Federation of Bakers

FACTSHEET No. 12

FIBRE

- Fibre is only found in plant foods like wheat, beans, lentils, fruit & vegetables.

- Bread is an important source of fibre in the diet and provides almost a fifth of our daily intake.

- The official definition of dietary fibre is published in the Food Information to Consumers Regulation (FIC)*. For the purposes of this "fibre" includes all carbohydrate components occurring in foods that are not digestible in the small intestine.

- Fibre is often referred to as soluble or insoluble:

  Insoluble fibre is found in foods such as wheat bran, vegetables and whole grains. It cannot be digested and so it passes through the gut without being broken down, helping other foods move through the digestive system more easily.

  Soluble fibre attracts water and becomes a gel during digestion. Found in oat bran, barley, nuts, seeds, beans, lentils, peas, and some fruits and vegetables, it may help to lower cholesterol levels.

- Resistant Starch (RS) refers to the portion of starch and starch products that resist digestion as they pass through the gut. Sometimes called the third type of fibre, these starches that resist breakdown in the small intestinal are fermented by the resident bacteria in the large intestine. Research into the benefits of RS is at an early stage but indicators are that it may help to lower the glycaemic index of foods, meaning that it slows down the release of sugar into the bloodstream. Bread that has been frozen and defrosted and toasting bread can increase the levels of resistant starch.

- Medical reports and nutrition experts stress the importance of fibre in the diet, particularly cereal fibre. Ensuring we get enough fibre helps to maintain digestive health and can prevent conditions such as constipation and other bowel disorders. We should have a healthy balanced diet which includes more carbohydrate-rich, starchy foods such as bread, rice and potatoes – choosing wholegrain or brown varieties when possible. Foods rich in fibre and wholegrain may provide other health benefits – such as helping to reduce coronary heart disease.

- Medical experts recommend that an average adult should be consuming at least 30g of dietary fibre per day as part of a healthy and balanced diet in support of good digestive health[1]. There is also evidence that dietary fibre can play a part in reduced risk of coronary heart disease and type 2 diabetes[**]. In the UK most people do not eat enough fibre and mean intakes are below the dietary reference value for all age groups.

- Wheat bran is a rich source of dietary fibre and typically contains around 40% fibre. This is why wholemeal and brown breads contain more fibre than standard white bread.

- Nearly 52% of the bread we buy is white[2] And for those who prefer white bread but want more fibre, there are varieties of white bread available which contain added wholegrain, fibre or wheat germ which provide more fibre than a standard white loaf. The label will tell you which are the high fibre varieties. A product high in fibre contains at least 6g of fibre per 100g.

- A high fibre diet is not suitable for everyone. For very young children it fills them up too quickly and for people with certain medical conditions such as IBS it may aggravate their condition.

- Bacteria in the gut can ferment some of the fibre present in food. The products of this fermentation can provide energy for the body and therefore contribute to the total energy provided by food. This has been recognised in recent years and as a result an energy value has been assigned to fibre of 8kJ/2kcal for 1 gram.

- A universal method of measuring fibre is being considered by the European Commission. In the UK we use a method called AOAC for labelling fibre. There is another method of measurement called the 'Englyst' method [3]. The Commission has published Guidance on methods of fibre analysis for enforcement purposes[**].

Average dietary fibre content of bread, including resistant starch [4] per 100g:

	AOAC
White (11-468)	2.5g
Brown (11-456)	5.0g
Wholemeal (11-476)	7.0g

A medium slice of bread weighs approximately 38g.

[1] Scientific Advisory Commission on Nutrition (SACN) Report on Carbohydrates, including Sugars and Fibre – 17th July 2015 Ref: ISBN 9780117082847

[2] Nielsen Homescan – (MAT we25.04.15)

[3] Unlike the AOAC method, the Englyst method is limited as it does not analyse for all types of dietary fibre – especially resistant starch present in milled flour -and therefore does not represent the total fibre content of the food. This is better addressed by utilizing the AOAC method which tends to capture more types of fibre.

[4] McCance and Widdowson's The Composition of Foods, Seventh summary edition.

Average dietary fibre content of 4 slices of bread:

	AOAC
White (11-468)	3.8g
Brown (11-456)	7.6g
Wholemeal (11-476)	10.6g

Notes:

* The definition of dietary fibre was first introduced in Commission Directive 2008/100/EC on 28 October 2008. Commission Directive 2008/100/EC amended the 1990 nutrition labelling Directive (90/496/EEC), which was repealed by the FIC.

For the purposes of this Directive "fibre" includes all carbohydrate components occurring in foods that are non digestible in the gut.

The main types of fibre are:

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

**Scientific Opinion on Dietary Reference Values for carbohydrates and dietary fibre EFSA Panel on Dietetic Products, Nutrition, and Allergies (NDA). EFSA Journal 2010; 8(3):1462

***EC Guidance Document for Competent Authorities for the Control of Compliance with EU Legislation on:

Council Directive 90/496/EEC of 24 September 1990 on nutrition labelling of foodstuffs and Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004 with regard to methods of analysis for determinations of the fibre content declared on label.

http://ec.europa.eu/food/food/labellingnutrition/nutritionlabel/docs/guidance_methods_analysis_fibre_dec2012.pdf