



2554 Lincoln Boulevard, #538
Marina Del Rey, CA 90291
(888) 741-5606
(310) 741-5606
hghealth.com
info@hghealth.com

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Are Soy Products Dangerous?

by Charlotte Gerson

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A considerable percentage of the world's population is undernourished or outright starving. For many years, proteins, preferably from animal sources, have been considered to be the best and most acceptable source of nutrients. However, we also know that it takes some 16 pounds of grains, fed to cows, to produce one pound of meat. In his book *Diet for a New America*, author John Robbins points out that we could easily feed the whole world if everyone were to become vegetarian. This is an unlikely scenario in the affluent Western world. So, in order to try to feed the hungry, we are always looking for new sources of "good" protein.

Much attention has been focused on the soy bean, a widely grown legume that fulfills both the requirement for a high protein food and a widely publicized health advantage: it is low in fat and devoid of cholesterol! This should make it an ideal food, but is it safe?

An extensive discussion on the subject written by Sally W. Fallon, M.A., and Mary G. Enig, Ph.D. appeared in the May 1966 edition of *Newlife* magazine. Since we have often been asked by a number of our *Gerson Healing Newsletter* readers why Dr. Gerson prohibited soy products, we should like to report on this thoroughly researched material. The authors trace the origin of the soy bean to the Orient, where it was apparently used during the Chou Dynasty (1134-246 BCE) as a crop rotation material, for its capacity of fixing nitrogen in the soil. Soy products did not serve as food until fermentation techniques were developed. When a method was developed to make soy into a curd by precipitating it with calcium sulfate or magnesium sulfate, the use of soy products started to spread. Fermented soy products, such as miso and tamari sauce, are apparently less harmful than the precipitated ones, such as tofu or bean curd. But tofu accounts for about 90% of the processed soybeans in Asia today, say the authors. It seems that bean curds as a source of protein did not come into use until about 700 A.D.

Fallon and Enig state that the "Chinese did not eat the soybean as they did other legumes, such as lentils, because the soybean contains large quantities of a number of harmful substances." Did the Chinese know this? Perhaps they did, possibly they observed that disease symptoms appeared after eating tofu or other cooked soy products. Among the harmful substances, the authors name "potent enzyme inhibitors, which block the action of trypsin and other enzymes needed for protein digestion." Apparently, cooking does not deactivate these enzyme inhibitors, and

they can produce serious digestive problems such as reduced protein digestion, chronic deficiencies in amino acid uptake, enlargement of the pancreas (in animals) and cancer.

Soy products also contain another chemical, hemagglutinin which promotes clumping of red blood cells. These clumped red cells are unable to fully take up oxygen and carry it in the blood stream to all tissues.

Hemagglutinin has also been observed to act as a growth depressant. Fermentation deactivates these enzyme inhibitors, or at least reduces the amounts present.

Soybeans are also high in phytic acids which is present in the bran of hulls of all seeds. This material blocks the uptake of essential minerals in the intestinal tract, including such important ones as calcium, magnesium, iron and especially zinc. Again, only the process of fermentation will significantly reduce the phytate content of soy products. Soybeans have a higher content of phytates than any other legumes, making them of questionable safety and nutritional value.

Bearing the above in mind, the authors feel that soy products consumed with meat have a reduced mineral blocking effect; however they warn particularly that vegetarians who eat tofu with the idea that it may act as a protein substitute, risk severe mineral deficiencies. They also feel that most people appreciate the problems of calcium, magnesium and iron deficiencies, but that zinc deficiency produces some especially serious problems: zinc is needed for optimal development and function of the brain and nervous system, aside from its role in the immune system.

The Profit Motive

The average American has not adopted soy products (tofu, tempeh, miso) as a principal food. Soy sauce may be the exception to this rule, even though soy oil is also quite widely used. About 140 billion pounds of soy beans per year are grown in the US since the end of W.W.II, and the industry is looking for new markets. At this time, the major use for the bean is animal feed, and soy oil is used for hydrogenated fats, margarine and shortening. New soy products are being marketed to the growing "health product" consumers: soy milk, soy baby formula, soy yogurt, soy ice cream, soy cheese, soy flour for baking, and soy protein as a meat substitute for the vegetarians.

During the production of soy milk, in order to remove as much of the trypsin inhibitor as possible, the puréed beans are soaked in an alkaline solution, then heated to about 115° C. in a pressure cooker. Unfortunately, even though most (but not all) of the antinutrients are destroyed, this processing also denatures the proteins, so the remaining soy protein is very difficult to digest. The phytate content remains in soy milk to block the uptake of essential minerals. Worse, the alkaline soaking solution produces a carcinogen, lysinealane, and reduces the cystine (an amino acid) content in the soybean. Without cystine, the protein complex is virtually useless unless the diet is fortified with meat, eggs or dairy products, an unlikely situation for vegetarians.

These problems arising from soy production are not mentioned on labels, and the public is not aware of them." Soy based infant formulas, along with trypsin inhibitors, contain a high phytate level. Use of soy formula has caused zinc deficiency in infants. Aluminum content of soy formula is ten times greater than milk-based formula and 100 times greater than unprocessed milk." While soy milk is tried on infants with milk allergies, allergy to soy products is almost as common. The lack of cholesterol in soy infant formula could inhibit brain development since cholesterol is essential for the brain and nervous system. Chemical additives to soy based foods further add to the problems.

Soy products are widely distributed in third world countries, presumably to overcome a protein deficiency in the diets of starving people. They are also used extensively in school lunch programs, commercial baked goods, diet beverages and fast food products. New publicity promotes soy products for their "cancer preventing properties". While traditionally fermented soy products may contain a cancer preventing chemical, these are contained in an altered state in non-fermented soy products and have no anticarcinogenic effect. On the contrary, it has been suggested that the rapid increase of liver and pancreatic cancer in Africa is due to the increased use of soy products."...to remove oil from the soy bean, particularly high pressures and temperatures are required, since this is an unusually difficult process. Furthermore, hexane or other solvents are always used to extract oil from soy beans, and traces remain in the commercial product. But the high temperatures destroy some of the possible beneficial fatty acid fractions of the soy oil: the Omega-3's, which are especially susceptible to rancidity when subjected to high pressures and temperatures."

"Claims that the fermented soy products can be relied on as a source of B12 have not been supported by scientific research." Nor do they supply the essential fat soluble vitamins D and A, needed for the absorption of all minerals. Unfortunately, soy products increase the requirements for vitamin B12 and D.

The authors summarize all the above, and possible arguments that soy products have been used for many centuries in the Orient, as follows: "traditional fermented soy products have a long history of use that is generally beneficial when combined with other elements of the Oriental diet including rice, sea foods, fish broth and fermented vegetables. Precipitated (Western) soy products can cause serious problems, especially when they form the major source of protein in the diet."

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