

On Nutrition: by Helayne Waldman, Ed.D., N.E.

Soy Story

The media would have us believe that the humble soybean is the answer to all of our prayers for good health and longevity. I too was a believer – that is, until I came across a barrage of research, all beautifully articulated in a book by Dr. Kaayla Daniel called “The Whole Soy Story.”

For vegans, soy-lovers, or anyone who consumes more than a casual number of soy products, I heartily recommend giving this book a careful read. Not only is it an eye opener about one particular food in our diet, it’s a startling window into the inner workings of the food industry, the FDA, and which scientific research sees the light of day in our profit-preoccupied society.

What’s wrong with soy? Little it seems, if it’s not consumed by infants, eaten in moderation, and especially, if it’s fermented as the Asians like to prepare it – as tempeh, miso, or natto. But for those who are infatuated with imitation meat or milk in the form of soy dogs, soy burgers, soy bits, soy loaves, soy milk and soy formula, the old adage applies: “let the buyer beware.”

Formula First

There are several issues of concern when it comes to soy-based infant formula, not the least of which is manganese toxicity. While manganese is a vital trace mineral used by the body for growth, reproduction, sugar metabolism and a host of other functions, in large amounts it can be toxic. This is particularly true in infants whose brains are still



developing, and who are unable to efficiently eliminate the mineral excess via their immature livers. Dr. Daniel maintains that infants fed soy formula ingest up to 80 times more manganese per day than breastfed infants, and she’s backed up by research published in 2002 in the journal *Neurotoxicology*. Indeed, that’s a whopping number by any standard. And it’s not just manganese that’s present in copious amounts. As early as 1985 the esteemed British journal *Lancet* reported that aluminum levels in soy infant formula were as high as 100 times the aluminum levels found in breast milk.

But even if soy formula was free of heavy metals and displayed a more healthful nutrient profile, you’d want to keep your distance. The phytoestrogens – those estrogen-like compounds that are marketed to women as the answer to all menopausal woes – are so powerful, that “parents who feed their infants soy formula are unwittingly giving them the hormonal equivalent of three to five birth control pills per day,” says Daniel. On that same subject Dr. Daniel Sheehan, a toxicologist formerly with the FDA, warned that infants who

drink soy formula are part of a “large, uncontrolled and basically unmonitored human infant experiment.” Premature pubescence in girls and reduced testosterone levels in boys are the apparent results of the experiment thus far.

Trypsin trouble

Trypsin inhibitors, also known as protease inhibitors, are “antinutrients” found in small amounts in legumes and several other foods. Their effect is to inhibit the effectiveness of some of our key protein-digesting enzymes, and while we can cook them out of most beans, the trypsin in the “bean that thinks it’s a meat” (soy) is particularly resistant to neutralization. That’s where the long, slow fermentation process common to traditional miso, tempeh and natto comes in. Traditional Asian cultures who incorporated soy products in their diet knew exactly what they were doing. Their slow cooking techniques deactivate the trypsin inhibitors along with other antinutrients, making the fermented soy an inexpensive, healthy protein alternative. Outside of fermentation, however, you need to literally “cook the trypsin inhibitors to death”, according to Daniel, in order to counteract their troublesome effects. How do soy manufacturers accomplish this feat? By using extremely high temperatures, which damages the protein in the soybean rendering it largely indigestible. Or, by bathing the beans in an alkaline solution, which converts the amino acid

lysine into a toxic substance called lysinoalanine.

So while it would appear that eating undercooked soybeans is unwise and possibly outright dangerous, eating the highly processed ones with names like “textured soy protein” or “soy protein isolate” may be even worse.

Thyroid tribulations

Soybeans naturally contain thyroid-inhibiting chemicals called goitrogens and as the name indicates, goitrogens can lead to goiter, a prominent swelling of the thyroid gland, simple hypothyroidism (under active thyroid) and other thyroid problems. It would be unfair to place the blame for all of our thyroid problems on the humble

soybean, however, as radiation, mercury, plastics, pesticides, solvents and estrogen-like chemicals all exert a disruptive effect on thyroid function as well.

The evidence continues to pile up, though. “The fact that soy is ‘natural’ does not make it safe or weak [acting]. A serving of soy foods provides up to three times the goitrogenic potency of...pharmaceutical thyroid-inhibiting drugs...” says author Mike Fitzpatrick in the New Zealand Medical Journal.

And Dr. Yoshimochi Ishizuki, head of the Ishizuki Thyroid Clinic in Japan, found that 30 grams of soybeans given to healthy adults each day resulted in thyroid disruptions in only 30 days, according to Dr. Daniel.

The great debate

Yes, you will hear all sorts of arguments to counter the ones Dr. Daniel so eloquently makes. But do you really want to be part of the great “unmonitored” experiment? Read the book.

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