

Is it safe to assume that all soybeans are alike? The success of large investments in genetic engineering depends on whether or not consumers will continue to make this assumption without requiring proof. Adequate safety testing is not being done, either by manufacturers or by government agencies.

Herbicide-resistant soybeans are one example of genetically engineered (GE) foods being sold in US groceries without long-term studies of effects on human health. At least 60% of US processed foods contain ingredients derived from soybeans. An estimated 32% of the current (1999) US soybean crop is genetically engineered. Herbicide-resistant soybeans can increase crop yields, but specific figures are not available on the volume of this segment of the US soybean crop.

Known facts re allergies:

Gene-splicing can result in unpredictable allergens and toxins, especially when the transgenes – the material to be spliced in – are made from non-food sources. In his criticism of the concept of “substantial equivalence,” Dr. John Fagan used herbicide-resistant soybeans as an example: “...Monsanto quantitated (sic) a few of the allergenic proteins known to be normally produced in soybeans showing that genetic manipulation had not accidentally caused Roundup Ready soybeans to produce higher than normal levels of those allergens.” Food allergy specialists in Europe have documented a 5% increase in complaints related to soybeans.

Known facts re herbicides:

One measurable difference involves higher levels of glyphosphate herbicide (Roundup) residue in soybeans engineered for herbicide tolerance. Producers of herbicide-resistant soybeans have found it necessary to petition governments to increase the amount of herbicide residue allowed in food. In defense of its product, Monsanto affirms that it takes an extremely large amount of glyphosphate to produce acute symptoms. Monsanto didn't mention any potential for chronic side effects.

What we don't know:

- 1) The proportion of GE soybeans in any processed food containing soy ingredients.
- 2) The amount herbicide residues in any processed food product. (Some soybeans are modified for other purposes, such as insect resistance.)
- 3) The accumulation of herbicide residues from a diet high in processed foods. (Herbicide-resistant crops also include rapeseed – i.e. canola – and corn.)
- 4) The long-term effects on human health of the bacterial and viral genetic fragments in bio-engineered soybeans. (The Cauliflower Mosaic Virus used for gene splicing is a para-retrovirus closely related to)
- 5) The potential side effects from “unintended changes in the structure and function of the food producing organism.”

European opposition:

Because European consumers object to GE foods, European importers pay higher prices for soybean shipments guaranteed not to contain GE soybeans. Will this affect GE soy levels in foods for US consumption?

What can you do with this information?

1. When buying tofu, soy powder, or soybean oil, choose organic products if possible.
2. Decrease your consumption of processed foods. (Even “organic” processed foods can include non-organic ingredients.)
3. Avoid products sold by companies actively involved in GE research, such as FritoLay, Campbell, and Land O’Lakes.
4. When possible, buy products from companies which choose not to use genetically altered ingredients, such as WholeSoy products.
5. Support organizations concerned with holding government and agribusiness accountable.

Ge Soy -- Endnotes

1 “What’s Wrong with Genetic Engineering?” <http://www.purefood.org/text.html> For more information: Ronnie Cummins, Director, Campaign for Food Safety/Organic Consumers Association, 860 Hwy 61, Little Marais, Minnesota 55614; Telephone: 218-226-4164; Fax: 218-226-4157; email: alliance@mr.net; URL: <http://www.purefood.org>. See also: the Center for Food Safety (Washington DC) <http://www.icta.org> and the Organic Consumers Association: <http://www.organicconsumers.org>

2 Fagan, John B., PhD; “Assessing the Safety and Nutritional Quality of Genetically Engineered Foods,” <http://www.netlink.de/gen/jfassess.htm> . (Dr. John Fagan is Professor of Molecular Biology at Maharishi University of Management, Fairfield, Iowa 52557-1078; Phone: 515-472-1111 or 472-8342; Fax 515-472-5725; email: jfagan@mum.edu)

3 Cummins, Ronnie & Ben Lilliston; “Food Bytes # 17: Global Resistance Against Monsanto & GE;” <http://www.purefood.org/ge/foodbyt17.cfm>

4 FIRST LINE SEEDS" “Forward_Crossing: A Breeding Strategy for Yield Advantage,” 25_Feb_99, www.soybeans.com

5 Natural Law Party of New Zealand, 5 Adam St, PO Box 17_273, Greenlane, Auckland, New Zealand, Tel: 9_522 1043 Fax: 9_524 6003, or Richard Wolfson, PhD, Campaign to Ban Genetically Engineered Food, Natural Law Party, 500 Wilbrod Street, Ottawa, ON Canada K1N 6N2, Tel. 613_565_8517 Fax. 613_565_6546. email: rwolfson@concentric.net

6 Townsend, Mark; “Why Soya is a Hidden Destroyer,” <http://www.netlink.de/gen/Zeitung/1999/990312.htm>.

7 Fagan, John, PhD; “The Failings of the Principle of Substantial Equivalence in Regulating Transgenic Foods;” <http://www.netlink.de/gen/jfsubeq.htm>

8 “Glyphosphate Health and Safety – Rebuttal to ‘10 Reasons Not to Use Roundup,®’” <http://www.monsanto.com/ag.articles/G-hhs17.HTM>

9 Fagan, John B., PhD; “Assessing the Safety and Nutritional Quality of Genetically Engineered Foods.”

10 Blackburn, Peter; “Clean Soy Shipment Arrives...” Brussels newsroom, December 6, 1996, Gentech archive 8.96-97,1file:///A|msg00008.html

Fagan, John, PhD; “The Failings of the Principle of Substantial Equivalence in Regulating Transgenic Foods;” <http://www.netlink.de/gen/jfsubeq.htm>

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<http://www.netlink.de/gen/jfassess.htm> or Dr. John B. Fagan,

Blackburn, Peter; “Clean Soy Shipment Arrives...” Brussels newsroom, December 6, 1996, Gentech archive 8.96-97, file:///A|msg00008.html