

Soybean – A Miracle Bean

ASA – International Marketing

Soybean (*Glycine max*) is a leguminous plant. The Chinese have been cultivating and consuming soybeans for over 4000 years. Soy products have been around in India for almost 30 years. But the consumption of these products never took off well in the market till recently.

Indian population is predominantly vegetarian. Our diet is lacking in terms of quantity and quality of protein. Even the majority of non-vegetarians among us do not consume animal products on a daily basis in quantities sufficient to provide the recommended amount of protein.

Soybeans are a rich source of good quality protein and the cost too is low. Soy products can easily meet the protein requirements of a vegetarian diet. Soybean has been perceived more as poultry and cattle feed than as a good source of protein for human consumption by a lot of people. Also the misconception that soybeans are only used in feeding programs conducted by the government for malnourished children has been prevalent. Besides nutritional benefits soybeans provide several therapeutic benefits too.

Soybean is one of the very few plants that provides high quality protein. Soybeans help people feel better and live longer with an enhanced quality of life. Soybeans contain all the three macronutrients required for good nutrition, as well as fiber, vitamins, minerals. Soybean protein provides all the essential amino acids in the amounts needed for human health. Soybeans have almost 40% protein, making soybeans higher in protein than any other legumes and many animal products. Protein in just 250 grams of soybean is equivalent to protein in 3 liters of milk or 1 kg of mutton or 24 eggs. The quality of soy protein is virtually equivalent in quality to that of milk and egg protein. Unlike many other good sources of protein, soybean not only has higher percentage of oil but also quality fatty acid profile. It has low saturated fat content with high amount of essential fatty acids. Soybean oil is also a good source of omega-3 and 6 fatty acids similar to those found in fish oils and is cholesterol-free. Soybeans are an excellent source of dietary fiber with both soluble and insoluble fiber. Soluble fiber may help lower serum cholesterol and control blood sugar. Insoluble fiber increases stool bulk, may prevent colon cancer and can help relieve symptoms of some digestive disorders. Soybean has more than two times the amount of most of the minerals, especially calcium, iron, phosphorus and zinc, than any other legume and very low sodium content. Soybean has all the important vitamins and is a very good source for B complex vitamins and Vitamin E.

Soybean and Health Benefits

In addition to containing good quality nutrients, soybean has other beneficial compounds such as, phytosterols (isoflavones), lecithins, etc. Soy foods have a number of health benefits such as, cancer prevention, cholesterol reduction, combating osteoporosis and menopause regulation. Human studies suggest that as little as one serving of soy foods each day may be protective against many types of cancers. For the past 30 years, investigators have shown that consumption of soy protein selectively decreases total and LDL (bad) cholesterol and maintains HDL (good) cholesterol in individuals with elevated blood cholesterol levels. Based on the various research findings, United States Food and Drug Administration has issued a health claim for soy protein in October of 1999. The health claim states “consumption of 25gms of soy protein per day with a diet low in saturated fat may lower the risk of heart diseases”.

Another important aspect of soy protein is combating osteoporosis and relieving menopause symptoms. One factor in bone health is limiting the amount of calcium lost from the body. Although protein especially animal protein contributes to calcium loss, soy protein exhibits less calcium leaching effects. The isoflavones found in soybeans may also directly stop bone deterioration. Recent research has shown that soy foods can relieve most menopausal symptoms, thus reduce risks of cardiovascular disease and osteoporosis. Soybean is considered as a natural alternate for hormone replacement therapy for treating women who are in menopause.

How to Use Soy Daily?

Soy can be used in many ways in our daily life. Regarding use of soybean imagination is the only limitation. Different soy products such as soybeans, soy flour, and soybean oil can be added to variety of traditional foods. Here are some easy tips and ways to consume soybean protein regularly.

Soybeans: Soybeans as such can be used like lobia. They can also be added up to 20 % in dosas, pesarattu, dahi bhalla and vadas etc where whole legumes are used. Soak soybeans along with the whole legumes and make the recipe as is usually done. Soybeans can also be added up to 20 % in recipes such as chole, rajma and dal makhani.

Defatted soy flour: **This flour has no oil and has 50% protein. This can be added to any preparation made at home out of rice or wheat or chick pea flour to enhance the quality of the finished product. In bakery products defatted soy flour can be added 5-10 % and thereby increasing the protein content and quality.**

Wheat-soy flour: This is nothing but addition of 10% defatted soy flour to wheat flour (add 1 kg defatted soy flour to 10 kg wheat flour) to make rotis, chapattis, puris etc. Addition of 10% soy flour to wheat flour increases protein in wheat flour from 11 to 16%. Several brands of wheat soy flour mix are already available in the market. If defatted soy flour is not available soybeans (1 kg) also can be added to wheat (10 kg), just roast soybeans in a pan over high flame for ten minutes and add them to wheat and grind into flour.

Besan-soy flour: Add 20 % defatted soy flour to besan and use to make products such as pakora, chilla, kadhi etc. The products made of this mix absorb 10-15 % (based on quality of defatted soy flour) less oil than the products made out of just besan. Protein content and quality of course is enhanced.

Nuggets and Granules (Soy Bari): Nuggets and granules are made of 100% defatted soy flour which has more than 50% protein and less than one percent fat. Nuggets and granules are healthy alternate to meat and can be used easily in Indian cuisine.

Soymilk: Soymilk is extracted from soybeans using modern technology and can be made to taste great while containing all the nutrition of soybean. Although it does not taste like dairy milk it is tasty in its own right. Soymilk can be handled and used much in the same way as dairy milk. Besides being rich in protein, vitamins and minerals, soymilk is lactose free, cholesterol free and low in saturated fat. Soymilk can be made into hot and cold beverages like coffee, tea, fruit shakes, yogurt, ice cream, or can be used as such.

Soy Paneer (Tofu): Tofu is the most popular among all the soymilk products. Tofu is made by coagulating hot soymilk and removing the whey. Tofu is a versatile food and can be converted into a variety of value added products. Tofu easily takes the flavour of the product with which it is cooked. Tofu is a highly perishable product just like dairy products. It should be kept immersed in water under proper refrigeration, water should be changed often and in this manner it can be kept for almost 10 days.

Soy Papad: Papad is another potential fortification opportunity for soybean in Indian traditional food products. Soy flour can be blended up to 30-40 per cent in black gram (urad dal) for manufacture of soy-fortified papad. Fortification of urad flour with soy flour at 30% will increase protein from 21% to 30%.

Soy Nuts: Soy nuts are whole soybeans that have been soaked in water and then baked until browned. Most conventional nuts are incredibly high in fat but soy nuts have less fat and more protein compared to conventional nuts. Soy nuts are similar in texture and flavour to peanuts and far less expensive than peanuts. Soy nuts have 50% more protein and 50% less fat than peanuts. Regular consumption of soy products such as soy nuts reduce incidence of various chronic diseases especially heart diseases and cancer.

Soybean Oil: Soybean oil is a natural extract from whole soybeans. Odour less and flavour less, this clear oil is excellent for stir-frying as it brings out the flavour of foods. Due to its versatility, soybean oil is used in a variety of processed foods such as margarine, spreads, mayonnaise and salad oil. Soybean oil has a high smoking point, facilitating the cooking process.

Soybean oil is considered heart-healthy oil as its cholesterol-free and low in saturated fatty acids – it contains 61 % poly-unsaturated fatty acids. Two fat components essential for health and well being, linoleic and linolenic acids, are also found in the right proportions in soybean oil. It is also a good source of vitamin E. Like fish oils, soybean oil contains omega-3, known to be protective against heart disease and cancer.

In the market several other products are available such as noodles, biscuits, bread etc to which soy has been added. Therefore read the labels before you buy a product and make sure you include soy in your daily diet!

'Published with support from ASA-International Marketing'

* * *