



CEEREAL Statement on Dietary Fibre

February 2022

Dietary fibre is associated with positive health benefits, the most recognised being maintaining digestive health as well as lower risks of a number of non-communicable diseases¹. Breakfast cereals are an important source of dietary fibre as well as of vitamins, minerals and whole grain and a convenient way to increase daily intakes.

From 2015 to 2020 alone, the fibre content has increased by nearly 9% in CEEREAL members' products². In their From Seed to Spoon Manifesto³, CEEREAL members have committed to further increasing the fibre content in breakfast cereals and broadening the variety of their offer. In addition, they will help people better understand the benefits of dietary fibre and foods containing fibre.

What is dietary fibre?

Fibre comes from plant-based foods such as fruit, vegetables and grains. Fibre, unlike other carbohydrates, is not digested in the small intestine. Rather, it passes through the gut into the large intestine. The definition of dietary fibre is much debated, but in EFSA's 2010 Opinion on carbohydrates and dietary fibre⁴, dietary fibre is considered as non-digestible carbohydrates plus lignin, with the main types of total dietary fibre including:

1. Non-starch polysaccharides (NSP) - cellulose, hemicelluloses, pectins, hydrocolloids (i.e., gums, mucilages, -glucans).
2. Resistant oligosaccharides - fructo-oligosaccharides (FOS), galacto-oligosaccharides (GOS), other resistant oligosaccharides.
3. Resistant starch - consisting of physically enclosed starch, some types of raw starch granules, retrograded amylose, chemically and/or physically modified starches.
4. Lignin associated with the dietary fibre polysaccharides.

What are claims on dietary fibre and how can they be used?

The EU nutrition and health claims regulation⁵ helps consumers identify foods containing fibre and their benefits. In accordance with this regulation,

- "High in fibre" claims are permitted on foods that contain at least 6g of fibre per 100g or at least 3g of fibre per 100kcal.

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 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/>

⁴ EFSA (2010). *Scientific Opinion on Dietary Reference Values for carbohydrates and dietary fibre*: Doi: <https://doi.org/10.2903/j.efsa.2010.1462>

⁵ Regulation (EC) No 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods. <http://data.europa.eu/eli/reg/2006/1924/2014-12-13>

- “Source of fibre” claims are permitted on foods that contain at least 3g of fibre per 100g or at least 1.5g per 100kcal⁶.

In addition to the above-mentioned nutrition claims, authorised health claims help consumers understand the benefits of consuming foods containing specific types of fibre in a significant amount, for example:

- Wheat bran fibre contributes to a reduction in intestinal transit time
- Oat grain fibre contributes to an increase in fecal bulk
- Oat beta-glucan has been shown to lower/reduce blood cholesterol. Blood cholesterol lowering may reduce the risk of (coronary) heart disease

Why is it important to eat (more) fibre?

Dietary fibre plays an important role in supporting digestive health. It has shown to have favourable effects in regulating digestion and absorption, bulking, transit time and microbiota populations in the gut⁷. Specifically, prebiotic fibre is a type of fibre, which targets important bacteria living in the gut, conferring a health benefit⁸.

High fibre diets have also been associated with a positive impact on many other aspects of health including cardiometabolic health, type 2 diabetes & certain types of cancer⁹. More specifically, higher dietary fibre 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 cancer.

The European Food Safety Authority recommends an intake of 25g per day for adults. This recommendation is based on the role of dietary fibre in bowel function¹⁰. However, the benefit of diets, which are rich in foods containing fibre and provide fibre intakes greater than 25g per day, has also been noted. On a national level, dietary recommendations vary with most countries generally recommending daily intakes between 25-35g for adults¹¹.

Despite these recommendations on fibre, and the well-recognised role of fibre for health, intakes remain insufficient. A recent European review noted that fibre intakes are often falling below recommendations¹². On average, intakes for adult males in Europe range from 18 to 24 g/d and for females 16 to 20 g/d, with little variation from one European country to another¹³.

⁶ Regulation (EC) No. 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02006R1924-20141213&from=EN>

⁷ Gill, S., Rossi, M., Bajka, B. et al. (2021). *Dietary fibre in gastrointestinal health and disease*. *Nature Reviews Gastroenterology & Hepatology*, 18, 101–116, Doi: <https://doi.org/10.1038/s41575-020-00375-4>

⁸ EFSA Panel on Dietetic Products, Nutrition and Allergies (2015). *Scientific Opinion on the substantiation of a health claim related to “native chicory inulin” and maintenance of normal defecation by increasing stool frequency pursuant to Article 13.5 of Regulation (EC) No 1924/2006*. *EFSA Journal*, 13 (1):3951, 12, Doi: <https://doi.org/10.2903/j.efsa.2015.3951>

⁹ Reynolds, A., Mann, J., Cummings, J., Winter, N., Mete, E., Te Morenga, L. (2019). *Carbohydrate quality and human health: a series of systematic reviews and meta-analyses*. *The Lancet*, 393 (10170), 434-445, Doi: [https://doi.org/10.1016/S0140-6736\(18\)31809-9](https://doi.org/10.1016/S0140-6736(18)31809-9).

¹⁰ European Food Safety Authority (2010). *EFSA sets European dietary reference values for nutrient intakes*. <https://www.efsa.europa.eu/en/press/news/nda100326>

¹¹ Stephen, A., Champ, M., Cloran, S. et al. (2017). *Dietary fibre in Europe: current state of knowledge on definitions, sources, recommendations, intakes and relationships to health*. *Nutrition Research Reviews*, 30 (2): 149–190, Doi: <https://doi.org/10.1017/s095442241700004x>

¹² NDNS: Years 9 to 11 of the Rolling Programme (2016/2017 to 2018/2019)

¹³ Stephen, A., Champ, M., Cloran, S. et al. (2017). *Dietary fibre in Europe: current state of knowledge on definitions, sources, recommendations, intakes and relationships to health*. *Nutrition Research Reviews*, 30 (2): 149–190, Doi: <https://doi.org/10.1017/s095442241700004x>

In Ireland, over 80% of adults are not meeting the EFSA 25g/day recommendation¹⁴. While in Spain, 90% of adults have inadequate intakes¹⁵. In the UK just 9% of adults meet their recommended 30g/day.

How can breakfast boost fibre intake?

Breakfast time offers a significant opportunity to boost fibre intakes, and breakfast consumption has been associated with higher intakes of fibre¹⁶. Dietary fibre can be found in whole grains, fruits and vegetables, as well as pulses, nuts and seeds. Breakfast cereals offer a convenient choice in the morning, and many are developed to help people achieve fibre recommendations. Some breakfast cereals contain special types of fibres to help deliver additional health benefits and support digestive health, for example chicory root fibre or wheat bran fibre. Compared to other breakfasts, ready-to-eat cereal breakfast is linked to improved nutrient intake, including the intake of more fibre¹⁷.

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

CEEREAL members have committed to helping people eat more fibre by increasing the variety of their offer, and by making it easier for people to identify these products and understand their benefits¹⁸. This will be achieved through:

1. Innovation – bringing new foods with increased fibre content to market
2. Renovation – increasing fibre content of existing foods in market
3. Communication and education – helping consumers identify these options and understand their benefits.

Collectively, CEEREAL members are working towards making breakfast cereals with higher levels in fibre more appealing and accessible throughout Europe. From 2015 to 2020 alone, the fibre content has increased nearly 9% on average in member's products¹⁹.

Further information

EUFIC resources on fibre

<https://www.eufic.org/en/whats-in-food/article/what-is-dietary-fibre-and-is-it-beneficial>

¹⁴ Bannon, S., Walton, J., Flynn, A. (2011). *The National Adult Nutrition Survey: dietary fibre intake of Irish adults*. Proceedings of the Nutrition Society, 70 (OCE3), E113, Doi: <https://doi.org/10.1017/S0029665111001534>

¹⁵ Ministerio de Sanidad, Servicios Sociales e Igualdad (2011). *Evaluación Nutricional de la Dieta Española. Energía y Macronutrientes sobre datos de la Encuesta Nacional de Ingesta Dietética (ENIDE)*. <http://www.cibr.es/ka/apps/cibr/docs/estudio-enide-1.pdf>

¹⁶ Van den Boom, A., Serra-Majem, L., Ribas, L. et al. (2006). *The contribution of ready-to-eat cereals to daily nutrient intake and breakfast quality in a Mediterranean setting*. Journal of the American College of Nutrition, 25, 1135-143, Doi: <https://doi.org/10.1080/07315724.2006.10719524>

¹⁷ Michels, N., De Henauw, S., Beghin, L. et al. (2015). *Ready-to-eat cereals improve nutrient, milk and fruit intake at breakfast in European adolescents*. European Journal of Nutrition, 55, 771-779, Doi: <https://doi.org/10.1007/s00394-015-0898-x>

¹⁸ 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/>

¹⁹ On a sales-weighted basis for recipes constituting 85% of volume sales in the EU and UK for CEEREAL members in 2015 and 2020.

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