

DR. CHRISTOPHER'S *Herbal Legacy Newsletter*

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What are GMO's and Are They Healthy and Natural? -by Angela Sannapu M.H. Dip.H.Ir., Phoenix, AZ

The School of Natural Healing's motto is "Cleanse and Nourish". Many questions arise as to finding the best ways to nourish. A common question today is "Are GMOs a concern in healthy eating?" Genetically Modified Organism, or GMO for short, is an organism in which the genetic material (the DNA) has been altered in a way that does not occur naturally. [1] There are no rules and no regulations (in the US) as to what parts of DNA can be used or even as to what species may be crossed with others. The majority of GMOs are food crops. Pesticides and herbicides developed from bacteria are inserted into the DNA of the food supply to make them pest resistant or immune to the herbicide sprays.

For the US, the percentages of GMO crops include:

- Soy (94%)
- Cotton (90%)
- Canola (90%)
- Sugar beets (95%)
- Corn (88%)
- Hawaiian papaya (more than 50%)
- Zucchini and yellow squash (over 24,000 acres are GMO). [2]

The food crops listed above produce a known toxin within every cell of the plant. As a result, the original DNA of the plant has been permanently altered or mutated forever. Research finds many of these mutations are not known before entering the market. Molecular biologist and protein chemist David Schubert states, "Introduction of one gene usually alters the gene expression pattern of the whole cell, and typically each cell type of the organism will respond differently." [3] Therefore, a GMO is a new kind of plant or organism altogether and we do not know how it will react in our bodies or the environment.

Cotton and corn crops are most commonly altered with *Bacillus thuringiensis* (Bt). This bacterium is known to rapidly paralyze the invading insect's digestive system thereby destroying it. Bt has also been linked to allergies and illnesses in humans and other mammals. [3] The Bt found in genetically engineered crops is "1,500-3,000 times the level found in sprayed plants. Since the Bt-toxin is exempted from the requirement of a tolerance, there are no legal limits as to how much can be expressed in food." [3] If the spray is known to affect humans, how much more can we expect from the DNA inserted food?

There is also the question of “Anti-nutrients” which “are compounds that decrease the nutritional value of food, usually by making a nutrient unavailable or indigestible.” [3] These are commonly discovered in GMO crops. It is also found that one GMO crop can differ in nutritional value considerably compared to the next. Therefore, this would seriously question the school’s motto of “nourish” since the exact nourishment is unknown. No long term safety studies have ever been conducted on the effects of exposure to, or the consumption of GMOs, let alone the effects on the environment.



We do know these facts:

- GMO foods came into the market in late 1990’s and early 2000’s.
- Soy allergies skyrocketed by 50% in the UK, soon after GE soy was introduced. [3]
- Bee Colony Collapse Disorder has threatened our pollinated plants since at least 2005.
- There is an alarming rise of food allergies and their severity over the past 10 years.
- Increase of digestive disturbances in humans over the past 10 years.
- Appearance of “superbugs” and “superweeds” that are

becoming less and less responsive to pesticides and herbicides.

There is no nutritional or environmental benefit from either growing or consuming GMO food. In fact, the exact opposite may be true. To avoid becoming an experiment in this “Genetic Roulette” become aware of what you eat! Look for organic. The “USDA Organic” label prohibits GE in their products. Also look for the “Non-GMO Project Verified Seal”. READ ALL food labels. If there is corn or soy listed in any form, it is most likely GE. Sugar is almost certainly a combination of sugar cane and GMO sugar beets. Dairy must be labeled no rBGH, no rBST, or no artificial hormones in order to be free of the GMO bovine growth hormone.

If the safety of GMO’s matters to you then let your voice be heard. Be alert to government regulations and bills in office. Call up companies and restaurants to inquire if they have GMO ingredients they may be using. Let them know you will not patronize a GMO friendly business. Encourage them to “go organic”.

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[1] World Health Organization (WHO) definition of GMO

[2] <http://www.responsibletechnology.org/faqs> Date Aug 2013

[3] Smith, Jeffrey M. Genetic Roulette Yes! Books 2007. Pages 5, 14, 68, 94, 95, 97