



# The Dangers of Soy

**T**he soybean has invaded America. Edamame, tofu, soy milk, soy protein powders – it's easy to find and is promoted as a healthful, high-quality, alternative protein source, particularly for those living a vegan or vegetarian lifestyle. But is it really a safe option?

There are two important considerations to make before adding soy to your diet: organic vs. genetically modified and fermented vs. unfermented.

The difference between organic and genetically modified (GM) is that approximately 75 to 80 percent of the soybeans grown in North America are genetically modified. Neither the U.S. nor Canada require safety testing on GM products, so it's difficult to say what the long-term effects could be, but more and more scientists are reporting findings of cancer-causing properties and toxicity in GM food. The United Nations' Food & Agriculture Organization has held international conferences featuring scientists speaking on the health dangers of consuming GM foods, including soy.

The difference between fermented and unfermented is as simple as this: it's the difference between being a health benefit or a health detriment. Unfermented soy contains high levels of phytic acid, which reduces the body's ability to absorb calcium, magnesium and iron. Examples of unfermented include edamame, tofu, soy milk, soy cheese and soy nuts. Some meat-alternatives, like veggie burgers, also contain unfermented soy.

Do your research before purchasing any meat-alternative product. This type of soy can also cause growth problems in children due to it containing trypsin inhibitors. These inhibitors interfere with protein digestion and can lead to pancreatic disorders. Consumption of unfermented soy disrupts endocrine function and can increase the risk of breast cancer in women.

## BE WISER

- Discuss any changes to your diet with a physician.
- Choose fermented soy products over unfermented soy products.
- Consume soy in moderation.
- Read labels - know whether the product is organic or genetically modified.
- Avoid giving soy-based formulas and foods to babies and children.

According to a study published in the *Journal of the American College of Nutrition* in April 2000, "Higher mid-life tofu consumption was independently associated with indicators of cognitive impairment and brain atrophy in late life."

Soy formulas for babies have often been used as a substitute for milk, despite FDA-issued warnings. The American Academy of Pediatrics recommends that all infants who cannot be breast-fed be given cow's-milk formulas as the first alternative. According to a study titled "The Potential Adverse Effects of Soybean Phytoestrogens in Infant Feeding" published in the *New Zealand Medical Journal*, babies given soy formula have anywhere from 13,000 to 22,000 times more estrogen than babies on milk-based formula. Factoring in a baby's body weight, this is the estrogen equivalent of four to six birth control pills per day – dairy and human milk contains little to no phytoestrogens. The resulting effects of this can be signs of puberty in girls as young as 3 and delayed maturation of boys.

Dr. Richard Sharpe, head of the Medical Research Council's Human Reproductive Sciences Unit at Edinburgh University, recently completed studies on soy milk and testosterone levels in men, finding a link connecting the amount of soy consumed and lower testosterone levels. These low testosterone levels can lead to a decrease in libido and also physical changes, such as the development of breasts in men. "There is not the historical evidence to show it is safe," says Dr. Sharpe.

Fermented soy foods, on the other hand, are healthful food choices. The fermentation process removes the phytates and trypsin inhibitors present in unfermented soy. Fermented soy products include miso, tempeh and soy sauce.

If the above information is not enough to convince you of the dangers of soy, consider this: The FDA's Center for Food Safety and Applied Nutrition lists the soybean plant over 280 times in its Poisonous Plant Database. ©