

Do you ever think about the food you eat ... how it is produced, processed ... what ingredients are in it?

I love to entertain and ingredients are key to creating a delicious meal. Recently, I have had to deal with sugar issues, which has caused me to re-examine my selection process as it relates to food - to *question* ingredients, to carefully read *nutrition* labels, and to learn how to make healthier choices.

Today, I am going to discuss some ingredients in our food that you may or may not be aware of. They are called genetically modified organisms, the brainchild of the biotechnical food system we currently experience, otherwise known as the business of altering nature. I will define genetically modified organisms, cite the reasons why we use them, and take a look at two of the major cash crops.

I'd like to share a quote with you from Gregory E. Pence, UAB professor and author ...
"Choices about food come many times a day, every day ... [and] food is so necessary to life. How we make those choices says much about our values, our relationship to those who produced our food, and the kind of world we want"

We owe it to ourselves to know what we are eating.

In order to understand what's going on in the world of food technology, we must start at the beginning. Charles Darwin said, "One of the most remarkable features in our domesticated races is that we see in them adaptation, not indeed to the animal's or plant's own good, but to man's use or fancy."

Genetically modified crops and their by-products have successfully penetrated the American food chain for the past fifteen years.

So, what is genetic modification?

In simple terms, genetic modification means scientifically changed. An industry definition, courtesy of the U.S. Government's Genomics website, sounds like this: genetic modification is the process that "alters the genetic makeup of organisms" in order to control desirable and non-desirable effects.

To date, there are three purposes for genetic modification of plants. The first two are referred to as "in-plant tolerant" because the plants have been internally modified to resist weeds and insects – in essence, a genetically-modified theory of Darwin's survival of the fittest.

According to *The New York Times*, the newest purpose for genetically modified plants is nutrition. They say this is "... the first in a wave of bioengineered cash crops that are being altered for nutritional purposes ... soybeans which "contain healthier oils". I wonder what they will be reporting about the new genetically modified salmon called "Frankenfish".

A genetically modified product is manufactured in the science lab and is owned by the company that produces it. Monsanto is an example of a company that practices this type of patented engineering.

Monsanto is an agricultural company with roots in the pharmaceutical and biotechnical industries. In lay terms, it is a science-life company.

In 1982, they were the first to genetically modify a plant cell. Monsanto scientists injected soybeans with bacteria, viruses and petunia genes for the purpose of surviving their top-selling weed killer, Roundup® (Hart 5). These Roundup Ready soybeans were the result of Monsanto's first plant-biotechnology effort and the product was patented as a life commodity – literally a patent on life.

Knowing what we do about genetic modification, let's take a look at two of the main crops it affects.

Although there have been a variety of crops which have been scientifically tested for genetic modification, corn and soybeans have been the most commercially popular and profitable.

Corn is *the* major agricultural crop grown in America.

According to Kathleen Hart, author of *Eating in the Dark*, "Corn is America's largest and oldest food crop." Primarily used for feed, food, and ethanol, (and in that order) "corn is a mainstay of the food industry, with corn syrup, cornstarch, corn gluten, high-fructose corn syrup and cornmeal going into a significant proportion of processed foods."

The second major agricultural crop grown in America is a soybean.

GM.org states that "Genetically modified soybeans are one of the most widely planted crops in the world today" and that is because of its versatility of by-products: "food, flour, feed, oil, milk, and meal products" which includes food, animal feed and industrial applications, according to the Iowa State University Soybean Extension and Research Program website.

Food, Inc., the movie, says, "Soybeans and corn are used to produce virtually every product found on the grocery store shelves."

I got to thinking about that and decided to conduct an experiment with products on my shelves. I limited myself to my kitchen cabinets and refrigerator and these are my findings.

Show slide with soy and corn.

Show slide without soy and corn.

Show slide with Surprise product!

So you see, genetically modified food is very much a part of the fabric of American life.

Having touched on the subject of soybean and corn products, you should be *slightly* more aware of genetically modified organisms and the part they play in your daily food consumption.

In this genetically modified world of scientific advancement and technological innovation, it is important to know how these future-forward processes affect human food production and consumption.

We have taken a very brief look at the subject of genetically modified organisms: what they are, how and why they are formulated, and what food applications and products they end up in.

It is vital that we are aware of on-going research of genetic modification in food products so as to insure that biotech companies are working off of the principles of *sound* science with regard to future food safety.

I will leave you today with another quote from Kathleen Hart, author of *Eating in the Dark*:

“You can’t see them. You can’t taste them. And they’re not listed on food labels in America ... [yet] many of our most familiar foods are now made from strange new ingredients [called] genetically modified organisms”.