

Wholegrains

A huge variety of cereal crops are grown for food throughout the world. These include wheat, rye, barley, oats and rice. Grains are the seeds of these cereal plants. The entire grain or 'wholegrain' contains three elements:

- a fibre-rich outer layer – the bran
- a nutrient-packed inner part – the germ
- a central starchy part – the endosperm

During the milling process, the bran and the germ are often removed to give a 'whiter' cereal.

What nutrients do wholegrains contain?

Most of the goodness in grains is in the outer bran layer and germ of the seed so wholegrains can contain up to 75% more nutrients than refined cereals. Wholegrains provide:

- fibre
- B vitamins and folic acid
- essential fatty acids (omega-3 fats)
- protein
- antioxidants including vitamin E, selenium
- micronutrients such as copper and magnesium
- other parts of the plant (phytochemicals) which may have health benefits

Why should we choose wholegrains?

Evidence is growing that eating wholegrains regularly as part of a healthy diet and lifestyle helps to keep us healthy. It may also help to reduce the risk of many common diseases. It is not only the fibre in wholegrains that has health promoting properties - it seems to be the 'complete package' of nutrients in wholegrains that work together to offer protection.

Research suggests that:

- The risk of heart disease, stroke and type 2 diabetes may be up to 30% lower in people who regularly eat wholegrains as part of a low-fat diet and healthy lifestyle
- The risk of developing cancer of parts of the digestive system such as bowel cancer may be reduced with higher intakes of wholegrains. Some of the fibre in wholegrains moves food along more quickly and easily, reducing the time that damaging substances are in contact with the gut wall

- Some of the fibre provides a food source for 'friendly' gut bacteria. This helps them to increase and produce substances which are thought to protect the gut wall, such as short-chain fatty acids
- Wholegrains may help in maintaining a healthy body weight over time as part of a healthy diet and lifestyle. The fibre in them can help you feel full, and they are digested more slowly, helping you feel fuller for longer
- Wholegrains are usually low in fat but rich in fibre and starchy carbohydrate and often have a low glycaemic index (GI). This means they provide a slow release of carbohydrate into the blood which, together with fibre content, may help keep you feeling fuller for longer - aiding to control snacking and appetite
- Most cereal foods eaten in the UK are refined and our intake of wholegrains is very low. Surveys show that 95% of adults don't eat enough wholegrains and nearly one in three of us get none at all

How can I increase my intake of wholegrains?

When choosing foods from the starchy food group, replace refined cereal foods such as white bread and rice with wholegrain varieties such as wholemeal bread and brown rice. Wheat, oats, barley, rye and rice are the most commonly available cereals which can be eaten in the wholegrain form. To find them, look for the word 'whole' before the name of the cereal e.g. whole wheat pasta, whole oats and make sure they are high up/ first in the ingredients list. Multigrain is not the same as wholegrain – it means that the product contains more than one different type of grain. There is currently no advice on what amount of wholegrains to eat in the UK but many experts in other countries say to aim for three servings a day. See the table below for portion size.

List of wholegrains

Cereals:

- wheats, including spelt



- 🌾 rice
- 🌾 barley including hull-less or naked barley but not pearly
- 🌾 maize (corn)
- 🌾 rye
- 🌾 oats, including hull-less or naked oats
- 🌾 millets
- 🌾 wild rice

Other grains:

- 🌾 buckwheat
- 🌾 quinoa
- 🌾 'ancient grains' e.g. kamut, freekah, amaranth

Wholegrain foods and ideas for use

Type of food	Wholegrain varieties	Portion size (one serving)	Ideas for use
Breakfast cereal	Whole oats including rolled oats and oatmeal; wholewheat cereals such as wholewheat biscuits, bran flakes, puffed wholegrains, wholegrain muesli; and wholegrain cereal bars	One tbsp uncooked oats Three tbsp wholegrain cereal	With milk or yoghurt and fruit for breakfast or as a snack, as a topping for crumbles, as a snack. Choose wholegrain versions with less or no added sugar and salt
Bread and crackers	Wholemeal, granary, wheatgerm, wholemeal mixed/multi grain or seeded breads (check the label for wholegrains), rye (pumpernickel), wholemeal pitta, wholewheat crackers, oatcakes and rye crispbread	One medium slice bread Half wholemeal tortilla Half wholemeal pitta Two rye crisp bread Two oatcakes	Instead of white bread, cream crackers and sweet biscuits
Flour	Wholemeal, buckwheat, unrefined rye, barley, oatmeal and wholegrain oat flour	n/a	In baking or recipes instead of white flour or mixed half and half
Meals	Brown rice, wholewheat pasta, whole barley (not pearl), bulgur (cracked) wheat, quinoa	Two to three heaped tbsp cooked brown rice Two to three tbsp wholegrain pasta	With casseroles, curries, sauces, in soups, and in salads
Snacks	Wholegrain cereal bars, oat cakes, wholegrain rice cakes, popcorn (plain), wholemeal scones, and wholegrain breakfast cereals	Half wholemeal scone Two oatcakes Two to three cups/individual bags plain popcorn	In place of sweets, crisps and savoury snacks, cream crackers and sweet biscuits

Top tips

1. Foods made with whole grains can make an important contribution to our health and wellbeing
2. Whole grains include all parts of the grain. Examples of whole grains include brown or wild rice, buckwheat, bulgur, millet, quinoa, rolled oats, wholegrain barley, whole rye, and whole wheat
3. Whole grains provide benefits relating to the nutrients (food components) and bioactive compounds (phytochemicals) they contain. These include fibre, protein, vitamins, minerals, anti-oxidants and essential fats
4. Evidence is growing that eating wholegrains regularly as part of a healthy diet and lifestyle helps to keep us healthy. Wholegrains may also help to reduce the risk of many common diseases and conditions including heart disease, certain types of cancer, type 2 diabetes, and with weight management
5. Most of us eat too few wholegrains as we tend to eat more refined cereals
6. When choosing starchy foods, swap refined cereal foods, such as white bread, rice and pasta, with whole grain varieties such as wholemeal bread, brown rice and whole wheat pasta. As well as swapping refined grain products for wholegrain ones, choose wholegrains at mealtimes and as a snack
7. To check a product is whole grain, check a whole grain(s) is among the first ingredients listed and look out for the word 'whole' as in "wholemeal", "wholegrain" or "100% whole" as in "100% wholewheat" on the packaging

This Food Fact Sheet is a public service of The British Dietetic Association (BDA) intended for information only. It is not a substitute for proper medical diagnosis or dietary advice given by a dietitian.

If you need to see a dietitian, visit your GP for a referral or bda.uk.com/find-a-dietitian for a private dietitian. You can check your dietitian is registered at hcpc-uk.org.

This Food Fact Sheet and others are available to download free of charge at bda.uk.com/foodfacts

This resource has been produced by the BDA in partnership with Dietitian Sian Porter and Johanna Hignett.

The information sources used to develop this fact sheet are available at bda.uk.com/foodfacts

© BDA May 2022. Review date May 2025.

