

Genetically Engineered Foods

by Raymond Francis

Before talking about genetically engineered foods, we first need to know a little about DNA. DNA is nature's way of creating the individuality of a living organism; it is a complex molecular structure that acts as a code to tell our cells and bodies what to do. DNA molecules make up genes and genes are the blueprints of life, life as lived and life as passed on to future generations. Genes make an astounding variety of proteins, proteins that are central to the body's operating systems like neurotransmitters, enzymes, antibodies, and hormones.

As part of normal living, genes mutate. A mutation is any change in the coding of the gene. These occur naturally, often as a result of accidental omission or reversal of any of the thousands of molecules that make up the complex string of molecules that we call a gene. One species evolves from another as a result of mutations, which increase adaptability to the local environment. However, through the introduction of man-made chemicals, radiation, prescription drugs, alcohol, tobacco, and cooked foods, man has doubled the natural mutation rate with unknown consequences for the future of the human race. These changes are thought to be playing a major role in our epidemic of cancer and other chronic diseases.

Because DNA is so important to life itself, playing deliberate games with DNA requires extra careful scrutiny and caution. This is why all of us should be alarmed at what is happening in our food industry with genetically engineered foods. These foods are already on the market! They include corn, tomatoes, squash, potatoes, soybeans, and cotton. In addition, other foods like apples, rice, wheat, broccoli, cucumbers, carrots, melons, and grapes are in the process of being engineered. Because the FDA does not require these foods to be marked, consumers are unaware of what they are buying. Right now, the only way to be sure you are buying natural foods is to buy organic foods.

The reason we must be concerned about these developments is because genetically engineered foods have the potential for seriously damaging us as individuals as well as the entire ecosystem of the planet. With a potential like that, we need to be careful! We are introducing changes with unknown consequences, and unlike chemical contaminations, gene contaminations cannot be contained or cleaned up. Once they have been released into the environment, if they prove to be dangerous, we can't simply recall them. Meanwhile, they could be setting off a chain reaction throughout our entire ecosystem. Every living thing could be exposed to completely unanticipated and uncontrollable side effects.

Here are some examples of what I'm talking about. Fields of genetically engineered crops are capable of cross pollinating neighboring fields and thereby creating new and potentially harmful species. Right now, the safest thing to do is eat organically grown foods, but if insects, birds, and wind carry seeds and pollen to the organic fields and cross pollinate them, we lose even that haven of safety. A genetically engineered bacterium produced toxic metabolites that rendered soil infertile. Corn crops that were planted in this soil grew only a few inches tall and fell over dead. What would happen if this bacterium got out of the lab? In 1989, 37 people died, 1500 were permanently disabled, and 5000 became extremely ill by taking a genetically engineered version of the amino acid tryptophan. The tryptophan was contaminated by a "novel amino acid" that was toxic. The problem is there was no way to test for this. Existing safety tests only test for known contaminants, not for new and "novel" ones.

Genetic engineering is no minor development. This is not crossbreeding potatoes with potatoes or corn with corn. This is inserting insect genes into potatoes, human genes into pigs, and fish genes into tomatoes. This has never been done before! This is creating species that have never existed with potential for lots of unanticipated side effects and unknown long-term consequences. Genetically engineered foods could contain allergens, toxins, and be of reduced nutritional value, and the unexpected results might not show up until years after the food is introduced, but then it's too late. The fact is that putting those genes into a living organism is an extremely imprecise process, so you are never sure of what you are doing. All kinds of unintended things can happen.

What to do? For now, the best thing to do is eat a diet of organically grown foods. Insist on laws to label genetically engineered foods. The public has a right to know what they are eating. Safety tests should be at least as rigorous as those for new food additives. Right now we are on an honor system. The biotech companies do their own testing and are not required to inform the FDA if they suspect a problem. An organization called The American Campaign to Ban Genetically Engineered Foods has begun a nationwide campaign to collect one million signatures from people opposed to biotech foods.

If you want to get involved, their phone number is (515) 472-2809 and e-mail is: mothers@fairfield.com.

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