor agreed proportion (at least 50%, 70%, 100%)

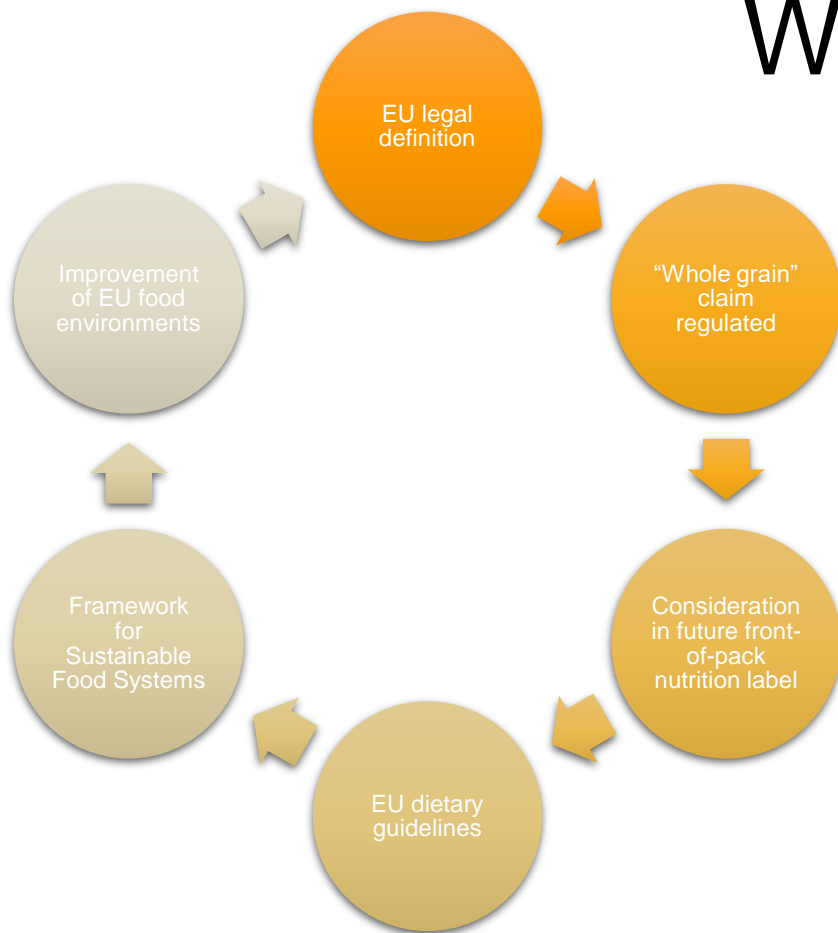


Which type of problems is creating to consumers?

Encouraged by the recommendations, consumers are trying to choose more whole grain products. However, the lack of harmonised legislation leads to many misleading practices.



What is needed at EU level?



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Closing remarks

Why do whole grains matter for the whole world?



Kelly LeBlanc

Director of Nutrition,
Whole Grains Council



@EATWHOLEGRAINS #INTERNATIONALWGDAY



— CLOSING REMARKS

Why do whole grains matter for the whole world?

Improve nutrition

- ✓ Reduce risk of diet-related disease
- ✓ Reduce healthcare costs

Support a healthier planet

- ✓ Reduce land & water use compared with other foods
- ✓ Greater nutritional density (better use of land)



— NEXT STEPS

How can we change consumer behavior to ↑ whole grains?

Policy/Governmental Steps

- ✓ Advocate for whole grains in national dietary guidelines and front-of-pack nutritional labelling

Private Sector & NGO Steps

- ✓ Use cohesive and consistent messaging to promote whole grains to consumers
- ✓ Utilize public-private partnerships

Join us! Participate in a WGI working group to advance 1 or more of these issues



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WHY DO WHOLE GRAINS MATTER FOR THE WHOLE WORLD?



Cereal Partners Worldwide
Nestlé and General Mills





Thank you!

