



# What is a GMO?

By: Gary E. Foresman, MD

October 2012

The GMO controversy can only be understood from a “systems” approach, and a few definitions are needed so we can all understand what we are talking about.

Genomics is simply the study of all chromosomal contents of an organism. The Human Genome Project (HGP) found that humans “only” have approximately 23,000 genes (at one point nearly 2 million were predicted), similar to that of a roundworm. Merely 7% of protein families coded by all DNA in all organisms appear specific to vertebrates.

This takes us to the real key which is Proteomics: the study of all the structure and function of an organism’s proteins, and Metabolomics: the study of the collection of all metabolic processes in the organism, which gets us much closer to understanding our “biochemical individuality”. Now everyone can breathe for a second, I promise to stop defining things, but please understand these terms are not going away any more than the term “computer”. Why these terms are so important is because the HGP documented so vividly that the understanding of all organisms is vastly more complicated than the understanding merely of that organism’s genes!

This really is one of the most important subjects of our time, mainly for reasons people don’t understand. I’m hoping to cultivate understanding, thereby fostering compassion for those who hope to understand your personal role in food, economics, and health, both individually and globally. Every day, what you think, believe, eat, and do changes your genetic expression and can be accurately studied by the much more extensive and complicated fields of proteomics and metabolomics. Truly, our food supply can be understood as “biological response modifiers”, which simply means that you eat “information” that sends signals to your DNA about the health of your environment “telling” your DNA how to best respond for the health of your organism. This means every bite of your food alters your genetic expression, as does every thought, but that is another discussion!

What I am trying to lead you to is much larger and dramatically more important subject than just GMO foods, organisms such as corn and soybeans that have been genetically altered to resist herbicides. When you drink a diet soft drink, you alter the way your genes respond to sweetness! When you eat vegetable oils at levels impossible to obtain throughout the entire history of your species, you alter your genetic expression leading to hunger. Every time you eat anything but an organic, natural organism, you are “playing” with your genes. When you feed a cow corn instead of grass, the metabolomics effect is to create a “new” cow who has become a “metabolomically modified organism” (MMO, my term). The fat found in that cow has an omega6 : omega3 ratio not of 3:1 (grass fed), but 20:1 (corn fed). What was a healthy food

becomes a pro-inflammatory signal to your genes that something very, very wrong is going on in the world.

Every food that has an ingredient list, which is not organic and unprocessed, is an MMO which has a more profound effect on your metabolism than any one genetic alteration could ever hope to obtain. That is truly my concern, while people war over the discussion of whether GMOs are safe (and we don't know), we have the most "unsafe" food supply in human history, and it is only getting worse. The GMO controversy is an enormous distraction from the real issue of our day, a food supply so tainted by artificial everything, the non-organic practices in the raising of both agriculture and meat supply, that today's human being has become a metabolically adulterated fraction of human potential. Eating Real Food is the only sensible option.

Do we have the right to know whether a food is a GMO food? How truly sad that I even have to ask that question. The only people who don't want you to know what's in your food have a very legitimate complaint that Americans, like Europeans, will be intelligent enough to insist on a non-GMO alternative. Financially, the Agribusiness Conglomerates worry that knowledge of a GMO food present will alter what you buy, costing them billions of dollars. I don't believe for a second that it will make much of a difference in America, as we are the only culture that fights the facts of evolution and climate change, why would we care if our food is GMO? Facts and science don't change public perception.

You can only hope that if you truly understand the importance of the information you put in your body, you will chose Real Food! The questions is now do you actually want to understand what food really is? Do you want to make the decisions necessary to ensure your health and the health of future generations? The GMO controversy represents a very small symptom in a much larger MMO controversy of a tainted food supply based on the creation of quick money for the financially elite and chronic degenerative illnesses for the misinformed masses.

Your Journey to Health and Healing,  
Gary E. Foresman MD

References:  
Upon Request

Website: [www.middlepathmedicine.com](http://www.middlepathmedicine.com)  
E-mail: [info@middlepathmedicine.com](mailto:info@middlepathmedicine.com)