

The Trouble with Tofu

YOU WOULDN'T THINK TWICE

about splashing soy sauce on a stir-fry or chopping a spongy block of tofu into bite-sized cubes. After all, soya is the ultimate health food. It reduces the risk of cancer and is an excellent source of protein. It lowers cholesterol, helps break down fat and is good for your heart, as well as the environment. It is the ideal alternative to dairy produce and meat. It is the staple food of billions of slim, long-living Asians who collectively shun the diseases that plague their processed-food guzzling counterparts in the West.

Know it or not, Western diets are actually full of soya. Soya and its derivatives are in most of the processed foods we eat today, from cereals and cakes, to sausages and cheeses. Soya goes by many aliases,

Once hailed as a wonder food, soya is now at the centre of a furious debate, blamed for a wealth of health problems and vilified as an environmental pest, reports **Jolanta Chudy**.

appearing variously on labels as vegetable oil, protein concentrate, soy protein isolate, textured plant protein or lecithin, among others. Tofu and miso sit in the supermarket's 'healthy food' aisle. And to cap it all, soya meal is the main food given to farm animals, so we're also getting it in our burgers, steaks and chicken nuggets. So surely it follows that if soya is such a 'wonder food', then the more we consume of it the better, right?

Richard James, a successful
New Zealand lawyer,

disagrees. James and his wife, Valerie, have been passionate in their efforts to raise the alarm on soya, thrusting them into the media spotlight and making them unofficial spokespeople of a growing 'anti-soya' movement of scientists, doctors and nutritionists around the world.



“We first twigged, in 1992-3, that our large parrot collection had a poison loose in it, one that caused infertility and reproductive cancers, among other nasty ills. When we described these to a biochemist, he latched on to the fact that very young birds were getting adult colours prematurely,” says James. “As soy was a feature of the expensive foods we were using, we guessed we were on to something massive.”

They got in touch with Dr Mike Fitzpatrick, who concluded that an overdose of oestrogen – an ingredient of soy found in the feed – was the cause.

This was the starting point of the James’s odyssey, one that saw them networking with soy experts and researchers worldwide. Today, the James’s are behind soyonlineservice.co.nz, an online resource about soy. Their work has been featured in articles around the world and they are vociferous in spreading the word about the dangers of this ‘miracle protein’.

“Small but vocal” is how Soya Protein Association Executive Director Dominic Dyer sums up this ‘movement’ of “non-scientists, non-nutritionists”. He says that, contrary to what the James’s say, there is a mountain of evidence based on research undertaken around the world that indicates soy consumption has many health benefits.

“As a responsible industry body, we only provide consumers with published and peer-reviewed scientific research. There’s been huge amounts of research around the world on soy, particularly in terms of cholesterol lowering, and there’s no doubt that if you get soy into your diet in relatively small amounts, you can reduce your cholesterol levels.”

Controversial studies on soy have gone hand in hand with the growth of the industry. As early as 1950, rats fed on a new human-food form of protein were shown to have lowered fertility, smaller litters and increased mortality. Some scientists say studies are inconclusive,

while others maintain that soy can pose a danger to health.

“We should bear in mind that a lot of research of this kind is based on animal studies,” Dyer points out. “There are a lot of differences between a rat and a human in terms of metabolism and various other effects of soy consumption.”

In February 1999, Daniel Doerge and Daniel Sheehan, two American scientists at the Food and Drug Administration (FDA) spoke out against the blanket claims of the industry on the supposed benefits of soy. In a letter to the FDA they wrote: “There is abundant evidence that the isoflavones in soy demonstrate toxicity in oestrogen sensitive tissues and in the thyroid. Eating as little as 30 grammes of soy per day can result in hypothyroidism, with symptoms of lethargy, constipation, weight gain and fatigue.”

SOYA CONTAINS a range of chemicals. These include phytates, which block the body’s absorption of minerals; enzyme inhibitors, which hinder protein digestion; and haemagglutinin, which causes red blood cells to clot. Phytoestrogens, or isoflavones, which behave like the hormone oestrogen, are the chemicals that were held responsible for the James’ parrots growing adult

colours prematurely. The traditional, slow fermentation processes used by ancient Japanese and Chinese societies destroy most of these, but modern methods of production do not – the soy being pumped into our food chain is full of toxins.

“There is nothing unique to soy about those poisons,” says James. “It is just that soybeans contain relatively huge quantities of them, and none of the other sources – gorse, brooms, red clover, wisteria and other leguminous plants, are used as food.”

Independent Nutritionist, Lynne Garton, says: “While laboratory studies investigating soy are interesting, conclusions need to be interpreted with caution. They tend to focus on one particular, isolated compound, such as genistein, which does not reflect soy when eaten in its normal state.”

One hundred grammes of soy baby formula has approximately the same amount of oestrogen as a contraceptive pill, according to a 1992 study by toxicologists at the Swiss Federal Health Service. And according to the Weston A Price Foundation, which funds research into nutrition, ‘Soy infant feeding floods the bloodstream with female hormones that inhibit testosterone. It cannot be ignored as a possible cause of disrupted development patterns in boys.’



“Since 1960, almost 25 per cent of babies have been fed with soya infant formula in the US,” counters Dyer. “No data in humans has ever indicated any negative effect of soya.”

Research supporting the cancer-protecting properties of soy in the *Cancer Research* journal reported that high dietary intake of soy protected against breast cancer in post-menopausal monkeys. This supports similar results from a study from the University of Ulster, which reported that soy isoflavones inhibited breast cancer cell invasion in vitro. Dyer says that in addition, there have been many studies to indicate that eating soy lowers cholesterol, which some claim is linked to a decrease in heart disease.

Kaayla T Daniel, author of *The Whole Soy Story* is unequivocal about soy. “Soy is not a health food. It is not the answer to world hunger. It is not a panacea, nor has it even been proven safe.”

Daniel points out that tofu was traditionally used in Buddhist monasteries to help monks maintain their vows of celibacy, while in Japan, women take revenge on unfaithful spouses by increasing the amount of soy in their diets.

So if soya is so bad for us, how come it is still on the market? According to James, this is because the global soya industry, which is linked to ‘Big Pharma’, is adept at controlling any dissenting voices. “Scientists rely on industry to fund their research. It’s so often just not feasible for them to be campaigners and agitators.”

And because the industry is worth millions a year, the soya PR machine is a powerful one. “Profits are huge from turning what is actually industrial waste into ‘health’ foods,” says James.

Around one per cent of the profit from each soya bean is re-invested into PR. The evidence of that investment’s effectiveness can be seen in the fact that soya milk and tofu, which were not available as recently as 30 years ago, are everywhere today.

“The industry perpetuates the myth that soya has been eaten by Asians for thousands of years,” says Daniel. “But farmers only grew soy bean plants as ‘green manure’ to enrich the soil. Soy was a fertiliser, not a food.”



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Despite the mixed messages, the growing demand for soya, especially for animal feed for Europe’s food producers, fast food chains and supermarkets, is unrelenting. According to research group, Euromonitor, the value of Western Europe’s soy milk market more than doubled, to almost £250 million between 1998 and 2004, thanks to consumer obsessions with health and wellness.

A trio of the world’s largest commodities companies – Bunge, Cargill and ADM – are responsible for about 60 per cent of the total soya production in Brazil, providing everything from seeds and agrochemicals to the transport and storage infrastructure.

According to a Greenpeace report published in April 2006, they are also responsible for illegal logging and have even been linked to slavery. Despite Brazil officially outlawing both, the area in question, a ‘wild west’ style frontier, is difficult to police, and the forest and its inhabitants are subject to abuse.

‘Europe buys half the soya exported from the Amazon state of Mato Grosso, where 90 per cent of rainforest soya is grown,’ reads the report.

Land once deforested for cattle ranching in Mato Grosso and Para has been traditionally used to grow soya, but now the Amazon rainforest is also being converted directly to soya monocultures.

THE PUBLIC outcry that greeted the Greenpeace report sent ripples through the soya industry. Despite official denials by the companies of any wrong-doing, following the report, soya producers in Brazil rushed to pledge that they would use more ethical methods to ensure that the soya was legally farmed and did not encroach on the Amazon biome, and to take steps to ensure that fair trading practices were enforced.

“By and large, the chain of destruction linking the Amazon rainforest to the hamburgers, sausages and chicken drumsticks on sale in Europe, has been cut since we launched our campaign,” says Greenpeace’s Ben Ayliffe.

Dyer says that more economical, ecologically sound alternatives to the widespread use of soya meal for animals are now being looked at. Perhaps what’s really needed is an independent study into soya’s effects on humans – something that might prove difficult unless an alternative to big industry-funded research can be found. ■