

CEEREAL Statement on Whole Grain

February 2022

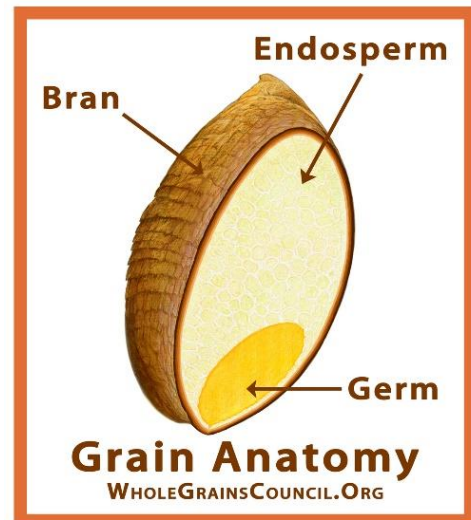
Whole grains are associated with positive health benefits, including lower risks of non-communicable diseases¹. Breakfast cereals are one important source of whole grain and an enjoyable and convenient way to increase their daily intake together with that of vitamins, minerals and dietary fibre.

From 2015 to 2020 alone, CEEREAL members have increased the whole grain content in their breakfast cereal recipes by 17.2%² and they will continue their efforts to raise the bar.

What are whole grains?

Whole grains refer to every grain's natural state when growing on the fields. Whole grains are the entire seed of a plant, also referred to as kernel. The kernel is protected by an inedible husk from sunlight, humidity and disease. The husk needs to be removed for the whole grain to become consumable. The edible part of whole grains is made up of three components:

- **Germ**– the most nutrient-rich part.
- **Endosperm** – this is the germ's food supply, which provides the young plant with what it needs to grow roots. It is the largest part of the kernel and contains starchy carbohydrates, proteins and small amounts of vitamins and minerals.
- **Bran** – the outer layer of the edible kernel, which is rich in antioxidants, B vitamins and fibre.



The Whole Grain Initiative (WGI), a world-wide interdisciplinary collaboration, defines whole grains as “intact, ground, cracked, flaked or otherwise processed kernel after the removal of inedible parts such as the hull and husk. All anatomical components, including the endosperm, germ, and bran must be present in the same relative proportions in the intact kernel³.” The WGI suggests that food products denominated “whole grain” should contain at least 50% of whole grains on a dry-weight basis. When containing a minimum of 25% whole-grain ingredients based on dry weight, food products can carry a front-of-pack claim on the presence of whole grain.

Refined grains are no longer “whole”, since refinement removes (part of) the bran and the germ, and some outer layers of the endosperm. This is the case, for example, with white flour or white rice.

¹ European Commission (n.d.). *Health Promotion and Disease Prevention Knowledge Gateway*.
https://knowledge4policy.ec.europa.eu/health-promotion-knowledge-gateway_en

² On a sales-weighted basis for recipes constituting 85% of volume sales in the EU and UK for CEEREAL members in 2015 and 2020.

³ Van der Kamp, J-W., Miller Jones, J, Miller, K. et al. (2021). *Consensus, Global Definitions of Whole Grain as a Food Ingredient and of Whole-Grain Foods Presented on Behalf of the Whole Grain Initiative*. *Nutrients* 2022, 14 (1), Doi: <https://doi.org/10.3390/nu14010138>

Why is it important to eat (more) whole grain?

Whole grains are high in fibre and contain other nutrients and bioactive compounds⁴, such as protein, vitamins, minerals, antioxidants and phytochemicals⁵. Typical whole grain products are whole grain breakfast cereals, oats, muesli, or whole cereal grains.

Higher whole grain intake is associated with a reduced incidence and mortality from several non-communicable diseases, including coronary heart disease, stroke incidence and mortality, type 2 diabetes, and colorectal cancer⁶. According to the same study, increased whole grain consumption led to a reduction in bodyweight and cholesterol. Even higher intakes of whole grain are likely to increase these benefits.

Despite these benefits⁷, however, 92.4% of the global adult population does not meet recommendations for whole grain intake, and in fact, whole grain intake decreased between 1990 and 2010⁸. In 2017, globally, consumption of nearly all healthy foods and nutrients was suboptimal – particularly for nuts, seeds, milk, and whole grains⁹. For whole grains, the global mean consumption was 38.4g per day, with lowest intakes in Europe led by Hungary, Albania, Croatia and Turkey.

Eating more whole grain also has positive effects on sustainability in that less land is needed to meet global dietary energy and nutrition demands¹⁰. In addition, whole grains need less water to produce food. Also, rotating crops with whole grains like barley, oats or rye can help protect against soil erosion¹¹.

⁴ Harvard T.H. Chan School of Public Health (n.d.). Whole Grains. The Nutrition Source, <https://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/whole-grains/>

⁵ Aune, D., Keum, N., Giovannucci, E. et al. (2016). *Whole grain consumption and risk of cardiovascular disease, cancer, and all cause and cause specific mortality: systematic review and dose-response meta-analysis of prospective studies*. BMJ, Doi: <https://doi.org/10.1136/bmj.i2716>

Aune, D., Chan, D., Lau, R. et al. (2011). *Dietary fibre, whole grains, and risk of colorectal cancer: systematic review and dose-response meta-analysis of prospective studies*. BMJ, Doi: <https://doi.org/10.1136/bmj.d6617>

Barrett, E., Batterham, M., Ray, S., Beck, E. (2019). *Whole grain, bran and cereal fibre consumption and CVD: a systematic review*. British Journal of Nutrition, Doi: <https://doi.org/10.1017/S000711451900031X>

Bechthold, A., Boeing, H., Schedhelm, C. et al. (2017). *Food groups and risk of coronary heart disease, stroke and heart failure: A systematic review and dose-response meta-analysis of prospective studies*. Critical Review in Food Science and Nutrition, 59 (7), Doi: <https://doi.org/10.1080/10408398.2017.1392288>

Reynolds, A., Mann, J., Cummings, J. et al. (2019). *Carbohydrate quality and human health: a series of systematic reviews and meta-analyses*. The Lancet, 393 (10170), 434-445, Doi: [http://dx.doi.org/10.1016/S0140-6736\(18\)31809-9](http://dx.doi.org/10.1016/S0140-6736(18)31809-9)

Schwingshackl, L., Schvedhelm, C., Hoffmann, G. et al. (2017). *Food groups and risk of all-cause mortality: a systematic review and meta-analysis of prospective studies*. The American Journal of Clinical Nutrition, 105 (6), 1462-1473, Doi: <https://doi.org/10.3945/ajcn.117.153148>

⁶ Reynolds, A., Mann, J., Cummings, J., et al. (2019). *Carbohydrate quality and human health: a series of systematic reviews and meta-analyses*. The Lancet, 393 (10170), 434-445, Doi: [http://dx.doi.org/10.1016/S0140-6736\(18\)31809-9](http://dx.doi.org/10.1016/S0140-6736(18)31809-9)

⁷ WholeGrain (2021). Whole Grain: definition, evidence base review, sustainability aspects and considerations for a dietary guideline. Lourenço S. https://www.gzs.si/Portals/288/210427_WholeGrain_Deliverable%204.1_FINAL%20report.pdf

⁸ Micha, R., Khatibzadeh, S., Shi, P., et al. (2015). *Global, regional and national consumption of major food groups in 1990 and 2010: A systematic analysis including 266 country-specific nutrition surveys worldwide*. BMJ, 5(9), <https://bmjopen.bmj.com/content/5/9/e008705.info>

⁹ Afshin, A., Sur, P. J., Fay, K. A., et al. (2019). *Health effects of dietary risks in 195 countries, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017*. The Lancet, 393 (10184), Doi: [https://doi.org/10.1016/S0140-6736\(19\)30041-8](https://doi.org/10.1016/S0140-6736(19)30041-8)

¹⁰ McKeown, N., Griffin, T. (2019). *Whole grains, health and Sustainability*. Cereals & Grains Association, <https://www.cerealsgrains.org/publications/cfw/2019/May-June/Pages/CFW-64-3-0029.aspx>

¹¹ Oldways Whole Grains Council (n.d.). *Whole Grains: A sustainable food*. https://wholegrainscouncil.org/sites/default/files/atoms/files/WG_SustainableFood_infographic.pdf

What are breakfast cereal manufacturers doing to increase the amount of whole grain in their products?

In their From Seed to Spoon Manifesto¹², CEEREAL members have committed to further increasing the whole grain content in breakfast cereals and broadening the variety of their offer. Also, they will make it easier for people to understand the benefits of these products and opt for a balanced and nutritious diet.

This will be achieved through innovation (new foods with increased whole grain content), renovation (increasing whole grain in existing products) as well as communication and education.

Examples of international and national activities to raise awareness of whole grain

CEEREAL and some of its member companies are part of the Whole Grain Initiative (WGI), which is coordinated by the International Association for Cereal Science and Technology. WGI aims to increase consumption of whole grains and brings together public health experts, manufacturers, marketers, grain scientists and government regulators from 36 countries. WGI is also holding the annual international Whole Grain Day.

In a public-private “Whole Grain Partnership” (WGP), Denmark has managed to increase the average whole grain intake of Danes from 36 to 82g per 10 MJ per day within 15 years¹³. The WGP was set up to counteract the decrease of whole grain intake observed in Denmark in the 1990s and 2000s. The WGP comprised partners from health authorities, health NGOs, and the food industry (millers, food producers, retailers), and interest groups, all of which were responsible for executing WGP campaigns¹⁴.

General information and resources on whole grain

Whole Grain Initiative

<https://www.wholegraininitiative.org/>

WholEUGrain project

https://www.gzs.si/Portals/288/210427_WholEUGrain_Deliverable%204.1_FINAL%20report.pdf

Whole grain and fibre is part of a healthy diet

<https://www.who.int/news-room/fact-sheets/detail/healthy-diet>

EUFIC resources on whole grain

<https://www.eufic.org/en/whats-in-food/article/whole-grains-updated-2015>

Danish Whole Grain Partnership

<https://fuldkorn.dk/english/>

¹² From Seed to Spoon (2021). *The contribution of breakfast cereals to achieving balanced diets and sustainability food systems*. <https://www.from-seed-to-spoon.info/>

¹³ Fuldkornspartnerskabet (n.d.). *The Danish Whole Grain Partnership*. <https://fuldkorn.dk/english/>

¹⁴ Lourenço, S., Hansen, G. (2019, June). *The Whole Grain Partnership – How a public-private partnership helped increased whole grain intake in Denmark*. https://www.researchgate.net/publication/333641500_The_Whole_Grain_Partnership-How_a_Public-Private_Partnership_Helped_Increase_Whole_Grain_Intake_in_Denmark

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