

Genetically Engineered Foods

Do genetically engineered (GE) products present the answer to world food shortages or pose a danger to an unsuspecting public? Catherine Reade, MS, RD, owner of HealthFull Living in Littleton, Colorado, offers this information to help you form an opinion.

1 Understand What a GE Food Is. A GE food has had its deoxyribonucleic acid (DNA) altered by the insertion of foreign genes from plant, animal, viral or bacterial sources. For example, corn is being modified—via insertion of a soil bacterium—to self-produce a pesticide that makes the corn less vulnerable to insect damage.

2 Learn Why Genes Make the Issue Complicated. Genes work in unison and are influenced by other genes and external conditions. Place the same organism in a different environment and the genes may react differently. The complex interaction of genes, coupled with our limited knowledge, makes GE foods both potentially promising and possibly perilous in terms of human and environmental health.

3 Know What Foods May Be GE Modified. GE modified food products in grocery stores include canola oil, flax, papayas, potatoes, sugar beets, tomatoes and yellow squash. Ingredients that have been derived using biotechnology include bovine growth hormone in milk sold in the United States and the enzyme chymosin, used in cheese and other dairy products. Bioengineered crops compose a portion of soybean products, corn prod-

ucts and cotton grown in the United States. Since animal feed often contains GE ingredients, animal products can also be affected. Additionally, 30,000 processed foods, such as soy-based infant formulas, breakfast cereals, veggie burgers, tortilla chips, salsa, tomato sauces, cooking oils and soft drinks incorporate GE ingredients.

4 Understand Global Differences. Europeans have been in an uproar against GE products, resulting in a virtual ban of bioengineered foods. Many Americans, on the other hand, see these products as the *future* of food. Why the difference in opinion? Europeans have an intimate relationship with food and devote much time to relishing meals and homemade cuisine. Americans often prefer dashboard dining and convenience foods. Some Europeans have also recently been exposed to mad cow disease—an experience that could certainly contribute to public mistrust.

5 Realize the Potential Promise. Some of the potential benefits of GE foods include increased and heartier crop yields, reduced pesticide and herbicide use, more nutritious foods and better tasting foods with a longer shelf life.

6 Acknowledge the Possible Pitfalls. Many scientists and consumer groups have expressed concerns about the following: unknown long-term health effects; creation of new allergens; gene pollution; creation of superweeds and superbugs; and antibiotic resistance.

7 Look to Government Agencies for

Regulation. In the year 2000, the United States Food and Drug Administration (FDA) proposed a rule requiring companies to notify the agency before introducing a new biotechnology crop or product into the food supply. It has been further proposed that this information be posted on the FDA's Web site.

8 Check Labels. The FDA currently requires product labeling only if the composition of the food has been changed significantly compared to the food's natural counterpart. However, the FDA has been drafting label guidelines for companies that wish to *voluntarily* disclose if their products contain GE ingredients. Meanwhile, the European Union requires full labeling disclosure and will not import any American soy or corn product that is unlabeled. Japan, Australia and New Zealand are among the countries proposing mandatory labeling for GE foods.

9 Vote With Your Money. If you wish to support GE foods, buy them. If you do not, then purchase foods certified as organic. For more information on a product's GE ingredients, contact the manufacturer.

10 Stay Up-to-Date on GE Foods. To learn more about GE products, check out the Alliance for Bio-Integrity (Bio-Integrity.org); American Dietetic Association (EatRight.org); John Innes Centre in England (JIC.bbsrc.ac.uk); and the FDA (FDA.gov).

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