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## Investigating Genetically Modified Foods

Posted by Thomas Eckert January 28, 2016

There is much confusion and mystery surrounding food. Despite its necessity, the modern consumer can be easily befuddled by contradictory statements about what foods are “healthy.” Is organic a marketing ploy or a genuinely better way to eat? What does “organic” actually mean? How can you have yogurt that is “chemical free”? Buzzing in this cloud of needlessly innovative lingo is “Non-GMO”. I wanted to figure out what that meant, so I did some research.

Almost all crops since the advent of agriculture have been genetically modified in some way. Our ancestors developed better yields and more resilient plants through the aid of anthropogenic evolution. We selected plants with the traits that benefitted us and helped them to produce more offspring. Many organisms today are considered in codependence with humans because if we did not deliberately seed them, they would die off.



One crop whose continued existence depends on farmers is maize. We commonly call maize “corn” because of a British tradition wherein “corn” was used as a general term for any grain-like crop. The closest biological relative to corn is a Mexican grass called Teosinte. The seeds of this grass are not ones humans would readily eat. Nevertheless, Native Americans cultivated the grass, selecting from the crop, the best specimens in each generation for planting. This grass turned to the Taino mahiz, to the Spanish maize, to the modern american corn. Now, 90 million acres of corn is planted each year in the United States. The fact that this even happens, is owed to the ancient farmers of the same lands.

While the genetic manipulation of agricultural products once took generations to reach fruition, the same effects may now be achieved in a laboratory and in a much shorter time span. This technology, which produces what we consider to be “Genetically Modified Organisms”, is neutral in its moral implications-as all technology must be. However, there is some question as to whether the manipulations performed are detrimental or beneficial on the whole.

Genetic modifications are performed by injecting modified DNA on microscopic gold particles into plants or by infusing bacteria with an ability to alter the genetic code of the crop into the soil. The intent is most often to produce immunities in the crop to herbicide and insecticide. This allows for a more liberal application of chemicals which, while protecting the crop, can harm the environment. However, this does lead to a greater yield of food, upon which a growing population is dependent. Even today, genetic modification serves to provide answers to world hunger. In addition, the loftier goals of many in the biotech industry include drought resistant and healthier food for a future in which water and food may become scarcer resources due to climate change.

Genetically modified food is not considered dangerous within the scientific community. There have been no studies to demonstrate ill effects of the food itself to human beings. Nor have there been any incidences of health concerns to the general public for the past twenty years GMOs have been on the market. Today, nearly 80% of the processed food we eat contains ingredients that are genetically modified through artificial processes. So far, everyone is fine.

Regardless, the secrecy with which agricultural corporations create the Frankenfood is alienating and

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disconcerting to consumers. I believe this is a true fault in the companies by not being straightforward with the public, especially the scientifically literate among them. Nothing about bioengineering is worth hiding aside from fuel for semantic arguments of what is and is not "natural". There are incredible benefits that can be achieved through bioengineering, on par with the development of maize, but within our lifetime. Such technology could one day become necessary for our survival. It is important that we, as consumers, educate ourselves with a great degree of skepticism. Most often, the information available to us is biased.

An excellent mode of research is to read articles from a variety of sources and to investigate peer-reviewed scientific journals, many of which are available to students for free through the Houghton Library. It is perfectly fine if you want to avoid GMOs when you grocery shop, but if you do, be sure that your reasons for doing so are based on sound evidence, not sensationalism.

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