



WHAT ARE DIETARY FIBRES?

It is generally recognised that dietary fibre is an essential dietary requirement for human beings. In principle, dietary fibre is a term that refers to a group of food constituents that pass undigested through the stomach and the small intestine and reach the large intestine virtually unchanged. It is made up of indigestible parts of plants and is mainly composed of different types of non-starch polysaccharides (NSP) and lignin.

It is well documented that dietary fibre is related to health benefits such as weight control, satiety, prevention of constipation, stabilization of blood-glucose levels, reduction of cholesterol levels, prevention of certain types of colonic cancer and prebiotic activity. Nowadays, the demand for healthier and less chemically modified food ingredients and foods is becoming more and more important for the consumer. Dietary fibre has a crucial role to play in this context.

Though dietary fibre is often associated with fruits, vegetables and grains, a range of a new-generation industrially prepared foodstuffs with added dietary fibre are currently commercially available: e.g. bakery products, infant formulas and baby food, pasta products, beverages, as well as feed and pet food. Many new products are launched with claims about their dietary-fibre content and beneficial health effects. Manufacturers enrich their products with different types of fibres like inulin, fructooligosaccharides (FOS), polydextroses, and galactooligosaccharides (GOS). Resistant starch, resistant maltodextrins and β -glucans are also considered as dietary fibre and added to food products.

For those reasons, product quality control has become very important and has led to the need to determine the amount of dietary fibre contained in products and ingredients.

A correct measurement of the dietary fibre content is important in relation to:

- Correct labelling of the product
- Decisions on granting label and health claims
- Too low dietary fibre content in a product is always accompanied with too high energy values of the product.



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ANALYSES

The Eurofins Carbohydrates Competence Centre routinely performs a complete set of tests for total dietary-fibre determination as well as for individual components. If a test is not included in the list below, the Eurofins Carbohydrates Competence Centre also performs specially designed tests for clients.

ROUTINE TESTS

- Classical total dietary fibre (based on AOAC 985.29)
- Classical total, soluble & insoluble dietary fibre (based on AOAC 991.43)
- Total, high molecular weight (incl. res. starch), low molecular weight dietary fibre (based on AOAC 2009.01)
- Total, soluble & insoluble (incl. res. starch) high molecular weight, low molecular weight dietary fibre (based on AOAC 2011.25)
- Total fibre for samples containing supplemented res. maltodextrin (based on AOAC 2001.03)
- β -glucan (cereals) (based on AOAC 995.16)
- β -glucan (yeasts & moulds) (only for ingredients or products with >40% β -glucan content)
- Galactooligosaccharides (based on AOAC 2001.02)
- Inulin/Fructooligosaccharides (based on AOAC 997.07) (only for ingredients or products with >10% inulin/FOS content)
- Inulin/Fructooligosaccharides (based on AOAC 999.03)
- Resistant Starch (based on AOAC 2002.02)
- Pectin (as total uronic acid)
- Polydextrose (based on AOAC 2000.11)

SPECIAL TESTS RELATED TO DIETARY FIBRES

- Fingerprint inulin/fructooligosaccharides
- Fingerprint polydextrose
- Degree of polymerization of galactooligosaccharides (DP2-DP8)

