



THE AVERAGE PERSON MIGHT NOT KNOW WHAT THE TERM GMO MEANS, BUT THEY ARE MORE THAN LIKELY CONSUMING IT AT EVERY MEAL. HERE TO SHOCK YOU WITH THE FACTS ABOUT GENETIC ENGINEERING IS PERSONAL TRAINER AND ADIDAS AMBASSADOR, BERNADETTE ABRAHAM.

GMOs 101: WHAT YOU NEED TO KNOW!

HAVE YOU EVER SEEN THE INGREDIENTS MALTODEXTRIN, SOY LECITHIN, ASCORBIC ACID, XANTHAN GUM, OR TRIGLYCERIDES ON A FOOD LABEL BEFORE AND WONDERED WHAT THEY WERE?

These are just a few of the many ingredients that are derived from genetically modified organisms (GMOs) that make up 70 to 80 percent of the items found in our supermarkets today, and without proper labeling are unknowingly being consumed.

GMOs are the by-product of inserting genes from one species into the DNA of another in an attempt to obtain a desired trait or characteristic – a process called genetic engineering (GE) or genetic modification (GM).

With genetic engineering, scientists can combine species from different biological kingdoms. For example, plants can be combined with genes taken from bacteria, viruses, insects, animals and even humans, which is very different from natural crossbreeding across similar species.

Some of the scientific experiments included tomatoes and strawberries being given Arctic fish genes to resist cold weather, potatoes given a bacteria to create its own pesticide to kill off insects, pigs being spliced with a human gene to grow faster, and tomatoes designed to have a prolonged shelf life. Even today, engineered salmon, also known by non-GMO activists as “Frankenfish”, has been designed to reach market size in about half the time and is currently awaiting approval by the FDA.

Why do GMOs exist?

Biotechnology companies developed GM crops and introduced them to the market around 20 years ago with the promise to produce higher and faster yields to feed the world, to

ward off plant diseases, and ultimately lower costs and produce cheaper foods. As well intentioned as this technology may sound, the entire process is an unpredictable science experiment with unknown consequences on our health and the environment.

In fact, what has increased over the years is the use of toxic herbicides and pesticides, the number of resistant bugs and weeds, contaminated crops, and finally, an increase in their own bottom line.

Today at least 90 percent of corn, soybeans, cotton, canola, and sugar beets are grown from GMO seeds that are most likely produced by Monsanto – a powerful chemical and agricultural biotechnology corporation in the US.

Monsanto has designed these seeds to tolerate the use of the best-selling herbicide in the world known as Roundup, which also happens to be their own chemical invention!

These chemical-tolerant seeds allow farmers to spray weed-killer directly on the crop without killing it. Unfortunately,

nature found a way to resist the active chemical ingredient glyphosate, which has led to more and more chemicals being sprayed on crops over the years.

They also engineered plants to have the ability to produce their own internal pesticide to kill insects without having to spray pesticides, such as Bt cotton, Bt potato, and Bt corn. These crops have the Bt-toxin gene built-in to every cell, so the toxin cannot be washed off and as a result is entirely ingested by animals and humans alike.

Furthermore, many seeds have been genetically modified so that crops cannot produce re-usable seeds of their own, forcing farmers to purchase new seeds every planting season; a purely financial benefit.

Are GMOs safe?

According to the Institute for Responsible Technology, the only study done on humans showed that GMOs survived inside the stomach of the people eating GM food but no other long-term follow-up studies were done. On the other hand,

numerous animal studies resulted in potentially pre-cancerous cell growth, damaged immune systems, unexplained anomalies and other serious health problems, and higher death rates.

JEFFREY SMITH, THE AUTHOR OF SEEDS OF DECEPTION AND GENETIC ROULETTE DOCUMENTED AT LEAST 65 SERIOUS HEALTH RISKS AND CONSEQUENCES FROM GM PRODUCTS:

- Soy allergies skyrocketed after the introduction of GM soy.
- Food related illnesses doubled when GMOs flooded the market between 1994 and 2001.
- Buffaloes fed GM cottonseed products experienced fertility problems, premature births, and other serious health issues, including deaths.
- Offspring of rats fed GM soy show a five-fold increase in mortality, lower birth weights, and the inability to reproduce.

SOME USEFUL RESOURCES TO BECOME AN INFORMED CONSUMER:

- Non-GMO Project: nongmoproject.org/
- Organic Consumers: organicconsumers.org/
- Non-GMO Shopping Guide: nongmoshoppingguide.com/
- Center for Food Safety: centerforfoodsafety.org
- Institute for Responsible Technology: responsibletechnology.org/





The ongoing battle

Currently in the US, consumers are demanding a policy to label foods that contain GMOs and the food industry is fighting back hard, spending millions of dollars to keep consumers in the dark about what is really in their food.

Fortunately, over 60 countries around the world, including all of the countries of the European Union, Australia and Japan require GM foods to be labeled. Many countries have even taken the initiative to ban GMOs altogether, including our neighboring country Saudi Arabia. Russia has also just recently announced a ban on all GMOs, which will soon come into effect. For a full list of these countries and regions, visit: organicconsumers.org/gefood/countrieswithbans.cfm

What about the UAE?

According to a small study conducted by Greenpeace in 2007, 40 percent of food tested in the UAE was genetically modified, and without mandatory labeling laws, consumers are left to make their own assumptions about the foods they purchase.

In Europe, if an item contains more than 0.9 percent of GMOs, it is required to carry a label. Unfortunately, the UAE does not impose the same policy at the present time.

How to recognize and avoid GMO foods?

From a consumer's perspective, it is virtually impossible to visibly tell the difference between a GM food and a non-GM food without proper labeling. The following tips however can help you choose more wisely:

Choose organic as often as possible:

By definition, food that is certified organic must be free from all GMOs, pesticides, herbicides, sludge- or chemical-based fertilizers, antibiotics, and hormones.

Look for the "Non-GMO Project Verified" seal on products from North America:

The Non-GMO project is an independent, third party organization in North America that verifies products for GMO avoidance. Non-GMO however is not to be confused with organic as it may still contain pesticides, herbicides, and other chemicals not allowed in organic food.

Avoid the five high-risk crops:

Unless certified organic, approximately 90 percent of corn, canola, cotton, soybean, and sugar beets are genetically modified.

Check the PLU code on produce stickers:

Codes starting with a "9" are organic. Codes starting with a "3, 4 or 5" are conventionally grown and treated with chemicals. Codes starting with an "8" are genetically modified, however not many supermarkets have adopted that labeling practice.

Avoid these 5 invisible GM ingredients:

CROP	Its Derivative
CORN	Corn flour, corn gluten, corn starch, corn syrup, high-fructose corn syrup, fructose, dextrose, glucose, etc.
SOYBEAN	Soy flour, soy lecithin, soy protein, soy isoflavones, textured vegetable protein, tofu, tamari, etc.
CANOLA	Canola oil, rapeseed oil
COTTON	Cottonseed oil
SUGAR BEETS	Sugar unless specified as cane sugar

A full list of invisible GM ingredients can be found at nongmoshoppingguide.com/brands/invisible-gm-ingredients.html

The above five high-risk crops can be broken down into hundreds of other ingredients found in both food and non-food products. Always read the ingredients on the nutrition facts label.

Avoid Other Sources of GM Foods:

Not only should you be concerned about what you eat, but also what your food eats. Unless certified organic, meat, poultry, seafood, and eggs may come from animals given GMO feed. Non-organic dairy products may also come from cows injected with the genetically modified growth hormone called recombinant bovine growth hormone (rBGH).

Food additives, enzymes, and flavorings including the popular sweetener aspartame, better known as NutraSweet, Equal Spoonful, Canderel, are also common GMO products.

Download the Non-GMO shopping Guide:

The Non-GMO Shopping Guide (.nongmoshoppingguide.com) is a great tool to help customers determine which brands and products contain genetically modified ingredients. Print the guide or download it on your iPhone to help keep your shopping basket GMO-free.

For more information or consultation, email Bernadette@BernaciseMe.com.