Dietary fiber energy storage material

The effects of dietary fiber on energy regulation remain controversial, and the use of dietary fiber to treat obesity appears to have modest benefit. 155 The beneficial effects of dietary fiber, both soluble and insoluble forms, have generally been attributed to increases in satiation and satiety. A microbial mechanism has also been postulated.

Antioxidant dietary fiber (AXDF), as a special component of PCWDF, is defined as "a product containing significant amounts of natural antioxidants associated with the fiber matrix, and the antioxidant capacity must be an intrinsic property, derived from natural constituents of the material neither by added antioxidants nor by constituents ...

Dietary fiber was first officially defined by the government in the United States in 2001 in an Institute of Medicine (IOM) document . Dietary fiber is defined as nondigestible carbohydrates and lignin that are intrinsic and intact (i.e., naturally occurring) in plant-based foods.

Polyphenol-dietary fiber materials are available in various forms, such as granules, seeds, hulls, shells, or grains, as well as in the form of powdered ingredient . Typically, these preparations are subjected to a ...

Analysis of fiber components and soluble sugars. Dietary fiber components were analyzed using the Uppsala method, as described previously 17,61. For the analysis of soluble sugars, 1 g of date ...

It has been shown that adequate fiber in the daily diet could reduce excessive food intake and depot fat storage by increasing the effort involved in eating, interfering slightly ...

The main advantage of dietary fiber from orange peel, compared with other sources, is its high proportion of soluble dietary fiber. Previous study showed that soluble dietary fiber could balance dietary fiber intake and replenish the essential nutrient element of the human body, which has attracted the attention of researchers (Sang et al., 2021).

A high-fiber diet implements a daily dietary fiber intake that equals or exceeds the United States Institute of Medicine"s (IOM) Dietary Reference Intake for dietary fiber . According to a list published by Akbar and Shreenath [23], the current daily recommended dietary fiber consumption ranges between 14 and 20 g for children, 22-30 g ...

Dietary fiber is plant material in the diet that is resistant to digestion in the small intestine but can be digested to short-chain fatty acids (SCFAs) in the large intestine by the gut microbiota. ... Yates A, Poos M. Dietary reference intakes for energy, carbohydrate, fiber, fat, fatty acids, cholesterol, protein and amino acids. J Am Diet ...

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Dietary fiber consists of non-digestible carbohydrates and lignin that are intrinsic and intact in plants. Functional fiber consists of isolated, non-digestible carbohydrates that have beneficial physiological effects in humans. Total fiber is the sum of dietary fibre and added fiber: Health Canada [61] Dietary fibre consists of: 1.

Dietary fiber is a nutrient known as a carbohydrate. Fiber includes the parts of plant foods that the body can"t digest or absorb. ... It forms a gel-like material in the stomach that slows down digestion. It can help lower cholesterol and blood sugar. Soluble fiber is found in oats, peas, beans, apples, bananas, avocados, citrus fruits ...

OSA-NFC could be used as high-quality dietary fiber with a strong ability to absorb oil to help regulate body weight, representing an innovative way of transforming cheaper biomass into value-added products.

Because it is UNCORRECTED material, please consider the following text as a useful but insufficient proxy for the authoritative book pages. ... Contribution of fiber to energy: When fiber is anaerobically fermented by micro-flora of the ...

???. Summary. Dietary fiber is a diverse group of compounds, including lignin and complex carbohydrates, which cannot be digested by human enzymes in the small intestine. (More information) Although each fiber type is chemically unique, fibers can be classified according to their solubility, viscosity, and fermentability in order to better understand their physiological ...

Insoluble dietary fiber is a macromolecular polysaccharide aggregate composed of pectin, glycoproteins, lignin, cellulose, and hemicellulose. All agricultural by-products contain significant levels of insoluble dietary fiber. With the recognition of the increasing scarcity of non-renewable energy sources, the conversion of single components of dietary fiber into ...

Cellulose, hemicellulose, and lignin are the main components of insoluble dietary fiber, whereas pectin is a form of soluble dietary fiber found in non-fibrous substances, such as barley, legumes, carrots, citrus, flax, oats, ...

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