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# The Other Side of Soy



## Scientists Concerned Over Potential Health Risks

Since last year's FDA approval of certain soy products as good for the heart, grocery stores have been inundated with a variety of soy-based goods. Click on the image to watch video of the report on the controversy over their health benefits. (ABCNEWS.com)

By [Brian Ross](#) and [Richard D. Allyn](#)

[ABCNEWS.com](#)

**June 9** — From tofu and tacos to burgers and baby formula, soy products have swept the nation as a healthy source of high protein, with a reputation for being all natural and all good.

But a 20/20 investigation has found that amid all of this praise, some scientists are now challenging this popular wisdom, and suggesting there may be a downside to this "miracle food."

"The safety issues are largely unanswered," says Daniel Doerge, a research scientist for the Food and Drug Administration and an expert on soy.

New studies have raised questions over whether the natural ingredients in soy might increase the risk of breast cancer in some women, affect brain function in men and lead to hidden developmental abnormalities in infants.

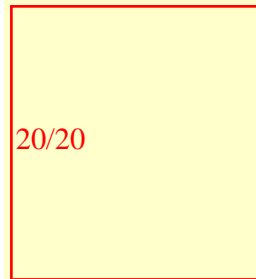
This unresolved scientific debate continues to develop. Just last October, soy enjoyed a huge boost when the FDA issued a health claim, concluding that soy may lower both cholesterol levels and the risk of heart disease.

But two of the FDA's experts on soy — Doerge and his colleague, Daniel Sheehan — have stepped forward to criticize their own agency's claim and even attempted in vain to stop the recommendation. Their main concern: that the claim could be misinterpreted as a much broader endorsement for soy protein, beyond benefits solely for the heart.

Signing a highly unusual letter of protest to their employer, Doerge and Sheehan pointed to research that demonstrates a link between soy and fertility problems in certain animals.

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Watch Brian Ross' report on soy products on [20/20 Friday](#) at 10 p.m. ET.

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“The animal data is a clear indication for adverse effects, the potential for adverse effects in humans,” Doerge says to 20/20.

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## Debate Over Soy Infant Formula

The core of their concern rests with the chemical make-up of soy: in addition to all the nutrients and protein, exists a natural chemical that mimics estrogen, the female hormone. Some studies in animals show that this chemical can alter sexual development. And in fact, two glasses of soy milk a day, over the course of a month, contains enough of the chemical to change the timing of a woman’s menstrual cycle.



Soy milk

About 3 to 4 percent of babies must ingest soy formula because they are allergic or can’t digest regular milk formula.

(ABCNEWS.com)

“We are doing a large uncontrolled and unmonitored experiment on human infants,” Sheehan says. “We’re exposing infants to the chemicals in soy infant formula that are known to have adverse effects in experimental animals, and we have never looked in the human population to see if they have adverse effects.”

The infant formula industry, along with some scientists, have blasted this criticism of soy, calling it “scientifically unjustified claims that could unduly frighten thousands of

parents.”

Kenneth Setchell, a pediatrics professor at Children’s Hospital in Cincinnati and a leading advocate of soy, contends that scientific studies on soy show promise in fighting a number of diseases and that adverse effects seen in animals do not apply to humans.

“There have been literally hundreds of thousands of infants that have been raised on those soy formulas,” Setchell says to 20/20. “Some of those infants would be well into their late 30s, early 40s now. And you know, I don’t see evidence of tremendous numbers of cases where there are abnormalities.”

The debate over soy formula for infants poses a major issue throughout the country. Soy infant formula is an undeniable lifesaver for the 3 to 4 percent of babies who are allergic to or can not digest cow’s milk. However, heavy marketing of soy infant formula has led to its much wider use, extending well beyond just those infants who are allergic to 25 percent of the entire formula market.

“My careful and considered professional opinion is that it

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makes more sense not to needlessly expose your baby to these compounds,” says Dr. Claude Hughes, director of the Women’s Health Center at Cedars-Sinai Medical Center in Los Angeles. He adds that while breast-feeding is preferred, mothers who don’t breast-feed should use a milk-based formula and choose soy as a last resort.

## Other Health Concerns

Aside from his concerns about soy’s health effects on infants, Hughes has also raised potentially more serious questions about soy and breast cancer. In some cases, soy is thought to protect against breast cancer. But some studies now indicate, for other women, the chemicals found in soy may enhance a widely found kind of estrogen-feeding breast cancer.

“It can speed up divisions of those cells that are already cancer cells that depend on estrogen for their growth,” Hughes tells *20/20*.

The multibillion dollar soy industry has insisted that the health benefits of soy significantly outweigh any potential risk.

Soy — consumed in the form of tofu — may have a connection to accelerated aging in the brain, according to a three decade-long study begun by the National Institutes of Health.

Dr. Lon White of NIH says that he found greater brain aging and shrinkage among elderly men — all Japanese-American and living in Hawaii — who had eaten tofu at least twice a week during middle age.

“Their brains, looking at them in terms of how their brain functions, memory cognition, their brains seemed to be showing an exaggeration of the usual patterns we see in aging,” White says.

The soy industry countered that White’s study only shows an association between tofu consumption and brain aging, does not prove cause and effect and is in conflict with research on Asian populations and animals.

While the scientific research on soy is still emerging and is often contradictory, there are now some serious questions being raised about this miracle food, and some of its staunchest defenders acknowledge that these questions need to be answered.

**“We are doing a large uncontrolled and unmonitored experiment on human infants.”**

— Dr. Daniel Sheehan, research scientist for the Food and Drug Administration and expert on soy.

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