

## THE STORY OF SOYA

The history of soya goes back nearly 5000 years when Chinese farmers began growing soybeans. They became so important in Chinese culture that the ancient Chinese emperor, Sheng-Nung, designated them as one of five sacred grains, together with rice, barley, wheat and millet. Consequently soybeans were given the name “*ta tou*”, meaning “the greater bean” which eventually became the domesticated soybean plant known as *Glycine max*.

Around 300 BC, soybeans had become one of the two major crops in China. In the next 100 years, the Chinese learned the art of making bean curd (tofu) out of soybeans by curdling soya milk, believed to have first been made by Buddhist monks. The Chinese also invented other foods based on this tiny bean e.g. soya milk, tempeh, miso, and soya sauce.

Soybeans slowly spread from China to Japan and then throughout Southeast Asia. However, it was not until 1500 AD that soybeans arrived in Europe, thought to have been brought by Christian missionaries returning from the East. Another story goes that European sailors used bags of soybeans as ballasts in their ships.

Chinese immigrants brought tofu and other soya foods with them to the US but, beyond this community, soybeans did not get a warm reception. Benjamin Franklin was the first person to bring soybeans to the attention of the general public in the US, when he imported seed from France. The United States Department of Agriculture then introduced a number of soybean varieties to the US and, shortly thereafter, the oil industry realized their value in the vegetable oil industry.

It was only in the early 1900s that soya gained popularity in the US when Dr John Harvey Kellogg, whose family founded the cereal company, began marketing soya milk and soya-based meat substitutes. These became increasingly popular with Seventh Day Adventist church members, who incorporated soybeans into their mainly vegetarian diet.

In the 1960s and 1970s, soybeans gained popularity with the hippie culture which saw soybeans as high protein, environmentally friendly protein, opposed to beef.

Today health shops sell tofu, tempeh, soya milk, soya burgers, protein powders, energy bars and other soya products which can also be found in the health section of many supermarkets. There has been a notable increase in the sale of soya products over past years because of their high protein and economical, and inexpensive, provision of protein to one's diet.

## **Soybeans – a source of health and high protein**

Soybeans have been called “meat without bones” because, although this versatile bean is small in comparison to many other beans, it is packed with 35% protein, very similar to the protein in meat, dairy products and eggs.

As early as 1578, soybeans were recognized for their health value in their high quality protein content, when they were used as a remedy for oedema, renal disease and poisoning.

The main health benefits in eating soybeans are from the various phytonutrients they contain, e.g. isoflavones like genistein and daidzein. These have been shown to help prevent cardiovascular disease, certain cancers, osteoporosis and other conditions. They also have important antioxidant properties that help protect cells from the damaging effects of pollution and ultraviolet radiation. In 1999 the Federal Drug Administration approved the health claim that the heart health benefits of soya could be used on the labels of soya-based foods.

Due to their mild estrogen-like qualities, soya isoflavones are thought to reduce the risk of hormone-dependent cancers as they bond to receptors, preventing estrogen itself from bonding and exerting potentially harmful effects. Japanese women have been shown to have low rates of breast cancer, osteoporosis and menopausal problems. In menopausal years, when women’s estrogen levels are low, isoflavones act as estrogens relieving hot flushes, mood swings and reducing bone loss. In contrast, when women’s estrogen levels are high, the phytoestrogens in soya help lower pre-menstrual stress.

Saponins are another class of phytonutrients in soybeans that help fight disease as they boost immunity, fight infections, and prevent cancer. They also bind to cholesterol and prevent it from being absorbed by the body, thereby lowering levels of total cholesterol as well as low density lipoprotein (LDL or the “bad” cholesterol). Clean, unrefined soya products have been shown to be a healthy addition to a low-fat, low cholesterol diet.

Japanese men are known to have the lowest rate of prostate cancer in the world, but research has shown their rate of prostate cancer increases when they immigrate to the US. Genetics and a westernized diet may have a role to play in these health differences, but substantial medical research has shown that the addition of soya in a diet plays a large role in alleviating these problems.

Soya foods e.g. tofu and tempeh, contain a large amount of soluble fiber found to benefit both Type 1 and Type 2 diabetes. Soya is high in the amino acids glycogen and arginine, which lower blood insulin levels. In contrast, animal products are low in these essential amino acids but high in lysine, a contributor to increases in blood insulin levels.

In recent years, results from scientific research have promoted the health value of soybeans which are now far more palatable than before, and often mimic the taste and texture of dairy products and meat. The soybean plant is one of the few plants that provide nearly all the essential amino acids, that make up proteins, in the correct amounts – it is only short in methionine. However, through breeding programmes, researchers are continuing to make soybeans more complete without the need for additional additives to make up for the shortfall of methionine, which can be incorporated into one's diet in the form of grain, e.g., whole grain rice.

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