



▶ **Dietary Fibers** are usually divided according to whether they are water-soluble or not. **Insoluble Fibers** swell in water and help to **increase bulk, soften stool and shorten transit time** through the intestinal tract. **Soluble Fibers** can help **lower blood cholesterol and manage glucose levels**.

▶ Current recommendations from the United States National Academy of Sciences, Institute of Medicine, suggest that **adults should consume 20-35 grams of dietary fiber per day**. Unfortunately **the current average daily intake is only 12-18 grams**.

▶ **The Ingredient House currently offers**

RightFiber™ Insoluble Fibers:

Cellulose, Oat, Wheat, Soy and Bamboo.

RightFiber™ Soluble Fibers:

Inulin, Polydextrose.

▶ **RightFiber™ Inulin**

Inulin has become a popular bulking agent, soluble fiber and prebiotic. Inulin's caloric value of 1.0 – 1.5 calories per gram and bland to subtly sweet taste profile make it a great ingredient to replace sugar, fat, and flour. As a prebiotic, it selectively stimulates bifidobacteria and lactobacilli in the gut. Inulin also increases calcium absorption and possibly magnesium absorption. Nutritionally, it is considered a soluble fiber. It has a minimal impact on blood sugar, making it generally considered suitable for diabetics and potentially helpful in managing blood sugar-related illnesses. Inulins are typically found in plant roots (chicory, jerusalem artichoke, and agave are the commercial sources).

▶ **Features & Benefits**

- ❖ **Reduces Calories** – Inulin has a low caloric value at 1.3 calories/gram.
- ❖ **Tastes Bland to Subtly Sweet** – Inulin will not adversely impact taste.
- ❖ **Contributes Dietary Fiber** – Americans consume only ½ the daily recommended value of dietary fiber.
- ❖ **Adds Creamy Mouthfeel and Texture** – Mimics the mouthfeel and texture of sugar and fat.
- ❖ **Synergistic** – Inulin works well with **Acesulfame K, Aspartame** and **Sucralose** for sugar free formulations.
- ❖ **Useful in Diabetic Diets** – Inulin may be safely used by diabetics.
- ❖ **Delivers Digestive Health** – Inulin promotes the growth of beneficial bacteria in the gut.
- ❖ **May add Bone Health** – Inulin's calcium absorption may promote bone health.

▶ **Applications**

The FDA approved Inulin as **Generally Recognized As Safe (GRAS) in 2003**. It can also be used at 2-5% as a water binder, emulsifier, stabilizer and texturizer in non-standardized meat products.

▶ **Safety**

Inulin passes through the stomach and duodenum undigested and is highly available to the gut bacterial flora. It is only in the colon that bacteria metabolize inulin, releasing carbon dioxide and/or methane. Inulin-containing foods can be gassy for those not used to high fiber products.

▶ **Future**

Inulin is a highly effective bulking agent, soluble dietary fiber and prebiotic. Inulin's ability to reduce calories, add fiber, and contribute digestive health makes it an ingredient with a bright future.

▶ **Prebiotics and Probiotics**

Prebiotics are defined as a non-digestible or partially digestible food ingredient that beneficially affects the host. They selectively **stimulate the growth** of one or a limited number of **bacteria in the colon**, and thus improve host health. A number of food ingredients have been shown to be prebiotics including lactulose, lactitol, **oligofructose (FOS)**, **inulin**, galacto-oligosaccharides (GOS), tagatose, **isomalt**, **polydextrose**, and digestive resistant maltodextrin (Gibson et al., 2004).

Probiotics are defined as live bacterial strains that are generally understood to deliver digestive benefits in the gut.





▶ High fiber diets bring five main physiological benefits:

1. improve **gastrointestinal health**.
2. improve **glucose tolerance** and insulin response.
3. reduce hyperlipidemia, hypertension and other **coronary heart disease** risk factors.
4. reduce the risk of developing some **cancers**.
5. increase **satiety** and hence some degree of **weight management**.

RightFiber™ Polydextrose

Polydextrose has been a popular fat mimetic/replacer for more than 20 years, but is now increasingly used as a soluble fiber and prebiotic in foods. Polydextrose was approved by the FDA in 13 categories in 1981. Its caloric value of 1.0 calories/gram combined with its bland to slight tart taste profile makes it an ideal multi-purpose additive to replace sugar, fat, and starch. As a prebiotic it promotes the growth of intestinal bacteria contributing to overall gut health. Nutritionally, it is considered a form of soluble fiber. It has limited impact on blood sugar and is suitable for diabetics. Polydextrose is synthesized from dextrose, and contains about 10 % sorbitol and 1 % citric acid or phosphoric acid. It is frequently used as an ingredient in low-carbohydrate, sugar-free and diabetic cooking recipes. It is also used as a humectant, stabilizer and thickening agent.

▶ Features & Benefits

- ❖ **Reduces Calories** – Has a low caloric content at 1.0 calories/gram.
- ❖ **Tastes Bland to Slightly Tart** – Will not adversely impact taste.
- ❖ **Contributes Dietary Fiber** – Americans consume only ½ the daily recommended value of dietary fiber.
- ❖ **Adds Creamy Mouthfeel and Texture** – Mimics the mouthfeel and texture of fat and sugar.
- ❖ **Synergistic** – Polydextrose works well with **Acesulfame K, Aspartame** and **Sucralose** for sugar free formulations.
- ❖ **Useful in Diabetic Diets** – Polydextrose has limited impact on blood sugar and is suitable for diabetics.
- ❖ **Delivers Digestive Health** – A prebiotic, Polydextrose promotes growth of beneficial bacteria in the gut.
- ❖ **May add Bone Health** – Polydextrose may have a positive impact on calcium absorption and bone mineralization and may promote bone health.

▶ Applications

Polydextrose was finally approved by FDA in August 2007 for general use as a bulking agent, humectant, texturizer and formulation aid, in all foods except for meat, poultry, baby food and infant formula.

▶ Safety

No maximum use level restrictions exist for polydextrose. Products containing more than 15 grams of polydextrose per serving must bear a label "Sensitive individuals may experience a laxative effect from excessive consumption of this product".

▶ Future

Polydextrose is a good-tasting **bulking agent, soluble dietary fiber and prebiotic with an excellent track record of use and safety.**

