

WTO AND GENETICALLY MODIFIED FOODS: U.S. CHALLENGES EUROPEAN UNION'S MORATORIUM ON GENETICALLY MODIFIED FOODS

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This technology is being promoted, in the face of concerns by respectable scientists and in the face of data to the contrary, by the very agencies which are supposed to be protecting human health and the environment. The bottom line in my view is that we are confronted with the most powerful technology the world has ever known, and it is being rapidly deployed with almost no thought whatsoever to its consequences.

—Dr. Suzanne Wuerthele, U.S. Environmental Protection Agency (EPA) toxicologist

IN MAY 2002, the Bush Administration initiated action at the World Trade Organization (WTO) against the European Union's (EU) moratorium, or freeze, on genetically modified organisms (GMOs). The EU moratorium was invoked five years ago under intense public concern about the health and environmental risks of genetically modified (GM) crops and foods. Since the moratorium, the EU Commission has been developing regulations for GM products in preparing to end the moratorium. The EU regulatory system poised to go into effect primarily centers on rules and regulations to trace GM crops back to their origin, and requires labeling of GM products.

The Bush Administration, spurred on by the biotech and agribusiness industries, views the moratorium, as well as any regulations on tracking the origin of GM products or labeling, as "barriers to trade." A closed-door WTO panel of trade lawyers and bureaucrats will decide in the next 18 months whether the EU has a right to enact guidelines that respond to its citizens' demands and that protect public health and the environment. Previous WTO rulings affecting public health and food safety have favored corporations "right" to allow products to enter foreign markets even if national governments and citizens do not want such products. The WTO ruling against the EU's consumer protection ban on beef containing residues of artificial growth hormones is one such example.

Industry claims that biotechnology will feed the hungry and protect the natural world by reducing chemical usage. U.S. Trade Representative Robert Zoellick has accused Europe of being "immoral" for not allowing GM products into its market. Zoellick argues that the EU moratorium has discouraged developing nations from converting to GM crops because they would not be able to export these crops to Europe, thereby effectively denying food to the hungry in developing nations.

But thousands of farmers, consumers, scientists, health professionals, and policymakers around the globe say that GM foods and seeds have little to do with feeding the hungry, and in fact may lead to serious, irreparable damage to the health of people and of nature. They argue that because so little is known about this novel technology, it would be prudent to follow the Precautionary Principle—which is a long standing scientific principle requiring a manufacturer to show a product is safe over the long-term before it enters the market.

Many citizens in the U.S. are particularly concerned about the lack of testing and regulation by U.S. agencies which have allowed GM products on the market. The Food and Drug Administration (FDA), responsible for approving GM food, does not require any pre-market testing of GM foods. The United States Department of Agriculture (USDA), charged with approving and regulating GM crops, has never completed a full envi-

ronmental impact statement for any GM crop. A recent health scare in the U.S. occurred when a GM corn that had been approved for animal feed only was found in a variety of corn-based foods in U.S. supermarkets. This caused concern that there is no reliable process for segregating GM and non-GM foods and crops.

Industry spokespeople often say that this technology is similar to hybrid seed and plant development that has occurred for many years; however, the technology used in GMOs is fundamentally novel and different. Hybrids are created by splicing genes belonging to the same species; GMOs allow foreign species, foreign genes, bacterial and viral vectors, viral promoters, and antibiotic marker systems to be engineered into food and pharmaceuticals. An FDA compliance officer wrote in 1992 that "...the processes of genetic engineering are different and according to the technical experts in the agency, they lead to different risks."

HEALTH AND ENVIRONMENTAL CONCERNS ABOUT GMOs

Already, there are reasons to be concerned about how GMOs react once released in nature and consumed by the public. The concerns are the following:

Increased Dependency on Chemicals—GM plants are engineered to resist pesticides and herbicides (or to express herbicides), and in fact will not grow unless the accompanying herbicide is applied to the GM plant. Such perpetual reliance on these chemicals greatly threatens the environment. Contrary to what industry officials would like citizens to believe, herbicides are chemicals that are toxic to humans and the environment. Dr. Charles Benbrook, formerly with the agricultural division of the National Academy of Sciences, found that farmers who plant Monsanto's GM soybean use 3 to 5 times more pesticides than their conventional counterparts. A study in 2000 by the USDA found that there is no overall reduction in pesticide use with GM crops.

GMOs Do Not Solve Hunger or Cure Nutritional Deficiencies—These are two great fallacies perpetuated by GMO advocates. They point to "Golden Rice," a GM rice that is golden in color due to the insertion of a daffodil gene that produces beta-carotene, as an example of a GM product that will cure a vitamin A deficiency that causes blindness and infectious diseases among the poor in developing countries. However, an adult male would have to eat 18 pounds of cooked golden rice per day to meet his daily vitamin A requirements. Infants and children would have to eat similarly high amounts of rice. In addition, adequate amounts of fat and protein are needed for a body to convert beta-carotene into vitamin A. Malnourished people typically lack fat and protein in their diets.

Hunger is not a problem of a lack of food being produced, rather it is a problem of distribution and inequity. Patents on GM seeds are made to produce a sterile seed after a single growing season. More than half the world's farmers rely on saved seeds that have adapted over centuries to specific bio-regions. Making farmers dependent on expensive seeds and the chemicals they must use for the seed to produce any food is a sure way to provoke massive food scarcities and food insecurity.

"Superweeds" Evolve—New "superweeds" may evolve which will be difficult or even impossible to eradicate. Scientists believe that GM crops engineered to resist pesticides and herbicides could pass on those traits to weeds, resulting in herbicide- and pesticide-tolerant superweeds. Studies in the U.S. and Denmark have shown that the herbicide-tolerant gene can be readily passed from cultivated canola plants to closely related wild plants, like wild mustard, in nearby fields.

"Superpests" Evolve—Scientists and farmers have found that major plant pest insects have developed a tolerance to the bacillus thuringiensis (Bt) expressed by the GM cotton plant. The resistance happens in an alarmingly short period of time—from two to ten years—resulting in superpests. This means that farmers have had to increase the dose of chemicals they use to rid their fields of these superpests (mainly the Bollworm, a pest that the Bt cotton plant was intended to eradicate).

Contamination of Non-GM Crops—GM crops are living organisms and, once released, can spread in the environment via insect- and air-borne pollen and seeds, contaminating other crops and wild plants. Genetic

pollution cannot be recalled or controlled. There have already been several instances of GM crops contaminating non-GM crops, even though a minority of farmers in the world grow GM crops. The practical evidence of this contamination casts doubt on the claim by some that GM plants and crops can be contained.

Threatens Organic Farming—Organic farmers are extremely concerned that GM crops threaten the future of their industry. One of the safest, most effective biological pesticides in nature is Bt and has been used as a spray by organic farmers since the 1960s. Because the GM cotton plant expresses Bt in high amounts, this renders one of organic farmers' best pest management tools ineffective.

Loss of Biodiversity: Harm to Animals and Insects—Wildlife and insects (including beneficial insects) may be harmed by toxins in the environment or changes in agricultural practices. A study by Cornell University revealed that pollen from GM corn was deadly to Monarch butterflies when it was spread onto milkweed plants which butterflies eat (milkweed often grows near corn plants). A report for the British government cites concerns that birds and other wildlife could be threatened as insects and weeds are eradicated by herbicides.

Allergic and Toxic Reactions/Resistance to Antibiotics—GMOs can transfer allergens from foods to which people know they are allergic, to foods that they think are safe. For example, many people are allergic to Brazil nuts—these were inserted into an experimental GM soy bean. Without labeling, people with known food allergies have no way of avoiding serious health consequences. GM foods could also create new allergic responses. Many scientists are concerned about the use of antibiotic resistant "marker" genes used in GMOs as they may be passed from food to bacteria in people's intestines, thus reducing the effectiveness of antibiotics in protecting human health.

Overall Human Health—A study on the effects of consumption of GM potatoes on rats, conducted by Dr. Arpad Pusztai, found that subjects fed GM potatoes suffered stunted internal organ growth and weakened immune systems.

Scientists and citizen groups have other concerns about GMOs. Too little is known about the long-term health and environmental risks of GMOs. We simply do not know what the long-term, unintended effects will be on plants, soil, animals, and humans.

ALTERNATIVES

For nearly 10 years, civil society groups have called on the WTO to limit itself to trade functions of setting tariffs and quotas and to stay out of imposing its trade- and market-biased food, environmental, and health standards on countries. At the very least, the WTO rules and policies should be changed to clearly state that:

1. Labeling GM products must be allowed under WTO rules.

Nations have the right to protect public health and natural resources and allow nations to require pre-market safety testing, segregation of GMOs from non-GMOs, traceability of GM products, and labeling of GM products so that consumers can choose whether they will eat GMOs. The biotech industry opposes any regulations on or labeling of GMOs claiming that this will restrict consumer choice, but in fact, citizens have no choice when they do not even know what is in their food or other products.

2. Rules governing GMOs in treaties such as the United Nation's Biosafety Protocol and the Convention on Biological Diversity should not be challenged or compromised by WTO rules and policies. ▲