What is a GMO? Surely by now you have heard of this three-letter combination, and maybe you know it has something to do with food. Perhaps someone told you it would be wise to avoid eating GMO foods, but you don’t really know why, or how to find out whether that meal you’re about to serve your family contains GMO ingredients. It seems like every day there’s another dire warning about something to avoid eating and, frankly, you just can’t keep track of it all anymore.

But the threat posed to human health by GMOs—which stands for genetically modified organisms—is real, and worth understanding. The World Health Organization (WHO) defines GMOs as “organisms (i.e. plants, animals, or microorganisms) in which the genetic material (DNA) has been altered in a way that does not occur naturally by mating and/or natural recombination.” Put simply, genetically modified organisms have been purposely manipulated at their very core to resemble something that already exists in nature—but with a twist.

In the case of plants, that twist can vary. Genetically engineered (GE) plants pervade this country’s food supply because they have been developed to possess some perceived advantage, such as herbicide tolerance or virus resistance. The WHO notes that some plants have also been specifically bred to naturally resist insects, a trait that is achieved by incorporating the gene for a particular insecticide toxin into the plant’s DNA. In other instances, genetic modification might simply help prevent apples from browning by reducing levels of certain enzymes, according to the U.S. Food and Drug Administration (FDA).

**INCREASING HEALTH CONCERNS**

Regardless of purpose, or of how beneficial these changes may appear on the surface, the fact remains that eating genetically modified (GM) foods is risky because of the unknown. When particular changes are introduced into a plant’s DNA, it may also impact human DNA—we just don’t know exactly how. Some experts blame GMOs for increased incidences of allergies, antibiotic resistance, and cancer, but studies are scarce.

In plenty of supply, however, is information on the very real dangers of allergies, antibiotic resistance, and cancer. According to the CDC, food allergy rates among children younger than 18 have increased since 1997, from 3.4 percent to 5.1 percent. The Infectious Diseases Society of America calls antimicrobial resistance “one of the greatest threats to human health worldwide,” and notes that antibiotics are becoming less effective. As for cancer, the National Cancer Institute predicts that the number of new cancer cases worldwide will rise to 22 million within the next two decades, up from 14 million in 2012.

In addition to allergies, antibiotic resistance, and cancer, The Center for Food Safety, a national non-profit public interest and environmental advocacy organization, has considered other possible health effects of GMO consumption. Toxicity is an inherent risk of inserting GE materials into food; it could lead to destabilization that would cause formerly nontoxic elements in food to become toxic. Well-regarded animal studies have also linked GMOs with reduced immune function, and scientists have warned that genetic engineering may alter a food’s nutritional value. The FDA’s response to all of these threats has basically been to ignore them.

Which is horrifying considering that the use of GM crops in the United States has grown colossally since...
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STEERING CLEAR

In the U.S., the crops most commonly grown using GMOs are soybeans, maize (corn), cotton, sugar beets, papaya, canola, alfalfa and squash, according to the ISAAA. But remember: the genetic modification extends to any food in which one of these crops is an ingredient. The Non-GMO Project, a non-profit organization that offers North America’s only third-party verification and labeling for non-GMO food and products, estimates that 80 percent of conventional processed foods contain GM ingredients. Most of us aren’t-consuming straight up canola on a daily basis, but we may unknowingly eat processed crackers, cereal, candy or bread made using canola oil.

An easy way to avoid eating foods laden with GMOs would be to affix a label to any food containing GM ingredients, and then YOU—the consumer—would be able to make an informed decision about whether or not to buy that produce or product. Naturally, the companies that grow or manufacture GM foods are not in love with this idea, and the issue of GMO labeling has become controversial.

According to Just Label It, a campaign created by the Organic Voices Action Fund to advocate for the labeling of GMO foods, studies have shown that more than 90 percent of Americans support mandatory GMO labeling. When was the last time people in this country agreed so wholeheartedly about anything? Twenty-eight nations in the European Union, along with Japan, Australia, Russia, China, and others require GMO labeling. Needless to say, the U.S. does not.

A few states have passed labeling laws, but legislation introduced by big food and biotechnology corporations is already seeking to preempt these laws, and create more barriers to mandated labeling. What are they trying to hide? If genetically engineered foods are “safe,” as their producers claim, then there should be no shame in affixing a GMO label to any food.

I’d say the cover-up is worse than the crime, but the crime itself—exposing countless people across the globe to foods that have been altered from their natural state and turned into antibiotic-resistant, pesticide-resistant imitations of the real thing—is pretty awful, too.

MESSING WITH MOTHER NATURE—Plants with intentionally altered DNA are now pervasive in our nation’s food supply.