

Removing Junk Foods (and GMOs) Improved Children's Behavior

By Jeffrey M. Smith.

Before the Appleton Wisconsin high school replaced their cafeteria's processed foods with wholesome, nutritious food, the school was described as out-of-control. There were weapons violations, student disruptions, and a cop on duty full-time. After the change in school meals, the students were calm, focused, and orderly. There were no more weapons violations, and no suicides, expulsions, dropouts, or drug violations. The new diet and improved behavior has lasted for years, and now other schools are changing their meal programs with similar results.

Mice react to junk food and genetically modified foods

Years ago, a science class at Appleton found support for their new diet by conducting a cruel and unusual experiment with three mice. They fed them the junk food that kids in other high schools eat everyday. The mice freaked out. Their behavior was totally different than the three mice in the neighboring cage. The neighboring mice had good karma; they were fed nutritious whole foods and behaved like mice. They slept during the day inside their cardboard tube, played with each other, and acted very mouse-like. The junk food mice, on the other hand, destroyed their cardboard tube, were no longer nocturnal, stopped playing with each other, fought often, and two mice eventually killed the third and ate it. After the three month experiment, the students rehabilitated the two surviving junk food mice with a diet of whole foods. After about three weeks, the mice came around.

Sister Luigi Frigo repeats this experiment every year in her second grade class in Cudahy, Wisconsin, but mercifully, for only four days. Even on the first day of junk food, the mice's behavior "changes drastically." They become lazy, antisocial, and nervous. And it still takes the mice about two to three weeks on unprocessed foods to return to normal. One year, the second graders tried to do the experiment again a few months later with the same mice, but this time the animals refused to eat the junk food.

Across the ocean in Holland, a student fed one group of mice genetically modified (GM) corn and soy, and another group the non-GM variety. The GM mice stopped playing with each other and withdrew into their own parts of the cage. When the student tried to pick them up, unlike their well-behaved neighbors, the GM mice scampered around in apparent fear and tried to climb the walls. One mouse in the GM group was found dead at the end of the experiment.

And a senior scientist at the Russian National Academy of Sciences presented evidence at the 14th European Congress of Psychiatry that genetically modified soybeans fed to rats caused an increase in "Anxiety and Aggression."

It's interesting to note that the junk food fed to the mice in the Wisconsin experiments also contained genetically modified ingredients. And although the Appleton school lunch program did not specifically attempt to remove GM foods, it happened anyway. That's because GM foods such as soy and corn and their derivatives are largely found in processed foods. So when the school switched to unprocessed alternatives, almost all ingredients derived from GM crops were taken out automatically.

Does this mean that GM foods negatively affect the behavior of humans or animals?

It would certainly be irresponsible to say so on the basis of a single student mice experiment and the results at Appleton. On the other hand, it is equally irresponsible to say that it doesn't.

We are just beginning to understand the influence of food on behavior. A study in *Science* in December 2002 concluded that "food molecules act like hormones, regulating body functioning and triggering cell division. The molecules can cause mental imbalances ranging from attention-deficit and hyperactivity disorder to serious mental illness." The problem is we do not know which food molecules have what effect. The bigger problem is that the composition of GM foods can change radically without our knowledge.

GM foods can have massive compositional changes

Genetically modified foods have genes inserted into their DNA. But genes are not Legos; they don't just snap into place. Gene insertion creates unpredicted, irreversible changes. In one study, for example, a single inserted gene changed the behavior (protein expression) of as much as 5 percent of the cell's natural genes. Not only is that huge in itself, but these changes multiply through complex interactions down the line. Hundreds of other compounds can increase, decrease, or appear for the first time.

In spite of the potential for dramatic changes in the composition of GM foods, only a small number of known nutrient levels are evaluated. But even if we *could* identify all the changed compounds, at this point we wouldn't know which might be responsible for the antisocial nature of mice or humans. Likewise, we are only beginning to identify the medicinal compounds in food. We now know, for example, that the pigment in blueberries may revive the brain's neural communication system, and the antioxidant found in grape skins may fight cancer and reduce heart disease. But what about other valuable compounds we don't know about that might change or disappear in GM varieties?

With the epidemic of obesity and diabetes and with the results in Appleton, parents and schools in the United States are waking up to the critical role that diet plays and making changes in school meals. But most don't yet consider the risks from GM foods. Thousands of foreign schools, however, particularly in Europe, have explicitly banned GM foods. They've decided not to let their kids be used as guinea pigs. It's time we in the US protect our children from GMOs as well.

To learn more about the health dangers of GMOs, and what you can do to help end the genetic engineering of our food supply, visit www.ResponsibleTechnology.org.

To learn how to choose healthier non-GMO brands, visit www.NonGMOShoppingGuide.com.

International bestselling author and filmmaker Jeffrey Smith is the leading spokesperson on the health dangers of genetically modified (GM) foods. His first book, [*Seeds of Deception*](#), is the world's bestselling and #1 rated book on the topic. His second, [*Genetic Roulette: The Documented Health Risks of Genetically Engineered Foods*](#), provides overwhelming evidence that GMOs are unsafe and should never have been introduced. Mr. Smith is the executive director of the [Institute for Responsible Technology](#), whose

[Campaign for Healthier Eating in America](#) is designed to create the tipping point of consumer rejection of GMOs, forcing them out of our food supply.