

# Soluble Dietary Fiber Supplement

Rice bran solubles content of tocopherols (vitamin E). Rice bran solubles contains about 15–40% fat, 0–25% dietary fiber, 0–15% protein, and 25–80% carbohydrates. To produce rice bran solubles, the bran shavings are heat treated to prolong shelf-life and then enzymatically extracted to collect water-soluble components. Concerns Rice bran solubles are a nutritional product derived from the bran shavings produced as brown rice is converted into white rice. In Japan, they are used in some traditional pickling recipes. The shavings are usually discarded or used for animal feed 1650f5c071

Dietary fiber human digestive enzymes. Regularly consuming substantial dietary fiber is generally associated with supporting health and lowering the risks of several diseases. Dietary fibers are diverse in chemical composition and can be grouped generally by their solubility, viscosity and fermentability Dietary fiber (also spelled fibre), or roughage, is the portion of plant-derived food that cannot be completely broken down by human digestive enzymes. Dietary fiber consists of non-starch polysaccharides and other plant components, such as cellulose, resistant starch, resistant dextrins, inulins, lignins, chitins, pectins, beta-glucans, and oligosaccharides. They are components of many foods from plants, such as legumes, whole grains, cereals, vegetables, fruits, nuts, and seeds. Dietary fibers are diverse in chemical composition and can be grouped generally by their solubility, viscosity and fermentability, which affect how fibers are processed in the body. Dietary fiber has two main subtypes: soluble and insoluble 1650f5c071

Fibre supplements are widely available, and can be found in forms such as powders, tablets, and capsules. Consumption of fibre supplements may be for improving dietary intake, lowering blood cholesterol, alleviating irritable bowel syndrome, reducing the risk of colon cancer, and increasing feelings of satiety. 1650f5c071  $\beta$ -glucans are natural gums and are used as texturing agents in various nutraceutical and cosmetic products, and as soluble fiber supplements. At dietary intake levels of at least 3 g per day in humans, oat fiber  $\beta$ -glucan decreases blood levels of LDL cholesterol and so may reduce the risk of cardiovascular diseases. 1650f5c071 The digestible maltodextrins (or simply maltodextrins) are manufactured as white solids derived from chemical processing of plant starches. They are used as food additives, which are digested rapidly, providing glucose as food energy. They are generally recognized as safe (GRAS) for food and beverage manufacturing in numerous products. Due to their rapid production of glucose, digestible maltodextrins are potential risks for people with diabetes. 1650f5c071 == Uses == 1650f5c071 Food sources of dietary fiber have traditionally been divided according to proportion of soluble vs. insoluble fiber.

The two types are defined according to their characteristics of viscosity and fermentability, with different advantages between the types. Plant foods contain both types in varying amounts. Bulking fibers, such as cellulose... 1650f5c071

Calcium supplement Calcium supplements, unlike calcium from dietary sources, appear to increase the risk of kidney stones. Calcium supplements are salts of calcium used in a number of conditions. Supplementation is generally only required when there is not enough calcium in the diet. By mouth they are used to treat and prevent low blood calcium, osteoporosis, and rickets. By injection into a vein they are used for low blood calcium that is resulting in muscle spasms and for high blood potassium or magnesium toxicity. taken by mouth high blood calcium is uncommon 1650f5c071

== Origin and history == 1650f5c071 It is generally safe and moderately effective as a laxative. Use of psyllium in the diet for three weeks or longer may lower blood cholesterol levels in people with elevated cholesterol, and may lower blood glucose levels in people with type 2 diabetes. Use of psyllium for a month or longer may produce a small reduction in systolic blood pressure. 1650f5c071 More than 1,000 plum cultivars are grown for drying. The main cultivar grown in the United States is the 'Improved French' prune. Other varieties include 'Sutter', 'Tulare Giant', 'Moyer', 'Imperial', 'Italian', and greengages. Fresh prunes reach the market earlier than fresh plums and are usually smaller in size. The great majority... 1650f5c071 Common side effects include constipation and nausea. When taken by mouth high blood calcium is uncommon. Calcium supplements, unlike calcium from dietary sources, appear to increase the risk of kidney stones. Adults generally require about a gram of calcium a day. Calcium is particularly important for bones, muscles, and nerves. 1650f5c071

Beta-glucan cosmetic products, and as soluble fiber supplements. At dietary intake levels of at least 3 g per day in humans, oat fiber  $\beta$ -glucan decreases blood levels Beta-glucans,  $\beta$ -glucans comprise a group of  $\beta$ -D-glucose polysaccharides (glucans) naturally occurring in the cell walls of plants (including cereals), bacteria, algae and fungi, with significantly differing physicochemical properties dependent on source. Typically,  $\beta$ -glucans form a linear backbone with 1–3  $\beta$ -glycosidic bonds but differ with respect to molecular mass, solubility, viscosity, branching structure, and gelation properties, with several physiological roles in these organisms and causing diverse physiological effects in any animals that consume them 1650f5c071

== History == 1650f5c071

Psyllium or dietary supplement must contain at least 1. Allergy to psyllium is common in workers frequently exposed to the substance. 7 g of psyllium as soluble fiber. Psyllium is mainly used as a dietary fiber to relieve symptoms of both constipation and mild diarrhea, and occasionally as a food thickener. Whole oats, barley and foods containing beta-glucan soluble fiber were Psyllium (), also known as isabgol and ispaghula (), is any of several members of the plant genus *Plantago* whose seeds are

used commercially for the production of mucilage 1650f5c071

== Production == 1650f5c071 Most prunes are freestone cultivars (i.e., the pit is easy to remove), whereas most plums grown for fresh consumption are clingstone (the pit is more difficult to remove). The sorbitol content along with dietary fiber likely provide the laxative effect associated with consuming prunes. Prunes are 64% carbohydrates, including dietary fiber, 2% protein, a rich source of vitamin K, and a moderate source of B vitamins and dietary minerals. 1650f5c071 The plants from which the seeds are extracted tolerate damp and cool climates, and are mainly cultivated in northern India. 1650f5c071 == Rationale for fibre supplement use == 1650f5c071

Maltodextrin is 2,000 daltons. Both families are glucose polymers (also called dextrose polymers or dextrans), but have little chemical or nutritional similarity. Digestion-resistant maltodextrin is a soluble (fermentable) dietary fiber with numerous non-starch glycosidic bonds, allowing it to Maltodextrin is a name shared by two different families of chemicals 1650f5c071

The American Dietetic Association recommends that the average adult consume 25 to 38 grams of dietary fibre per day. However, research has shown that the average American only consumes 14 to 15 grams per day. To reach the recommended amount of fibre, consumption of dietary fibre from foods (e.g. plants, vegetables, legumes, and grains) instead of supplements... 1650f5c071 Concerns have been raised about the levels of arsenic in rice bran solubles. Rice naturally accumulates arsenic from the soil as it grows, with rice bran having higher levels than white rice. One study found that rice bran solubles contain even higher concentrations of arsenic. Consumption of products at the manufacturers recommended rate would provide 0.012–0.038 mg of arsenic, above the maximum level of 0.01 mg level considered safe. 1650f5c071 Excessive fibre intake can lead to fluid imbalance, dehydration, mineral deficiencies, nutrient and drug interactions, and other medical problems. 1650f5c071 Cereal and fungal products have been used for centuries for medicinal and cosmetic purposes; however, the specific role of  $\beta$ -glucan was not explored until the 20th century.  $\beta$ -glucans were first discovered in lichens, and shortly thereafter in barley. A particular interest in oat  $\beta$ -glucan arose after... 1650f5c071

Fibre supplements According to the IOM, functional fibre "consists of isolated, non-digestible carbohydrates that have beneficial physiological effects in humans". Fibre supplements (also spelled fiber supplements) are considered to be a form of a subgroup of functional dietary fibre, and in the United States are Fibre supplements (also spelled fiber supplements) are considered to be a form of a subgroup of functional dietary fibre, and in the United States are defined by the Institute of Medicine (IOM) 1650f5c071

Rice bran solubles are used as a nutritional supplement. The supplement is sometimes called tocos because of its high content

of tocopherols (vitamin E). Rice bran solubles contains about 15–40% fat, 0–25% dietary fiber, 0–15% protein, and 25–80% carbohydrates. 1650f5c071 The inulins belong to a class of dietary fiber known as fructans. In 2018, the United States Food and Drug Administration approved inulin as a dietary fiber ingredient used to improve the nutritional value of manufactured food products. Using inulin to measure kidney function is the "gold standard" for comparison with other means of estimating glomerular filtration rate. 1650f5c071 As with all xylan, the backbone of arabinoxylan chains is composed of a large number of 1,4-linked  $\beta$ -D-xylopyranosyl units. In arabinoxylan many of these xylose units are 3-linked with single  $\alpha$ -L-arabinofuranosyl units and some of these arabinose in turn have ester-linked ferulic acid residues. These feruloyl units can undergo radical oxidative coupling forming ferulic acid dehydrodimers... 1650f5c071

Arabinoxylan The remainder of this article refers to feruloyl-arabinoxylan from cell walls of grasses and other commelinid species. endosperm arabinoxylan is extractable in water, giving rise to soluble dietary fiber. The term arabinoxylan usually refers to feruloyl-arabinoxylan from grasses and other commelinids containing moieties of the phenolic ferulic acid that can undergo oxidative coupling (in the same way as lignin units) forming crosslinks between arabinoxylan chains and with lignin. Arabinoxylans from tissues other than endosperm are structurally Arabinoxylan is a form of the hemicellulose xylan found in both the primary and secondary cell walls of plants which in addition to xylose contains substantial amounts of another pentose sugar, arabinose. Whilst arabinose has been found linked to xylan in non-commelinid plants, ferulic acid has not been reported on these and unlike feruloyl-arabinoxylan these arabinoxylans are not monophyletic 1650f5c071

The digestion-resistant maltodextrins (also called resistant maltodextrins) are defined as nutritional food additives due to their ability upon fermentation in the colon to yield short-chain fatty acids, which contribute to gastrointestinal health. Digestion-resistant maltodextrins are also white solids resulting from the chemical processing of plant starches, but are processed using methods specifically to be resistant to digestion. They are used as ingredients in many consumer products, such as low-calorie sweeteners, and are considered GRAS... 1650f5c071 Inulin is a natural storage carbohydrate present in more than 36,000 species of plants, including agave, wheat, onion, bananas, garlic, asparagus, Jerusalem artichoke, and chicory. For these plants, inulin is used as an energy reserve and for regulating cold resistance. Because it is soluble in water, it is osmotically active. Certain plants can change the osmotic potential of their cells by changing the degree of polymerization of inulin molecules by... 1650f5c071 The medical use of calcium supplements began in the 19th century. It is on the World Health Organization's List of Essential Medicines. It is available as a generic medication. In 2023, it was the 200th most commonly prescribed medication in the United States, with more than 2 million prescriptions. Versions are also sold together with vitamin D. In 2023, the combination, calcium/vitamin D was the 261st most commonly prescribed medication in the United States, with... 1650f5c071

Prune Use of the term prune for fresh plums is obsolete except when applied to varieties of plum grown for drying. Not all plum

species or varieties can be dried into prunes. domestica varieties that have a high soluble solids content and do not ferment during drying. Prunes are 64% carbohydrates, including dietary fiber, 2% protein A prune is a dried plum, most commonly from the European plum (Prunus domestica) tree. In this usage, a prune is the firm-fleshed plum fruit of P. along with dietary fiber likely provide the laxative effect associated with consuming prunes 1650f5c071

== References == 1650f5c071 == Structure == 1650f5c071

Inulin Most plants that synthesize and store inulin do not store other forms of carbohydrate such as starch. Soluble fiber dissolves in water Inulins are a group of naturally occurring polysaccharides produced by many types of plants, industrially most often extracted from chicory. Inulin is a soluble fiber, one of three types of dietary fiber including soluble, insoluble and resistant starch. methane. Inulin is used by some plants as a means of storing energy and is typically found in roots or rhizomes 1650f5c071

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