

## Nuts, dried fruit, fibre, antioxidants and EU nutrition and health claims regulations.

There are two important nutritional attributes common to nuts and dried fruit that have a great deal in common when it comes to the EU nutrition and health claims regulations (NHCR<sup>1</sup>). Surprising as it may seem, they are non-other than fibre and antioxidants! Both are limited by what we can say about them, despite being significant aspects of nutritional health and wellbeing. The reason for this limitation is that neither word carries an authorised health claim under EU NHCR legislation. So, let's talk about each in turn to understand the issues better:

### Antioxidants

Talking about the antioxidant properties of nuts and dried fruit in the EU is difficult. Antioxidants have been discussed widely over the years in relation to positive health benefits, to the extent that the word itself is now strongly associated with good health. As such the word *antioxidant* is deemed to be a health claim by the EU NHCR, that puts *consumer understanding* at the top of the agenda.

Simply stating that a particular food *contains antioxidants* does not give any clues to any specific health benefit that may or may not be imparted – it's far too vague and therefore misleading. It is possible for instance that the antioxidant in question is broken down during digestion; or is metabolized once within the body to another one or more substances that have unknown antioxidant function within the human body.

In measuring health benefit, we also need to consider the quantity of the 'active substance' in question that would be required to impart such a health benefit. This opens another area of significant research – how to accurately measure the bioavailability of a substance in relation to human health benefit? Antioxidant research has been tremendous over many years, but we have still to ascertain *all* the facts. For now, however, we can more specifically discuss the role of certain nutrients that have a proven antioxidant function in relation to *oxidative stress*. This is where there is an imbalance between the body's natural reactions to both produce and remove potentially damaging reactive oxygen molecules. Their removal (detox) or repair is carried out by nutrients with antioxidant functions.

Consuming nuts and dried fruit daily is one sure way to help reduce risk of oxidative stress on the body, due to some of the nutrients provided by these foods. For example:

- **Hazelnuts** are high in vitamin E, copper and manganese, and a source of zinc which contribute to the protection of cells from oxidative stress;
- **Raisins** are a source of copper, which contributes to the protection of cells from oxidative stress; and
- **Figs** are a source of copper and manganese, which contribute to the protection of cells from oxidative stress.

So snacking on nuts and traditional dried fruits instead of the usual high fat, sugar and salt options, as part of a varied, balanced diet and healthy lifestyle, maybe the only *detox* we need!

## Fibre

Nuts and traditional dried fruit can provide a natural, popular, convenient and nutrient- rich contribution to daily fibre intakes. Here's a brief background for why this is so important.

Fibre has been valued in human nutrition for well over a century and it was the surgeon Dennis Burkitt ('the fibre man') whose observations whilst working in Africa encouraged him to bring together several researchers and their ideas, on returning to Britain in the 1960s. This culminated in the landmark *dietary fibre hypothesis*- namely that diets low in fibre can increase risk of developing a broad range of non-communicable diseases from heart disease, diabetes, obesity and large bowel cancer, through to dental caries, appendicitis and diverticulosis to name a few. (See the fascinating history of dietary fibre<sup>ii</sup>).

Dietary fibre has had a roller coaster history ever since – with waves of excitement and publicity where the importance of fibre in the diet has been reiterated (who remembers The F-plan Diet<sup>iii</sup>?), but for much of the time it has been in the background of the advancements of nutrition science.

In recent years fibre has once again asserted its right as being crucial to good health and wellbeing. Dietary fibre is instrumental for *nourishing* our gut microbes with energy - and by helping to keep our gut bugs healthy, they in turn can work tirelessly for our wellbeing. Whilst all fibre is useful in the diet, not all fibre fulfils this microbial substrate role however and our colonic microbiota depend on fermentable fibres to prosper. Furthermore, only some fibres can be classed as having a 'prebiotic' function (i.e. its use by gut microbiota results in a demonstrable health benefit)- 'prebiotic' being another word in EU NHCR that is understandably controlled.

Surprising as it may seem, daily fibre intakes are woefully inadequate for Western diets, with only a few percent (3% and 6% of men and women respectively<sup>iv</sup>) meeting recommendations. Despite it being common knowledge that inadequate fibre can result in constipation, far too many instead rely on laxatives and pills and potions to alleviate their gut problems, rather than simply eating more fibre-containing and/or less processed foods!

So why can't we talk freely about the human health benefits of such an important aspect of a healthy diet under EU NHCR? The problem lies mainly in the fact that fibre is a collective term for a large group of heterogeneous compounds with differing physical and chemical properties. Researchers still don't know everything about how each type works and its specific benefit to health, suffice it to say they work differently and importantly, individual foods contain unique mixes of fibre. It is one thing to measure the quantity of total fibre in a food to determine if a food is a *source of*, or *high source of* fibre, but when it comes to health claims that may be associated with fibre functionality, this may differ according to the specific fibre types in an individual food. Therefore utilising a generic health claim for 'fibre' to be linked to any/all fibre types may not be sufficiently accurate if that health claim is then assigned to an individual food!

One thing however we can be sure of, thanks to the pioneering work of those early researchers and the many others that have followed, is that a high fibre diet, from a variety of sources, is crucial for good health and wellbeing. This is recognised in all dietary recommendations, with general agreement that a fibre intake of 25-30g is needed to help protect health (e.g. EFSA<sup>v</sup>, WHO<sup>vi</sup>, SACN<sup>vii</sup>).

So, when talking about fibre, it is important for meeting EU NHCR to, *firstly* ensure your food is at least a *source* of this valuable commodity. *Secondly* let's talk - up fibre by making better use of resources we *can* talk about – i.e. these official dietary recommendations for fibre.

Most nuts and dried fruit are at least a source of fibre, with many being high in fibre (**figs, dates, prunes, apricots, hazelnuts, peanuts, pistachios, almonds, walnuts, brazils, macadamias, pecans**). So, when it comes to topping up daily fibre intakes a handful of nuts and dried fruit can help fill a void. For instance, a simple snack of just 2 dried figs (30g), plus a handful (30g) of nuts such as hazelnuts adds at least 6g fibre – that's a quarter of your 25g daily fibre needs!

---

<sup>i</sup> 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.

<sup>ii</sup> Cummings, J. H., & Engineer, A. (2018). Denis Burkitt and the origins of the dietary fibre hypothesis. *Nutrition Research Reviews*, 31(1), 1-15. <https://doi.org/10.1017/S0954422417000117>

<sup>iii</sup> Eyton A (1982) The F-plan diet. Penguin.

<sup>iv</sup> Dreher, M.L. (2018) *Nutrients* 10, 1833; doi:10.3390/nu10121833

<sup>v</sup> European Food Safety Authority. Scientific opinion on dietary reference values for carbohydrates and dietary fibre. EFSA Panel on Dietetic Products, Nutrition, and Allergies. *EFSA J.* 2010, 8, 1462.

<sup>vi</sup> WHO/FAO (2003) Diet, nutrition and the prevention of chronic disease. Report of a Joint FAO/WHO Expert Consultation. Geneva, Switzerland: WHO Technical Report Series 916

<sup>vii</sup> SACN (2015) Carbohydrates and health. Scientific Advisory Committee on Nutrition. London, TSO.