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Foods as Nature Made Them

Walk down the aisles of your local supermarket and you'll find floor-to-ceiling shelves packed with food boasting nutritional benefits: whole grains in cereals, omega-3s in eggs, lycopene–that powerful antioxidant–in ketchup. But there are other ingredients hiding in these products, and most of us don't even know they're there. They're called genetically modified organisms (GMOs), and they're in 80% of the processed food on grocery store shelves–and a handful of whole foods as well, with perhaps more on the way soon.

A genetically modified food is one that has had lab-replicated genes from other plants, animals, and even viruses added to it in order to give it new characteristics–a resistance to insects, say, or to extreme heat and drought–that provide it an advantage in terms of hardy growth. Today, 91% of soy produced in the United States is genetically modified, as is 85% of corn and 88% of cottonseed, to name a few examples. Most GM crops are grown on large industrial farms and then processed into hundreds of other ingredients that show up in our food as corn syrup, soy lecithin, canola oil, cottonseed oil, or the sweeteners used in soups, spreads, and sauces–even infant formula. So ubiquitous have GMOs become, in fact, that unless a packaged food is certified organic or specifically labeled non-GMO, chances are it contains modified ingredients.

And it's not just processed foods. Hawaiian papaya, certain varieties of summer squash, and–as recently as last December–drought-resistant corn on the cob have also joined the list of crops that the Food and Drug Administration has reviewed for genetic modification in the United States. Pushing the envelope even further, the agency is now considering green-lighting genetically altered salmon, which would be bred with DNA that makes it grow to full size twice as fast as wild salmon.

The Truth about 12 Confusing Foods

The controversy over GM food safety has swirled since the first altered foods were introduced in the early 1990s. Many scientists insist there's no proof that genetically modified food can harm human health; their opponents counter that such claims cannot be responsibly made because there simply hasn't been enough research conducted–and there ought to be before consumers can buy them. Such arguments have persuaded 30 countries–including Japan, Australia, and the entire European Union–to ban or severely restrict GM crops. But the United States hasn't been persuaded.

In 1992, the FDA ruled that there's no "material" difference between genetically modified and traditional crops. In other words, if corn syrup made with genetically modified corn tastes, smells, and looks the same, has the same nutritional value, and can be used the same way as regular corn syrup, the FDA says that they are indeed the same. "If we found that a genetically modified food was substantially different, we could require it to be labeled," says FDA spokeswoman Siobhan DeLancey. "But the way a food is produced doesn't make a material difference. We haven't found that GM foods as a class are different or less safe than conventionally processed foods."

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NOTE: Some sentiments contained within "What We're Reading" articles may not strictly conform with PROJECT: PFC's nutritional outlook. We read articles containing opposing information all the time and derive our nutritional philosophies from the latest science, the opinions of experts worldwide and our anecdotal experiences in the field. We keep an open mind and a strong affinity for fact-based evidence to help make the world of nutrition "Simple Again" for you.

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Critics counter that the FDA's definition of a "material" difference is woefully behind the times. "Right now the FDA is doing 19th-century food labeling for 21st-century technology," says Andrew Kimbrell, an attorney and the executive director of the Center for Food Safety (CFS). "The idea that smell, taste, and feel is enough–that's something you do at a farmer's market. Not at a federal agency."

Many say what's needed is more and better peer-reviewed research. But no one is willing to fund it, says Marion Nestle, PhD, a professor of nutrition at New York University and the author of Safe Food. A 2011 review of 94 articles in the journal Food Policy revealed that researchers who cast GMOs in a favorable light often had financial or professional conflicts of interest. "The FDA and the US Department of Agriculture are essentially rendered powerless in the face of biotech lobbyists," Dr. Nestle says, "some of whom do stints as regulators themselves." Case in point: Michael R. Taylor, the FDA deputy commissioner for food, who oversees all the agency's food and nutrition programs, was once vice president for public policy at Monsanto, a biotech company that produces an estimated 90% of the genetically modified seeds sold in the world. Monsanto's position is that "there is no need for or value in testing the safety of GM foods in humans."

"The burden [of proof] should fall on both the government and the companies that are producing these crops. It's their job to show it's safe," says Kimbrell of the CFS. "More than a decade ago, we predicted that genetically modified crops would cause environmental

problems, and now it's happened. I suspect the same will be true for the human health risks."

Obligatory labeling that indicates the presence of GMOs by food manufacturers strikes many as a prudent first step. Last fall, a coalition that now includes more than 480 groups–including Physicians for Social Responsibility and the Ocean Conservancy–launched the Just Label It campaign, asking the federal government to require labeling of GM foods. The FDA has until mid-April to respond to the petition, which has so far amassed 560,000 signatures. In a separate effort, California is working to collect enough signatures to put the question of GM food labeling on its ballot in November.

According to a 2010 Thomson Reuters poll, more than 90% of Americans think foods containing GMOs should be labeled. But for now, confusion abounds: Today, just 28% of Americans say they are aware that genetically modified foods are being sold in supermarkets, and of the shoppers who know, only about 1% guessed correctly that they were present in most processed foods. As a result, some food companies are going out of their way to assuage concerned consumers: "Non-GMO product verified" is one of the biggest trends in the natural products industry, with over $1 billion in annual product sales.

"[Labeling] seems like a simple solution," says Maria Rodale, CEO and chairman of Rodale. "If given the choice, consumers might not choose to buy GM products. As of now, food manufacturers have decided not to give us a choice, which doesn't seem very American."

"Genetically modified foods offer consumers no advantage whatsoever," says Michael Pollan, author ofThe Omnivore's Dilemma and a pioneer of the sustainable food movement. "So far at least, these crops are no more nutritious, no tastier, and no cheaper than conventional. The real question is: Why would you eat this stuff?"

But in 2005, the World Health Organization announced that its opinion was that GM foods "are not likely, nor have been shown, to present risks for human health." Some animal studies suggest otherwise. This research has shown problems with reproductive, immune, and gastrointestinal systems, as well as organ damage and the possibility of accelerated aging. In one experiment at the University of Verona in Italy, a diet of GM soybeans damaged the liver cells in aging mice. Another revealed that ingesting genetically modified corn resulted in small changes to the rats' tissue, kidneys, and livers–though not enough to affect the animals' overall health.

In 2011, in one of the few human studies conducted so far, researchers at the University of Sherbrooke Hospital in Quebec tested the blood of 30 pregnant women and 39 nonpregnant women. They found traces of an insecticide present in the blood of 93% of the pregnant women and in 80% of umbilical cord blood. The most probable source, according to lead author Aziz Aris, PhD, is the genetically modified corn consumed as part of a normal diet in Canada, as it is in the United States. Dr. Aris wouldn't speculate about what health effects this might cause; that was beyond the scope of the study. But it was a shock to many, since GMO proponents have long claimed that GM proteins are destroyed during normal digestion. In every case, researchers have called for more tests and larger studies to help clarify risks.

"The scientific debate about the benefits and risks of these crops will continue for a very long time," says Gary Hirshberg, cofounder of the organic yogurt company Stonyfield, who is helping to spearhead the Just Label It campaign. "Without labeling, we're all involuntary participants in this giant experiment with our bodies–and our planet."

How To Avoid GM Foods:

-Stay Away From The Top 8
    The eight GM food crops are corn, soybeans, canola, cottonseed, sugar beets, Hawaiian papaya, and some zucchini and yellow squash.
-Go Organic
    Certified organic food cannot intentionally include GM ingredients.
-Look For The "Non-GMO Project" Seal
    This means the products have been independently tested and verified by the Non-GMO Project.
-Use The Non-GMO Shopping Guide
    This easy-to-use online guide and free phone app takes the guesswork out of grocery shopping:nongmoshoppingguide.com
-Shop With GM-Free Retailers
    Two large chains, Whole Foods Market and Trader Joe's, have banned GM ingredients from their house brands.
-Blindfolds Off!
    The FDA has until mid-April to respond to the petition asking for GMO labeling–and that means it's not too late to sign on if GM foods worry you.