

Legumes for Health

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Since the early days of agriculture, legumes have been a mainstay in the daily diets of millions of people from many different cultures. They are nutritious, inexpensive, versatile and easy to prepare. Ongoing research continues to support the important role of legumes in a healthy diet.

Nutritional benefits:

Legumes provide the world's largest source of vegetable protein.

On average, they contain twice as much protein as cereal grains. Legumes and grains should be eaten together to provide a high quality protein.

Most legumes are low fat.

With the exception of peanuts and soybeans, legumes are low fat. Most of the fats in legumes are a combination of monounsaturated and polyunsaturated fatty acids. When substituted for saturated fats, they can help lower total cholesterol and harmful LDL cholesterol levels.

Legumes have a low glycaemic index (GI).

Legumes are rich in complex carbohydrates, which metabolise into glucose at a slow, steady rate. Foods with a low GI are healthy for everyone, but are especially useful for diabetics who need to control their blood glucose levels.

Legumes are high in both soluble and insoluble dietary fibre.

Soluble fibre slows the absorption of glucose, reduces blood cholesterol levels and decreases rates of heart disease. Insoluble fibre helps prevent digestive problems, helps in weight management, decreases constipation and may lower the risk of colon and rectal cancers, heart disease and type 2 (adult-onset) diabetes. To avoid digestive problems when increasing your fibre intake, do it slowly in small increments. Fibre absorbs water, so increase your water intake as well to prevent problems with constipation.

Many legumes contain phytoestrogens.

Recent research indicates that these compounds may help prevent certain types of cancers, such as prostate and breast cancer.

Legumes are high in minerals such as iron, calcium, magnesium and potassium.

Legumes contain more potassium than sodium, so they are helpful in controlling blood pressure. Legumes also provide important trace minerals such as copper, manganese, molybdenum, selenium and zinc.

Legumes are a good source of B-complex vitamins such as thiamine, niacin and folate.

One serving of beans provides more than half of the current RDI for folate. Folate is especially important in the early stages of pregnancy for development of the neural tube from which the brain and spinal cord develop. Folate also appears to play a role in reducing the risk of heart disease and may help prevent certain types of cancer.

Legumes are gluten-free and useful in diets for people with coeliac disease.

Coeliac disease is caused by an inability to digest gluten and can result in intestinal problems, weight loss or failure to gain weight, and poor absorption of certain vitamins and minerals. This can lead to related medical conditions such as anaemia and osteoporosis.



Nutritional concerns:

It is important to cook legumes properly before eating to reduce or eliminate harmful substances.

Like many other plants, legumes contain a wide range of compounds that may be toxic or unpalatable. These compounds help defend the plant against insects or harmful organisms. Compounds that can make legumes difficult to digest can be destroyed by heat.

Lima beans are a source of cyanogens, which have caused serious cases of cyanide poisoning in tropical countries. Low cyanogen varieties of lima beans have been developed and are now grown commercially in Europe and North America. Most countries have laws restricting commercial production to these safer types. The cyanogens in limas can also be removed by boiling the beans in an uncovered pan. During cooking, cyanogens are converted to hydrogen cyanide gas and driven off with the steam.

Boil legumes for at least ten minutes before using a slow cooker.

A slow cooker is a convenient and easy way to cook beans. However, the low temperatures in a slow cooker may not completely destroy harmful substances. To eliminate potential problems, boil the beans on the stovetop for ten minutes before putting them into a slow cooker.



There have been recent reports of outbreaks of food borne illness from eating raw sprouts.

Sprouting legume seeds increases the vitamin C content by about 400% and the vitamin A content by about 300%. However, the harmful bacteria *E. coli* and *Salmonella* have been found in legume sprouts. In most cases, the bacteria are difficult to remove by washing. Home sprouted seeds can also be contaminated. For this reason, many health authorities now warn against eating raw sprouts. This is particularly important for children, the elderly and persons with weakened immune systems. Cooked sprouts are not a problem.

Fava beans can cause problems for a small percentage of people.

Favism is an inherited condition in which a person lacks an enzyme called glucose-6-phosphate dehydrogenase (G6PD). This rare deficiency occurs mostly among people of Mediterranean, African, and Southeast Asian descent. For these people, eating undercooked fava beans or breathing fava bean pollen can lead to a serious anaemic condition. Fava beans are also higher than most beans in complex carbohydrates called oligosaccharides, which may cause gas and abdominal pains.

Some people are allergic to the proteins found in certain legumes, especially peanuts, soybeans and lupin.

In a sensitised individual, an allergic reaction can be triggered not only by eating the specific food, but also by skin or eye contact or inhalation of food particles.

References:

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