

SPECIAL BONUS REPORT #1

Soy Fiction

(what you don't know *can* harm you!)

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Questions and Answers:

(actual paper follows)

Q: Is soy a good source of protein —can it replace meat?

A: No. No vegetable or grain has an amino acid bioavailability effectiveness close to meat. At best — pound-for-pound — it is only 25% as effective as meat. There is about half the amino acid content and those amino acids are significantly bound with cellulose (indigestible). Furthermore, soy protein is “incomplete” (as is any non-animal-source protein), meaning no matter how much of it you eat, you will get no positive effect unless its missing amino acids are supplemented from eating meat- or cheese-based foods. An analogy is like baking bread – triple the flour and water, but have no yeast, and there is never any risen bread, is there?

Q: Has today’s soybean been modified by genetic engineering?

A: The claim that the **soybean was “mutated”** in the mid-1950s by researchers in Sweden may be misleading. Mutation involves genetic changes – either random (natural) or man-made (engineered). There could only have been a hybridization — genetic engineering wasn't around back then. However, today is a different story – Monsanto has genetically engineered the soybean to be resistant to very potent herbicides. The problem with “genetic engineering” is that the full results of it won't be known for decades. Don't believe anyone telling you that this is safe. The scientific fact is that no one yet knows.

Q: A physician asks, Does unfermented soy interfere with digestion by inhibiting trypsin? (Trypsin is a digestive enzyme which allows conversion of insulin-like growth factor.)

A: Yes, it does inhibit trypsin, making it much less effective. It was published back in 1966 (*Archives of Biochemistry and Biophysics*, 1966; 115, 257-270) that soybean contains trypsin inhibitors (STI). STI can undergo considerable chemical and heat abuse and still be quite harmful to humans. STI inhibits an important chemical process involving insulin-like growth factor IGF-1 (*Endocrinology*, Dec. 1997; 138(12): 5630-6). It is estimated that trypsin accounts for 40% of the growth inhibition of raw soy (*Arch Latinoam Nutr*, Dec. 1996; 44(4 Suppl 1): 48S - 54S). Trypsin inhibition upsets natural pancreatic function and is linked to pancreatic hypertrophy (excess growth) and hyperplasia (abnormal cell structure) — the underlying cause of abnormal (stunted) growth — in the rat (*J Nutr*, Mar. 1995; 125 (3 Suppl): 744S - 750S). Since human infants experience the same growth-stunting from soy, it appears the animal/human analogy is appropriate in this case.

Q: Do unfermented soybeans help or hurt absorption of minerals?

A: Soybeans contain **phytates that bind minerals (makes them unusable)**. This leads to **critical deficiencies of zinc and other essential minerals**.

All phytates (such as inositol) are **inhibitors** (chelators) of mineral absorption (*J Am Diet Assoc*, 1988, Dec; 88(12): 1562-6). Therefore, since we must have those minerals to remain healthy, **soybean phytates can't be described as "good."** In chemical terms, the negative charges of their phosphate group bind the mineral. Phytates bind minerals in the following order (most actively to least actively): copper, zinc, iron, calcium (*Role of Phytates in Mineral Absorption*, Purdue University). Phytic acid is found in the bran of any whole grain. In a study, vegetarians had a net 35% decrease in zinc absorption compared to the meat-eaters (*Am J Clin Nutr* March 1998, 67(3): 421-430). Many Americans already don't get enough copper in their diets. Since phytate binds copper and other minerals and makes them not nutritionally available when we do eat them, this presents an additional problem. (*Adv Exp Med Bio*, 1989; 258: 81-93.)

Q: Are soybeans and soy products good for my thyroid? I've been told they are a good source of isoflavones?

A: Soybeans are a source of isoflavonoids. The following comes from *Biochemical Pharmacology*, Vol. 54, 1087-1096, 1997: "Soybeans contain compounds (genistein and daidzein — the 'active ingredients') that inhibit [interfere with] *thyroid peroxidase* (TPO) — which is essential to thyroid hormone synthesis [production]."

Genistein and daidzein are the active **endocrine-disrupting compounds in soybeans**. TPO in the presence of hydrogen peroxide (note: hydrogen peroxide is always present in the body from normal reactions) causes "... *irreversible inactivation* of the enzyme (TPO) **unless** iodide is in the reaction. In this case the TPO is inactivated [but only temporarily].... The active ingredients were not destroyed by boiling for 2 hours or by digestion.... Any compound that inhibits TPO production is a *potential* thyroid carcinogenic." The active compounds in soy do inhibit [interfere with] TPO. "The levels of total isoflavonoids observed in **human** plasma [blood] following consumption of soy foods approach the concentrations required for inhibition."

Analysis: Soybean's isoflavonoids block TPO's binding to iodide. We cannot see how we can be sure that iodide is always present (in sufficient quantities) to stop this potential blocking — since many Americans are iodine-deficient. Eating "iodized" salt doesn't necessarily prevent the TPO disruption. So the soybean isoflavonoids certainly cause problems. TPO inhibition contributes to thyroid problems. *Unprocessed* soybean consumption allows for these problems. Furthermore, it doesn't take much soybean to cause these effects (50% TPO inhibition from eating just a few ounces of soybean). Occasional small servings of soybean should cause no problem, but in light of the current soybean fad, many Americans are probably eating too much.

Excessive soybean consumption, even with normal iodine intake, will lead to *hypothyroidism* because the isoflavones will dominate.

Infants on “soy formula” have experienced thyroid problems. Isoflavonoids will contribute to high TSH (thyroid-stimulating hormone) levels of the thyroid. Over time, this constant stimulation could increase the likelihood of getting cancer, and thyroid disease (there is now an epidemic of thyroid dysfunction). Perhaps even worse is an 18% higher incidence in autoimmune thyroid disease in infants who are fed soy formula (*J Am Coll Nutr* 1990, Apr; 9(2): 164-167). Furthermore, a study showed that soy-formula infants went on to become diabetic twice as often compared to breast-fed infants (*J Am Coll Nutr*, 1986; 5(5): 439-441).

Q: Is soy good for the blood?

A: No! Soy contain *hemagglutinin*, which causes red blood cells to “clump” together. Soy promotes increased adhesion of red blood cells to each other! In this study, hemagglutinin made the platelets 5% more “sticky.” You don’t want this effect because it leads to arterial clogs. (*Thromb Haemost*, Nov. 1999; 82(5): 1522-1527).

Q: Is soy “milk” a healthy alternative to cow's milk? Will an infant's allergies be reduced with soy?

A: No, to both questions. There are almost as many cases of **allergies to soy “milk”*** as there are to cow's milk (*Int Arch Allergy Immunov*, 1994, Oct; 105(2): 143-149). If soy “milk” were consumed in the same quantity, soy-related allergies would far exceed milk-related ones. To make soy “milk,” this is what's done: Soak the bean in alkali solution (to remove as much of the phytate as possible), then pressure-cook it (attempting to destroy most of the anti-nutrients). The end product has little nutrition. Zinc deficiency in soy-fed infants is noted. High-phytate diets in children render them “thin and scrawny.” Mineral absorption is less effective with soy (*Prog Food Nutr Sci*, 1985; 9(1-2): 35-62). Aluminum content in soy “milk” is significantly higher than in non-soy infant formula and tremendously higher than in real milk (aluminum intake is certainly not desired – there is no “safe” level for aluminum in your body). Soy formula has no cholesterol. Cholesterol is a required nutrient for an infant's brain and nerve development. Compared to breast-fed infants, infants who were fed hydrolyzed soy (processed) protein showed significant reduced growth in weight and length, as well as total blood protein (*Acta Paediatr Suppl*, Sept. 1994; 402: 100-104), *Eur J Clin Nutr*, Sept. 1995; 49 Suppl 1: S26-38). Soy-based infant products often contain double the amount of protein compared to mother's milk. [This is not good — the baby is *supposed* to get fats, *not* excessive protein.] **Soy formula is clearly not a proper “substitute”** (*Adv Exp Med Biol*, 1991; 289: 389-402). In fairness, soy formula is no worse than hydrolyzed (processed) protein-based formulas. (*Scand J Gastroenterol*, Mar. 1997; 32(3): 273-277). In this study, both soy formula and hydrolyzed protein formula were equally are inferior to mother's milk.

* Soy “milk” is NOT milk. There is no milk in it. It should not be allowed to call it by this term, but it is obviously allowed – regardless of how *misleading* it is..

Q: Is fermented or processed soybean superior to the “unprocessed” (raw) bean?

A: Absolutely. The information above, in the discussion of isoflavones and TPO, clearly shows trypsin inhibition decreases with processing. The problem is that the methods used to remove or decrease the isoflavones can create trouble-causing side-effects for man. For example, the excessive heat from processing creates a nephrotoxic (poisonous to the kidney) substance, lysinoalanine (*Vet Hum Toxicol*, Feb. 1982; 24(1): 25-28). Processing is itself problematic: Take cooked soybeans, precipitate the mashed bean with calcium sulfate, and you have “tofu.” Do you really want to eat this stuff?

Q: Is soybean worse than other beans or grain?

A: Concerning isoflavonoid problems, no. Millet (grain) has very high levels of isoflavonoids, too. Concerning phytates, *all* brans (from grain) have them. However, soy has more phytate content than most foods. Even “dephytinized [phytate removed] brans still bound the minerals” (*Plant Foods Hum Nutr*, 1997; 51(4): 295-310). A “high fiber” diet chelates (negatively binds) minerals regardless of phytate content; so a high-fiber, high-phytate, vegetarian diet is awful for mineral retention. Low-phytate maize (used to make tortillas) was found to increase iron absorption by 49% compared with regular maize (*Am J Clin Nutr*, Apr. 1998; 69(4);743). In any case, maize is not good for you because of the high carbohydrate content. Soy flour tastes and smells awful. Our natural senses don't want this product. Doesn't that tell you something! Tofu, bean curd, and tempeh, all soy products, all have disagreeable textures and tastes. Would you eat these on your own without being told they were “good”? Probably not. The vegetarian movement has helped to convince consumers that soy “milk,” soy baby formula, soy “ice cream,” etc., is more healthful. The processing often adds “flavor enhancers,” such as MSG, to mask the “beany” taste.

Q: What about the claimed anti-cancer and anti-cholesterol properties of soybeans?

A: This “anti-cancer” *guess* may come from the demonstrated estrogen-binding capability of genistein and daidzein in the soy. Estrogen, in and of itself, is a vital hormone. Estrogen is supposed to be manufactured by a woman's body in a specific quantity. The cause of the cancer lies elsewhere. Tamoxifen¹ testing was negative (it did not work) in Europe. There was no less cancer from Europeans taking the drug! Only in fermented form could the soy bean even have a *possible* beneficial effect. Unfermented (tofu, soymilk, etc.), soy can have no positive effect. The EFA (“essential essence”) profile of the soybean is favorable until processed. Therefore, any possible benefit in this area must be discounted also. Studies have confirmed there are no

¹ A drug based on the hypothesis that binding the estrogen sites will decrease cancer risk.

soy protective benefits on prostate cancer at all, and no preventive protection, either. At best, other studies are merely “*suggestive or associative.*”*

One study even showed an increase of breast cancer with soy products. Regarding cholesterol-lowering properties, studies involving soy, have yielded *inconsistent* results.²

“Soybean trypsin inhibitor was found to inhibit transformation of human lymphocytes induced by mitogens ...” (*Can J Biochem*, Dec. 1975; 53(12): 1337-1341). In other words, the ***human immune system is weakened not strengthened with soybean!*** This quote from *Journal of Nutrition*, Mar. 1995; 125 (3 Suppl): 733S - 743S, says it perfectly: “There is much evidence *suggesting* that compounds present in soybean can prevent cancer The **evidence for specific soybean-derived compounds having a suppressive effect on carcinogenesis is limited, however.**” Analysis of previous statement: Soybeans may possess anti-cancer properties; however, we can't find anything specific in the soybean that suppresses cancer. To have something so misleading published is, to us, shocking. Bottom line: Forget it!

Analysis: This hypothesis that soy prevents cancer remains unproven, and is in direct contradiction of its physiological effects on your body.

Q: Do any products have “hidden” soybean?

A: Many do. Coffee “creamers” or “lighteners,” cooking oils, mayonnaise, salad oils, margarine, bakery products, candy, dietary products, many pharmaceuticals, etc.

Q: Why does soy flour smell and taste so bad?

A: Mother Nature gave us an appetite for food that smells and tastes good. You would never eat the rind of a fruit on your own. Someone has you tell you to do it, and attempt to explain why doing so is good. In this case, it isn't. Soy both smells and tastes awful because it was never meant to be a food for humans. There is no simpler or logical explanation.

Q: Can soybeans be considered “good” for human consumption?

A: Given the preceding science, we can't possibly see how.

* “Suggestive” or “associative” are meaningless when it comes to a cause-effect relationship. For example, you wake up at 6am and the sun rises at the same time. This “study” would suggest that you caused the sun to rise – and it could get published!

² *J Nutr*, Oct. 1998; 128(10): 1589-92), *American Journal of Clinical Nutrition*, 68 (6 suppl.): 1431S - 1435S, Dec. 1998; *Bailliers Clinical Endocrinology & Metabolism*, 12(4): 707-728, Dec. 1998; *American Journal of Clinical Nutrition*, 70 (3 suppl.): 464S- 474S, Sept. 1999.

In many articles we have been assured of the benefits of soybeans and soy products. We have been told that “isoflavones” are very good for us and that soy is loaded with them. But an article in *Reuters Health*, April 4, 2000, stated that isoflavone-depleted (soy with the isoflavones taken out) soy protein was superior.

“Isoflavone-depleted soy reduces experimental breast tumor growth” was the headline of the article. In preventing cancer, the soy protein **without** isoflavones was found to be **more effective** than the soy protein enriched with isoflavones (“phytoestrogen” substances — usually a combination of genistein and daidzein). **This is the opposite of what we have been told by non-scientific sources. Women have been told how wonderful phytoestrogens are.**

Keep reading and you will soon learn that soy is not a “wonder food”; it is **one of the worst foods you can eat**. The only worse foods are those foods that are high in processed carbohydrates and *transfats* (processed oils).

How can we be so misled? By the same method the computer industry used to scare you into thinking that the world would end with the “Y2K” issue. What happened? Nothing. How much money was made by scaring you? Billions. It’s not difficult to do when the right forces are at work.

Have you heard the claim that isoflavones in **soy help prevent osteoporosis**? That, too, is false. This is an extraordinarily groundless claim, because, as you will learn in the discussion of phytates below, soy blocks the absorption of minerals, including calcium, and can even lead to vitamin D deficiencies.³

How misled we consistently are! Our deception is often connected with misinterpreted studies. “Meta-studies” are frequently used to compare several (often 10-20) individual studies and attempt a better interpretation than the individual studies. In most cases, this cannot be done correctly. This is no sound way to merge several mediocre studies into a “good” or “better” one.⁴

The frequent substitution of flawed statistics for good science has led to a consistently awful state of affairs. Too often, you aren’t getting science. You are getting misapplied statistics — that’s all.

One of these “meta-studies” was done with soy in 1994. The author “conveniently” neglected to include in the meta-study the study showing that soy was linked to an increased rate of pancreatic cancer! An impartial analysis often shows that a study’s conclusion is something entirely different from what is claimed or reported!

Women have been told again and again to eat soy to get *isoflavones* because they “protect” you against cancer. Isoflavones are found mostly in the legume family of plants (soy, lentils, chick peas, beans, etc.)

³ Calcium cannot work properly without vitamin D.

⁴ For one example, it is rare for 2 studies to examine the same population under the same circumstances. For another, few studies focus on the same factors (differences in diet, behavior, treatment, etc.). Investigators differ from study to study, as do settings, methods, and so on.

In 1998 investigators reported that daily exposure of infants to isoflavones in soy infant formula is 6-11 times higher on a body-weight basis than the dose that causes hormonal disruption to an adult!

What's the history of soy? Don't Asians attribute better health to it? No! Not at all. The soy bean has been in Asia for thousands of years, but they only use small amounts — and only if it is fermented. There, soy is used as a condiment, not as a food. There is a very big difference between using a small amount of flavoring or garnish (condiment) and eating a full serving.

- The Chinese never ate raw soy until recently. They knew better. Soy was not even used as a human food until the Chou Dynasty (1134-246 BC), when fermentation was discovered. *Fermentation* deactivates the enzyme inhibitors almost totally. However, even in fermented products including tofu and bean curd, the liquid still contains these harmful inhibitors.
- Did you know that a significant decline in mental ability was found in people eating just 2 or more servings of soy a week? This was published in 1999, but few in the medical and nutritional fields wanted to hear it. This same study also found a greater incidence of Alzheimer's disease among regular soy users.
- Did you know that no Asian country traditionally uses soy as a “meat-replacement”? It is only used as a condiment, and in very small quantities. Compare this limited use to the incredible extreme to which America — and now the world — has embraced soy as a meat-replacer.

For centuries, soy was used primarily for manufacturing chemicals and animal feed. It has only been recently that the soy industry figured that they, too, could benefit from the “health food” explosion. So long as the food had little fat and little cholesterol, (and even better if it was vegetarian) a financial bonanza was assured. They didn't “need” science. Makers and distributors of soy products succeeded financially.

Today, soy is the second largest cash crop in the U.S. — a \$14 BILLION commodity. This “miracle” didn't just happen. This entirely new market for human consumption was “developed” at the expense of your health.

Soybeans are used extensively in the poultry- and hog-raising industries. Soy oil margarine, processed cooking oil, soy “milk,” soy meat replacement, soy flour, and soy-based products, such as “Bac-Os” imitation bacon bits all support this soy machine.

However, the industrial uses of soy-derived products may shock you, including: putty, resin, varnish, waterproof cement, epoxy (glue) and varnish, to name a few.

Soy protein isolate (isolated soy protein) is now processed and produced from what was considered a waste product — defatted “high-protein” chips. You need to know that these smell and taste awful. For that reason, they are extensively processed and with chemicals and become “transformed” so that a human being can stand to eat them.

Soy became the new “miracle food” marketed to the “health-conscious,” the wealthy, and especially to women. You will soon learn in detail why any health claims for soy are nothing short of propaganda.

The varieties of soybeans are immense. There are over 10,000 varieties, with over 4,000 new varieties having been introduced by W.J. Morse and P.H. Dorsedtt between 1929 and 1931. In recent years, numerous soybean varieties have been “engineered” for greater yields, but with little concern for your health.

You’ll soon learn why I call this paper “soy fiction.” Here are some soybean facts that you need to know:

- Unfermented soy (the way we usually see it in the U.S.) *inhibits* trypsin, a very important digestive enzyme.

In other words, soy interferes with digestion and stresses your pancreas to produce more enzymes. How hard is it to prevent this harmful effect? Very difficult, and it was known in 1966: “It is clear that STI [soy trypsin inhibitor — one of soy’s harmful components] can tolerate considerable chemical alteration and still largely recover....” (*Archives of Biochemistry and Biophysics*, 115, 257- 270, 1966)

- It’s interesting that soy-free dog food products are promoted as “highly digestible.” Are they implying that, **with the soy**, their dog food would be **hard to digest and assimilate**? This is the only logical conclusion one can draw by “reading between the lines.”
- Soy has significant concentrations of *phytates*. Phytates inhibit mineral absorption!⁵ You will learn more about this in the “Phytate Papers” which are being published separately. This is the opposite of what we need. *Phytic* acid in soy has been described as beneficial. You need to know that phytic acid is not an antioxidant. **It is a mineral-blocker**. All phytates inhibit mineral usage (uptake and absorption) in our bodies. Phytates interfere with the following minerals, listed in order of the most damaging first: copper, then zinc, then cobalt, then iron,⁶ and then calcium. This is one of the main reasons that women are frequently told that they need more calcium — you don’t absorb it well in the presence of phytates. Zinc is crucial for making enzymes and hormones work efficiently. Zinc and copper are used to make your body’s most potent natural antioxidant, called “SOD.” Women have been told repeatedly and have been *misled* into believing that soy is beneficial.
- These **phytates are present in the bran and hull of all seeds, including the psyllium** that many women take in “bulk laxatives.” Grain- and legume (bean)-based diets are naturally high in phytates and **cause widespread mineral deficiencies** in third-world countries. This, too, has been published extensively, but you haven’t been told, have you?

By the way, all grains contain these harmful phytates. Soy is not any worse in this respect than grains, or brans including: wheat, rice, corn, oats, barley, rye, etc., but it is certainly no better than grains. It is an **anti-nutrient**.

- Women are not the only victims of soy’s harmful interference with minerals. Infants given soy-based formulas become deprived of zinc, and become ill. Does this seem like something you want to give to your infant?

⁵ The negative chemical charges of the phosphate group form insoluble (unusable) salts.

⁶ Iron deficiency is termed “anemia.”

- It was known as far back as 1982 and published in 1995 that soy contained phytoestrogen isoflavones (*daidzein* and *genistein*). Four (4) or more birth control pills a day are needed to disrupt an adult woman's menstrual cycle. The "recommended" daily infant soy-formula contain 3-5 times the levels of phytoestrogens in the woman's birth control dosage! Are you aware that you are unknowingly giving your infant a birth control compound!

In 1986 the published Puerto Rican Premature Thelarche study **concluded** that the **most significant** dietary association with **premature** sexual development (a significant concern nowadays) was **soy infant formula**. On the contrary, mother's milk has virtually none of these compounds. Cow's milk has only trace amounts. Remember that, in addition to the harmful phytoestrogens, soy contains the harmful isoflavones. If your child is on soy "formula" these isoflavones are circulating in your child at 13,000 – 22,000 times greater than the natural hormone estradiol!

In 1998 investigators reported that daily exposure of infants to isoflavones in soy infant formula is 6-11 times higher on a body-weight basis than the dose that causes hormonal disruption to an adult! You need to know that approximately ¼ (25%) of all bottle-fed infants in the U.S. are now given soy formula. **If you have given your infant these formulas you should be very concerned and you need to stop.**

- Regardless of what you may have been told, soy protein is not acceptable. It is not a suitable substitute for animal protein. Here's why: To process soy for human consumption requires heating in a pressure-cooker. The essential amino acids are damaged and become virtually worthless ("denatured") rendering the protein incomplete. We can supplement these lost amino acids from animal-based foods, such as steak, eggs, or cheese, but the protein value of this processed soy is insignificant.

You deserve to know that all protein isolates (including whey, which many bodybuilders drink on a daily basis) are produced via a similar process. The denatured protein in them is of very little value. The main reason the "liquid protein" drinks became popular is because of the "low-fat" standards of the great 25-year carbohydrate eating *experiment*.

- Not only does **soy** contain little usable protein, it actually **interferes** with digestion of other protein! Once again, a warning has been published, but you weren't told: "Soy proteins interact.... These interactions, depending on processing, can **decrease the bioavailability of minerals and proteins**" (*Crit Rev Food Sci Nutr*, June 1997; 37(4):361-391).
- *Hemagglutinin*, another substance in soy, promotes the clumping together of red blood cells (as they do with Sickle Cell disease). This clumping increases the risk of heart attack and stroke. Is this another reason that, despite our doing so many thing "right," we have not significantly reduced heart disease and strokes? It makes sense, doesn't it? In spite of our doing many of the right things, like exercising more and smoking less, a powerful negative force must be canceling the positives and ruining your health. With regard to your children, you should also know that hemagglutinin is a growth depressant — not an enhancer – it slows the natural growth process.

- Your pancreas is vitally involved in the digestion of fats, proteins, and carbohydrates. Phytates found in beans, grains, and legumes, including soy, destroy digestive enzymes. By eating soy, you are forcing your pancreas to make more enzymes! Can this be another reason why so many of us are becoming diabetic? Heavy consumers of soy often have enlarged pancreases. When your pancreas fails, you have diabetes or even worse: death.
- Soy has more phytates than any other grain or legume — the worst. Too many people are misled into eating far too much soy. Please don't be one of the victims.
- Fewer allergies with soy? No. More *misinformation* again. Review the literature and you will find quite the contrary. There are just as many soy-related allergies as with milk. Nothing in soy can be considered “well-tolerated,” despite health claims by the makers of soy-based baby formulas and milk substitutes.
- Is soy “milk” milk? No. It is an awful “food.” Soy milk has none of the critical cholesterol that an infant's brain must have for normal development. It can never turn into anything resembling mother's milk. Whereas, soy contains no cholesterol (no plant-based foods do), by contrast mother's milk does. Despite the hype, cholesterol is essential to life; if your body gets too little in your food, your body tries to make it.

Cholesterol is especially critical to the development of a baby's brain. If you haven't given this much thought, you need to. You are being misinformed and misled again.

- During processing for human consumption, soy beans are soaked in an alkaline solution. This produces *lysinealine* — a potential carcinogenic substance.⁷ Lysinealine also reduces the cystine (an essential amino acid) content left in the bean, which is already low to begin with — making the protein even less useful. If you are eating soy, you will need to eat more meat, eggs, or real dairy cheese to make up the deficiency. Otherwise, your protein intake is incomplete and inadequate. In 1999, \$300 million was spent on soy “milk.” Parents, are you (*unknowingly*) harming your newborn by feeding them this stuff?
- Ask yourself: how does soy taste? Most people find plain soy disgusting. Doesn't this tell you something? You weren't meant to be eating it. Do you really think that something that tastes this bad can be good for you? No.
- The soy bean is nothing “special” compared with other beans. All beans are classed as legumes. They are just cheap and have been marketed and promoted as “special” because people don't know much about them. How do you make tofu? Start with the soy beans and add calcium sulfate (used to make plaster of Paris) or magnesium sulfate (Epsom salts). This puree of cooked soybeans is processed (actually it is precipitated out of solution, sticks together, and sinks to the bottom of the solution) with the chemical sulfate and a “special” paste is made. Does this process sound appetizing? Centuries ago, natural products such as yeast, were used to do the job of natural processing by Mother Nature. Ask a marketing specialist the first step to get consumers to purchase a new product, and he will say: come up with a unique or special-sounding name. That's precisely what occurred: Let's give the stuff

⁷ Carcinogens are substances that cause or contribute to cancer.

a nice, marketable name like “bean curd” or “tofu” and fool you into thinking that it is somehow special.

- Processed soy, including fermented tofu, is not well-digested. Processed soy has a high phosphate content, so less calcium is absorbed (bio-competition). This decrease in absorption is compounded by the phytate content — a double calcium-leaching whammy! Women, if you consume soy, here’s another reason why your calcium requirements keep increasing every year. The extra calcium that you take is being essentially deactivated.
- Soy is used for making cooking oil. Soy is the Number 1 raw material that cooking oil is made from — usually the hydrogenated variety, which is full of cancer-causing *transfats*. After extracting the oil, what do processors do with the leftover solids to make more money? They turn them into soy protein isolate (isolated soy protein) – an awful product with virtually no nutrition.
- Did you know that soy “milk” contains from 10 to 100 times more aluminum than real milk? Most of us get far more aluminum from our food than we need. The aluminum in soy results from the chemical processes used to produce the stuff.
- Does soybean consumption cause goiter (a serious thyroid condition)? It is suspected, according to the National Center for Toxicological Research, (FDA) in Jefferson Arkansas (*Biochem Pharmacol* 54;10:1087-1096,1997).

Soybeans are processed using an acid methanolic extract that inhibits *thyroid peroxidase* (TPO – an energy-producing hormone made by your thyroid). The bottom line: If you are eating or drinking soy, you are interfering with your thyroid and may be *unknowingly* harming it!

It is a biochemical fact that the supposedly “good” isoflavones genistein and daidzein, in the presence of iodide, blocked the formation of TPO.⁸ It was known and published as early as 1956 that genistein in soy causes endocrine (hormone) disruption in animals. I often wonder whether the people promoting isoflavones and soy understand any science whatsoever? Apparently not. But, then, most of the field of nutrition hasn’t been based on science. It’s been based on opinion.

- Soy is commonly touted as a “protein-rich” vegetable source. Vegetable protein is, at best, 25% as metabolically active as animal-based protein. It is not a complete protein like meat is. This is doubly misleading: minimal protein plus minimal bioavailability!

Most soy products contain soy protein *isolate*, which I mentioned earlier. Baby formula and some brands of soy milk contain this. What you aren’t told is that the processing they use to make it includes: grinding, high-temperature, solvent extraction of the oils with solvents, and addition of alkali and sugar (to remove the fiber). Finally, the resulting stuff is neutralized with an acid wash, then spray-dried at high temperature to bring you the finest “high quality protein powder.” You can see the inconsistency — fiber is supposedly good for you (it really isn’t), but the manufacturers remove it in this product line!

⁸ They both inhibited TPO-catalyzed iodination of tyrosine. They are very potent inhibitors (blocking agents) of TPO.

Some soy protein isolate undergoes high-temperature, high-pressure extrusion (pressing it through holes to make it look more like ground meat) to produce “textured vegetable protein” (TVP). The taste is often so “beany” that flavorings must be added to mask the awful taste. Did you know that MSG (monosodium glutamate) is often used here and is rarely listed?

Soy protein isolate can hardly be called “healthy” or “natural” by any stretch of the imagination. On the contrary, soy isolate is a highly refined, manufactured product. Neither soy isolate nor soy baby formula can be considered “the answer” to any health issue. Soy isolate and processed soy are harmful to any human, young or old. If you desire superb health, then soy must be kept to a minimum! In 1994 a warning about soy “formula” was published in a medical journal outside of the U.S.A. (*Acta Paediatr Suppl*, 1994 Sept;402:105-108.). Unfortunately, few American parents were ever told of these findings.

The news gets worse. Soy protein isolate has never met the legal requirements under the GRAS (General Recognized As Safe) Act like most other foods have. It only has approval for industrial use as a binder in cardboard boxes. Does this stop the soy promoters? No, and our government isn’t doing a thing about it.

You need to know that, when controlled experiments were done (women given just 60 grams a day for a month) **soy protein isolate disrupted their menstrual cycle** during that month and as long as 3 months after they stopped eating the soy. This is a long-term, significant residual effect.

How much soy do the Japanese eat per day? You’ve been misled again. The answer is, on average, a mere 8 grams — only 1/6th of the amount Americans are encouraged to eat! **Where does the traditional Asian diet use soy? Only as a condiment — a seasoning.**

Did anyone tell you about Dr. White’s study of Japanese-Americans living in Hawaii? Someone should have, because there was a significant negative finding among those eating more than two servings of tofu (soy) per week. Those people showed accelerated brain aging, lower cognitive functions, and more Alzheimer’s and senile dementia. This awful result is completely consistent with what soy is made of and how it’s processed. Do you still think that soy is “healthy”?

The **celibate monks use a lot of soy** because they have found it **dampens the libido** (diminished sex drive). **Men, be aware!**

Women, have you been told that soy prevents breast cancer? Sorry! In 1996, researchers found that women consuming **soy protein isolate had increased hyperplasia** (a condition often leading to malignancy – cancer – of the uterus). A year later, in another study, dietary genestein (found in soy) was found to **affect women’s breast cells negatively**, leading the authors to conclude *that women should not consume soy products to prevent breast cancer.*

Here are a few key points about soy and the thyroid gland from an article titled “Anti-Thyroid Isoflavones From Soybean” (National Center for Toxicological Research, Jefferson, AK, USA, 1997):

1. Any compound that inhibits TPO thyroid hormone production is a potential thyroid carcinogenic (causes cancer).
2. The widespread use of soy in infant food formulas and in vegetarian diets requires the closer evaluation and examination of the anti-thyroid activity of the soybean.
3. The anti-thyroid activity of soy is not destroyed by boiling or during digestion.
4. When you're eating soy, the total isoflavone level (including genistein and daidzein) in your bloodstream is likely to reach the level needed for inhibition of TPO-catalyzed reactions. In other words, the level is reached to trigger the cancer-causing process.
5. So long as you are not iodine-deficient, intermittent or low doses of soy isoflavones will not present an issue. That's why the Chinese and Japanese cultures don't have problems eating a *limited amount* of it. However, if you are iodine-deficient, then soy isoflavones become a big problem. Enlarged thyroids are reported among persons in the U.S. who consume soy regularly.

In 1990, the *Journal of the American College of Nutrition* reported that soy formula was associated with significantly more frequent thyroid dysfunction in children.

In 1986, the *Journal of the American College of Nutrition* reported that how soy formula was associated with significantly higher rates of diabetes in children, and their thyroid antibody rate (where the body is tricked into attacking your thyroid as a foreign intruder) was 250% greater than those infants not fed soy formula.

In 1980, the *Journal of Biological Chemistry* (1980 Jul 25;225(14):6529-31) reported that soy, because of its trypsin-like protease inhibitor, "blocks insulin action on the plasma membrane." This means that more and more insulin is required to get the excess sugar out of your system. We know that there is an explosion in diabetes in the U.S. and around the world. Could one reason be that more Americans are eating soy-based products?

Analysis says "yes." Why aren't any of these side-effects reported by the soy advocates? They need to go back to school and learn some biochemistry and medical ethics before "parroting" outdated opinions not based on science.

Infants and children are now getting goiter (a thyroid disease that usually strikes adults). Consuming foods containing iodine helps to alleviate the problem.

Millet (a grain) contains high levels of anti-thyroid isoflavonoids (isoflavones), too. **Soy isn't the only food that does.** [Once again, anyone promoting high-grain diets needs to go back to school and learn some basic biochemistry and human physiology].

There is also the demonstrated estrogen-binding properties of genistein and daidzein. This causes additional toxicological consequences — too much circulating estrogen.

Much of this was known and published in 1959 and 1960.

**This is not new knowledge, but knowledge that has been
“buried” or hidden by proponents of soy products.**

Acta Paediatr Suppl (1994 Sept;402:100-104) reported that infants who were fed the soy-collagen hydrosylate formula had significant decreases in growth, weight, length, head circumference, total blood protein, and increases blood urea (nitrogen) compared to those who weren't fed the soy. Unfortunately, few parents were ever told of these findings, either.

In 1995, the *European Journal of Clinical Nutrition* (Sept. 1995;49 Suppl. 1:S26-38) reported that all tested infant formulas were *unhealthful*: whey protein hydrolysate, soy-collagen, and whey-casein hydrolysate. None of them was considered remotely close to acceptable, because they all caused significant undesirable differences in blood chemistry, etc., compared with natural mother's milk. There are many different whey hydrolysate formulas, some much worse than others. The bottom line is that you can't fool Mother Nature, and your children will suffer significantly if you try. No man-made food even remotely compares to the nutrition that mother's milk will provide your infant. The “essential essence” EFAs, which mother's milk supplies, are required even more at that critical stage of development.

The British government's report on phytoestrogens failed to find significant evidence of benefit and actually warned against their adverse effects, but America's Food and Drug Administration didn't investigate further and now lets soy proponents claim that it protects your heart and bones.

As a nation, the Japanese (and other Asians) eat much less soy than Americans now do. They have less cancer of the breast, uterus, and prostate; but you may not have been told that they have a higher rate of diseases of the esophagus, stomach, pancreas, liver, and high rates of thyroid cancer! They are among the world leaders in stroke death! We've been *mised* again. Could it be because of soy's negative health properties? There have been at least 2 impartial studies, but none so far has found any “protective” value of soy against prostate cancer. Scientifically, you now know that soy contains nothing that should protect against cancer, especially when it undergoes so much processing before you eat it.

The food industry touts the “cancer-preventing” properties of soy. While it is *possible* that the “aglycones” in fermented soy products may have an anti-cancer property, there is no possible way that an *unfermented* soy product, like tofu or soy “milk,” has these anti-cancer properties, because it's the fermenting that makes the aglycones effective. The end result? No anti-cancer properties in an unfermented soy product. In 1975, the *Canadian Journal of Biochemistry* (1975 Dec;53(12):1337-41) reported that “soybean trypsin inhibitor was found to inhibit transformation of human lymphocytes induced by mitogen.” Translation: the soybeans actually weaken your immune system. Here's why:

Trypsin is an enzyme used in digesting protein. An inhibitor is something that disables the trypsin. So a trypsin inhibitor prevents the protein you eat from being fully utilized. Because of bad advice, many women, especially, have decreased the amount of protein they consume.⁹ Now, with the addition of soy, the little protein you do eat gets compromised, so the deficiency is even greater! Take a good look around you.

⁹ When you reduce dietary fat, you often reduce protein along with it.

Many women have begun to take on hideous shapes because their hormones aren't working correctly and the protein they eat isn't being utilized. Once again, observe the real-life results of blindly following non-scientific advice (opinion not based on facts).

Is there anything beneficial in soy? Yes and no. Unprocessed (unfermented) raw soybeans contain more (compared to other legumes) omega 3 EFAs. However, the processing required to make the bean palatable ruins those EFAs. Also, while soy contains protein (made up of amino acids), like all vegetable sources, the protein is not complete: some of the essential amino acids are missing. It is an incomplete protein – essentially worthless unless the missing amino acids are supplied from meat, fish, eggs, or real dairy products.

Protein Technologies is a division of Dupont Chemicals. They have an interest in promoting the use of soy. They make lots of soy-based products. Many of the claims about soy's cholesterol-lowering properties are based on a study sponsored by Protein Technologies! You will learn later why not to believe a study sponsored by a party who wants to see a certain result.

Results from human studies concerning cholesterol-lowering properties have been inconsistent. Animal studies may be used to suggest this “lowering” property in humans. Or an “association” is implied that is simply not true (review the Timeline Special Report). What you may not have been told is that, once the harmful *transfats* are minimized in the diet, cholesterol's structure becomes much more proper and correct instead of highly defective. The conclusion is that it isn't harmful anymore.

Few processors in the food industry encourage study about their **anti-nutritional properties because that would harm their profits**. Regardless, the topic of soy has led to numerous articles. “Effects of processing on anti-nutritional factors in legumes: the soybean case,” was published in 1994 (*Arch Latinoam Nutr*, 1996 Dec;44(4 Suppl 1):48S-54S). In 1995 an article titled, “Possible adverse effects of soybean anti-carcinogens,” stated that the “so-called protease inhibitors (enzymes that block the digestion of protein) in soybean caused pancreatic hypertrophy (enlargement) and hyperplasia (abnormal cells) in rats, the underlying cause for inhibition of growth in these animals.” Soy stunted their growth. When a negative result occurs, humans should proceed with caution! Please don't make soy the basis of anything in your diet. Although rat studies should be used with caution and always making certain that the condition studied is physiologically applicable to humans.

Referring to the world's decline in health, a friend, made the observation that soy products and additives are “the straw that broke the camel's back.” Fast food loads you with *transfats* (which contribute to cancer and heart disease) and overdoses you on processed carbohydrates (which contribute to the twin epidemics of diabetes and obesity). Now, processed soy, common in many foods that you eat — including your child's school lunch programs, commercial baked goods, and diet beverages — comes along as one of the “world's greatest nutrients,” but they forget to use the word “anti-” along with it!

Be warned: The fast-food industry and convenience foods will cause a decline in world health greater than any we have ever seen. Your best chance of survival with good health is to learn the science of how your body really works. The growth of vegetarianism, especially in

women trying to “do the right thing,” has had a terrible result. The next paper in this series gives you the frightening truth about the perils of vegetarianism.

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