

YOUR GUIDE TO Fibre

Dietary fibres are carbohydrates that are not digested or absorbed in the small intestine and therefore reach the large intestine, where they can be broken down by bacteria.



DEFINITION

Dietary fibres, as defined by Codex¹ and the European Commission², are carbohydrate polymers with three or more monomeric units, which are neither digested nor absorbed in the small intestine and belong to the following categories:

- edible carbohydrate polymers naturally occurring in the food as consumed;
- edible carbohydrate polymers which have been obtained from food raw material by physical, enzymatic or chemical means and which have a beneficial physiological effect demonstrated by generally accepted scientific evidence;
- edible synthetic carbohydrate polymers and which have a beneficial physiological effect demonstrated by generally accepted scientific evidence.

DIETARY RECOMMENDATION

In the UK and Ireland, the fibre intake of adults is far below what is recommended, with an average daily intake of only 19g.^{3,4}






Table 1. UK and Ireland Daily Fibre Recommendations⁵⁻⁷

Age Group	UK	Ireland
2-4 years old	15g	Age +5g
5-10 years old	20g	Age +5g
11-14 years old	25g	Age +5g
15-18 years old	30g	Age +5g
19+ years old	30g	≥25g

FIBRE RICH FOODS

Dietary fibre is naturally present in many plant-based foods.

Here are some examples and the amount of fibre they provide (per 100g):

 Fruits	Strawberries 3.8g
	Bananas 1.4g
	Plums 2.3g
 Vegetables	Broccoli 2.8g
	Carrots 3.9g
	Sweet Potato 2.2g
 Legumes	Chickpeas 4.8g
	Lentils 3.8g
	Baked Beans 4.9g
 Nuts & Seeds	Almonds 15.9g
	Hazelnuts 9.4g
	Sunflower Seeds 7.1g
 Wholegrains	Oats 7.8g
	Wholegrain Bread 7g
	Wholewheat Pasta 4.4g

NUTRITION & HEALTH CLAIMS

Regulatory Landscape

Across the European Union (EU) and within the UK, foods can only carry a nutrition or health claim in accordance with EU* and UK** Regulations.

Foods can carry a 'source of fibre' or 'high fibre' nutrition claim if:

- Source of fibre - the product contains at least 3g of fibre per 100g or at least 1.5g of fibre per 100kcal.
- High fibre - the product contains at least 6g of fibre per 100g or at least 3g of fibre per 100kcal.

*Regulation (EC) No 1924/2006

**Nutrition (Amendment etc.) (EU Exit) Regulations 2020

All **health claims** on food products across the EU and within the UK require an assessment of scientific evidence by the European Food Safety Authority (EFSA) or the UK Nutrition and Health Claims Committee (UKNHCC), respectively.

Approved Health Claims

There are several approved health claims for dietary fibres relating to gastrointestinal health including⁸⁻¹¹:

Barley grain, oat grain, wheat bran and sugar beet fibres	Contributes to an increase in faecal bulk
Rye fibre	Contributes to normal bowel function
Wheat bran fibre	Contributes to an acceleration of intestinal transit time

FIBRE & HEALTH



Gastrointestinal Health

Consuming more dietary fibre has been shown to decrease intestinal transit time and exert faecal-bulking effects, soften stools and decrease constipation, in randomised-controlled trials.¹²



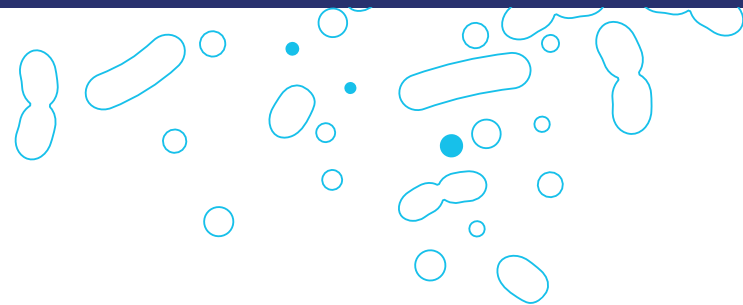
Colorectal Cancer

In prospective studies, high fibre intakes have been associated with a reduced risk of colorectal cancer, and the World Cancer Research Fund states there is strong 'probable' evidence that foods containing dietary fibre decreases the risk of colorectal cancer.^{13,14}



Other Non-Communicable Diseases

Further research suggests an association between increased fibre intake and reduced mortality risk and non-communicable diseases including cardiovascular disease, high blood pressure, type 2 diabetes, and some other cancers.¹⁵



FIBRE & THE GUT MICROBIOTA

Some benefits attributed to fibre consumption may be a result of the interaction between fibre and the gut microbiota.

Diets high in fibre are associated with greater microbial richness, biodiversity and proportion of Bacteroidetes to Firmicutes ratio, compared to diets low in fibre, and high in sugar, protein and fat – typical of a Western diet.¹⁶

Increased fibre intakes are also associated with increased faecal short chain fatty acid (SCFA) levels.¹⁶ An important role of the gut microbiota is to breakdown undigested dietary fibre, which results in the production of SCFAs, including acetate, butyrate and propionate. These SCFAs play a role in metabolic health, weight and satiety, and butyrate has shown anti-inflammatory and anti-carcinogenic effects.¹⁷

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