

## **Health Bits and Pieces (HFN 29:2)**

Written by Dan Kenner, Ph.D., L.Ac.

### **And on the 7th day they rested**

In recent years researchers in biotechnology have advanced genetic science to where it is possible to manipulate the DNA codes of all plants or animals. Monsanto has become the leader in this field and has re-coded the DNA of wheat, rice, soybeans, corn, and cotton. The DNA codes cause the plant to end the reproductive cycle so that there is no subsequent generation of seeds. This makes seeds for each year's crop a new market cycle. The technology patent system turns the seeds into a patentable product that has to be re-purchased every year, making naturally-produced seeds obsolete.

### **But it has great potential as a pesticide**

A member of the European Union Commission for Biotechnology Reevaluation reported that three genetically modified varieties of GMO corn from Monsanto are toxic to rats in animal studies. Gilles-Eric Séralini, co-author of a paper published in *The International Journal of Biological Sciences*, stated that "for the first time in the World, we've proven that GMOs are neither sufficiently healthy nor proper to be commercialized. Each time, for all three GMOs, the kidneys and liver, which are the main organs that react to a chemical food poisoning, had problems." They drew their conclusion based on data supplied by Monsanto to try to obtain permission for commercialization.

Spiroux de Vendômois J., "Roullier F, Cellier D, Séralini G-E, A Comparison of the Effects of Three GM Corn Varieties on Mammalian Health," *International Journal of Biological Sciences* 5:706-726, 2009.

### **And they sent back the bottle of wine**

Jeffrey Smith, author of *Seeds of Deception: Exposing Industry and Government Lies about the Safety of the Genetically Engineered Foods You're Eating*, reported that even FDA scientists have speculated that GMO foods could be the cause of allergies and nutritional problems. A former Monsanto scientist reportedly told Smith that some of his colleagues who researched recombinant bovine growth hormone (rBGH) switched to drinking organic milk and that they routinely rigged research. He said that Monsanto has "got bad science down to a science." Over one-third of test rats force-fed GMO tomatoes developed stomach lesions and several died. They were force-fed because they did not voluntarily eat the tomatoes. Other reports describe how cows, pigs, deer, elk, raccoons, geese, as well as mice and rats avoid GM food if given a choice.

## **Dud spud or a greatah potatah?**

Animal feeding studies on GM potatoes were launched in the UK to prove their safety. One of the top scientists in this field, Dr. Arpad Pusztai, working at the leading UK research institute in nutrition, developed a research model to evaluate the effects of feeding GE potatoes to rats. They fed one group a complete and balanced diet, with a GM potato crossed with a species that produces an insecticide; another group got natural potatoes; a third got natural potatoes spiked with the insecticide that the GE potato was engineered to produce. The GE potato alone harmed the rats, which developed potentially premalignant cell growth in the digestive tract. The rats also showed smaller brains, livers and testicles, liver atrophy and damaged immune systems – in 10 days! Rats eating the potato spiked with the same pesticide had no problem, so the process of genetic engineering apparently caused the problem.

Ewen S. Pusztai A, “Effect of diets containing genetically modified potatoes expressing *Galanthus nivalis* lectin on rat small intestine,” *Lancet*, 354(9187): 1353-1354, 1999.

## **Another load of manure.**

It may be that GMO foods are not only a possible source of toxic microbes, but that genetic material from other species can escape the gut and infiltrate our body cells. The previous assumption was that DNA would be rapidly broken down by digestive enzymes. A research model using calves recently demonstrated that a certain amount of DNA survives in the intestines. It also showed that the DNA was absorbed into the general circulation through the intestinal wall. Bacteria carrying trans-species DNA can potentially be carried by bacteria into the body's cells.

Schubbert, R., Lettmann, C. and Doerfler, W., “Ingested foreign (phage M13) DNA survives transiently in the gastrointestinal tract and enters the bloodstream of mice,” *Molecular and General Genetics* 242, 495-504 (1994).

## **Frankenfish**

Scientists from the Royal Society of Canada have stated that “deleterious consequences to fish morphology, respiratory capacity, and locomotion associated with the introduction of growth hormone (GH) ... in notably Pacific and Atlantic salmon.” Franken-salmon raised in containment pools will also have an increased level of Omega-6 (same as factory farmed livestock). It's the high levels of omega-3 fatty acids that balance high omega-6 levels in our diets that make fish a desirable food. The transgenic DNA of Franken-salmon will be incorporated into the genomes of the bacteria in the human digestive tract and also inevitably into the ocean environment affecting the wild population as well.

Under current law, Frankenfish are not required to be labeled as GE or GMO thereby depriving consumers of their right to choose. This is reprehensible because public opinion surveys show that Americans are even more wary about GE animals than about the GE or GMO crops now used in a huge number of foods. Surveys show that more than 98% of Americans would reject GMO foods if labeled.

Muir W, Howard R, "Possible Ecological Risks of Transgenic Organism Release when Transgenes Affect Mating Success: Sexual Selection and the Trojan Gene Hypothesis, 96 Proceedings of the National Academy of Sciences," 13853-56 (1999).