The Hidden Dangers of Genetically Modified Foods

**KEY WORDS**

GMO, genetically-modified organism, GM foods, Frankenfoods, Roundup, pesticide, DNA, allergies, pollen, organic, hormones, milk, nuts, bacteria, salmonella, tomatoes, corn, soil, honeybees, pollinators, patents, weeds, rBGH, food supply, vegan, Kosher

We hear a lot about Genetically Modified foods, or Genetically Modified Organisms – GMOs. But what exactly are they, and why should we bother worrying about them?

In this *Terry Talks Nutrition*, I’d like to review what GMOs are, how they are changing our relationship to food, and what we can do to take control of the types of foods we eat.

First, let’s answer the question; ‘what are genetically-modified foods?’

When you hear someone use the term, “Frankenfoods”, there’s a good reason. Genetically-modified foods take genetic material from one organism and put it into another. This gives the organism – plant or animal – characteristics that it didn’t have before. Consider soybeans as an example – one of the most popular crops worldwide.

Newer varieties have been created – not hybridized – with genetic material from a bacteria that is resistant to Roundup®; a common herbicide. This new modified strain of soybeans is planted, sprayed with Roundup®, and holds up while any weeds in the vicinity wither. And this new variety is not some little-used plant, either – at least 50% of the entire world’s soy crop is genetically modified.

And soy is just one crop. Tomatoes, corn, canola, and alfalfa are all heavily modified plants. All of them, especially corn, end up in the food supply.

So does this mean you are eating genetically modified food? Probably.

At this point, it is hard to avoid. According to the United States Department of Agriculture (USDA) numbers from 2009, 93% of the American soy crop is genetically modified, 86% of corn, and 90% of canola. Aside from those major food products, genetically modified sugar beets, squash and Hawaiian papaya are also available. Chances are good that over 80% of the packaged foods in your local supermarket have at least some GMO content.

So why should we care?

Because to begin with, this is all very new and we don’t know what the long-term environmental or health consequences will be. What we do know is that the percentage of Americans with three or more chronic illnesses jumped from 7% to 13% in just the past 9 years.

We’ve also seen skyrocketing food allergies and autism, digestive problems and reproductive disorders on the rise as well. That’s not to say that genetically-modified foods are completely responsible for these trends. Our overall well-being is a mix of environmental, hereditary, and dietary factors, so our health is a complex matter to say the least. However, it is certainly fair and appropriate to be concerned about how GMO foods affect our bodies and the world around us. After all, just because something is labeled “advanced” or “safe” is no reason to accept it without question.

**So, why make genetically-modified foods at all?**

Proponents of genetically-modified foods say that radical changes are necessary. They claim that by boosting nutrients in a particular plant, they can make it more nutritious. Plus, the shelf-life of the food (engineered with preservatives) can be extended, making foods last longer. And by making them more insect-resistant, they can cut down on the amount of chemical pesticides that ultimately run off into the water supply.

Speaking of which, there are GM plants that are being developed to be more drought-tolerant to grow in areas with low water supplies, too.

On the surface, all of this sounds good. But again, we’re dealing with the law of unintended consequences here. What happens when insects find a way to outmaneuver the changes we’ve made to those plants? At what point is a plant considered the same species as its non-modified cousin, anyway?

**Arguments against GM foods**

One of the arguments against GM foods is that pollen from those plants doesn’t recognize the borders of nearby fields planted with non-modified crops. So, say you’re running an organic or sustainable farm adjacent to these crops. Chances are, your corn, soybeans, or other crops are going to be affected.

And it’s not just the crops.

In one instance, genetically-modified corn that was developed to be toxic to insects was also found to kill monarch butterflies that were feeding on corn-pollen covered milkweed plants, their main food source. Thankfully, that particular type of genetically-modified corn has been withdrawn from the market. However, some of the GM-developed pesticides are also killing honeybees, our primary pollinators, because they drift into other plants and stay in the soil longer than was thought. Think about that: killing off honeybees is essentially killing off at least a third of our food supply.

Aside from that, what GM foods do to our inner environment is also open to question. Because of their strange mixture of ingredients, genetically-modified organisms can introduce substances into our foods that have never been part of our diet. We simply don’t know what the effects could be. However, we now know that the pest-resistant material in GM corn has been shown to stay in the human body longer than anticipated. In fact, levels have been detected in the blood of pregnant women and unborn babies. In addition, some GM corn has also been associated with liver and kidney damage in animals.

Or, look at the case of milk from cows treated with rBGH (a genetically-engineered recombinant DNA). The borders of nearby fields planted with non-modified crops. So, say you’re running an organic or sustainable farm adjacent to these crops. Chances are, your corn, soybeans, or other crops are going to be affected.

**To your good health,**

*Terry... Naturally*

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bovine growth hormone) to increase their milk production. The result isn’t just unnaturally higher amounts of milk per animal, but that milk from those treated cows has greater levels of IGF-1, a hormone which has been linked to cancer. This isn’t just Frankenfood, it really is a monster we’re creating.

There are religious and ethical concerns to think about, too. Some of the new genetically-modified foods use genes from animals to strengthen resistance in plants. What about pig DNA being introduced into plants to give them some marginal advantage? Can this plant still be considered vegan or Kosher?

But even if you’re inclined to acknowledge the benefits of GMO foods and technology, realize that they might not last.

As I’ve mentioned before, pollen from GM crops doesn’t just fall on nearby GM-free fields, but on the weeds they are trying to control, too. This could easily make the next generation of weeds just as resistant to insects and pesticides like the parent plant.

When weeds that are repeatedly exposed to Roundup eventually develop resistance, it will force growers into using even stronger and more dangerous chemicals. After all, it doesn’t take long for the natural world to catch up to us.

Look at antibiotic resistant bacteria, for example. It’s already a very real problem with MRSA (methicillin-resistant Staphylococcus aureus), an infection-causing bacteria that is the bane of hospitals and nursing homes. And, unfortunately, resistance to antibiotics for many health concerns is on the rise, in part because we so quickly adapted an “all or nothing” approach when it comes to anything new. For years, conventional practitioners over-prescribed antibiotics — still relatively new in the entire history of medicine — for almost everything. The result hasn’t been what we would have imagined, (or at least what we would have liked to imagine at the time.)

So when you broaden this to the world of food, you’re looking at enormous risks. In one project, a gene from Brazil nuts was introduced to a strain of soybeans. As you can expect, people with nut allergies reacted to this strange ingredient, and happily, the project was abandoned. But you have to ask yourself why none of the project leaders even considered that possibility. After all, nut and other food allergies are not exactly uncommon!

But all of this leads to a much bigger question; do we really need GM food? Certainly, Monsanto and other companies will tell you that their new technology will be the answer to world hunger. (They don’t mention that it will also be extremely profitable – for them.)

A deeper look shows that all of this money being spent for potentially dangerous outcomes is really money wasted. The fact, 30% of the food produced around the world simply isn’t eaten.

There are a lot of reasons for this; crop failures, stockpiles of food ruined by pests, poor infrastructure and bad markets, along with simple waste — food being thrown away after it was purchased.

And guess who the biggest culprit is? We are. The United States. Each day, we throw out enough food to fill the Rose Bowl, wasting 25 – 50% of all food we produce.

Some experts — in many ways, more optimistic and less opportunistic than GM mega-corporations, believe that the issue of hunger in the world is not a failure to produce enough food, the problem is getting the food to the people who need it. It’s really a matter of distribution, not production, and certainly not a reason for introducing risky, potentially damaging genetically-modified organisms into our food supply.

The problem is, you have no idea whether or not most of the foods you’re eating contain GMO’s. In the United States, there’s no law that food companies must declare whether their products have these ingredients, unlike in Europe, where they must be labeled. And as it is, the only commercial GM crop grown in the European Union is a strain of insect-resistant corn. Even this was recently banned in France, Austria, Germany, and 3 other countries. People there just don’t want to experiment with their food like this. Most people in America — 91% – prefer to have GM foods labeled, so that we know what we’re getting, right at the point of purchase.

There has been legislation introduced in Congress to require the labeling of genetically engineered foods, and responsible companies will label their foods as “GMO Free”, because they know it resonates with their customers. Nonetheless, the current rule says that GM foods only need to be labeled if they are “significantly different” than the conventional food. For more good information about this, go the web site of Alliance for Natural Health at www. anh-usa.org. Or go to my “Quick Links” on my TerryTalksNutrition.com site.

Until there is a law labeling GM foods, what should I do?

One way to take charge is to eat organic foods. The marketplace can send a strong message. Some types of genetically-modified crops have already been pulled due to consumer rejection. For example, one engineered potato was withdrawn because the other big companies that produce French fries and chips knew it would be a public relations disaster.

Anything that is labeled organic, cannot, by definition, contain GM ingredients. Plus, organic food is so good for you for a variety of other reasons, too. It is grown or raised without any synthetic pesticides, insecticides, herbicides, fungicides, fertilizers or other toxic substances. Organic produce is naturally healthy – no artificial colors or flavors, and is not irradiated or genetically modified, either. Organically produced poultry, eggs, cheese, and meat is free of hormones and antibiotics. You know what you’re getting – just excellent, healthful food.

And remember, many of your local farmers may be following organic and sustainable practices, but might not have organic certification. I would suggest building a relationship with the people who provide food locally, and support their work. If you truly take an interest in your food — and I certainly encourage you to do that — consider the “farm to fork” approach: know where it’s coming from, and relish the fact that it is life-building in more ways than one!