

Imagine a World Without Brown Rice

By Alex Jack

Rice, wheat, and other grains are a spiritual manifestation. They have nurtured and sustained humanity for countless generations. The Upanishads, Bible, Greek mythology, I Ching, Koran, Shinto scriptures, and writings of Confucius, Lao Tzu, Jefferson, Thoreau, Gandhi, Mary Shelley (author of *Frankenstein*), and other sages and prophets extol the benefits of a diet centered on whole grains and other predominantly vegetable-quality foods.

Soon, genetically engineered (GE) rice and wheat will move invisibly into the marketplace. Nearly six billion people, virtually the entire planet, eat one or more of these grains every day, and the biotech industry is determined to replace natural and organic varieties with new "improved" GE strains. As 2001 began, the race to release GE grains intensified:

- The USDA approved commercial production of the first two varieties of rice developed from a "fast-paced biotechnological selection process" called marker-assisted selection. Cadet and Jacinto, designed to improve the texture of cooked rice, are being developed at the Agricultural Research Service in Beaumont, Texas. Biotech methods are used to identify genes that are then enhanced through conventional breeding.
- In Switzerland, Syngenta, the world's largest biotech company, announced that it has completed mapping of the rice genome, the first food crop to be decoded. The information will allow patenting of individual genes and the creation of many new artificial varieties.
- In the Philippines, "Golden Rice," a GE rice designed to boost vitamin A and "feed the hungry," began the first Asian field trials.
- Monsanto began the first field trials of GE wheat in North Dakota, South Dakota, Montana, and Minnesota. The nation's largest biotech company announced that commercial production of GE Roundup Ready Rice and Roundup Ready Wheat would begin in 2003.

Altogether several dozen varieties of artificial rice, wheat, and barley are in development in the U.S., Japan, China, Italy, and France. Until now, the biotech industry has focused on designing GE crops that are used primarily to feed livestock. About 50% of America's soybeans, 35% of its corn, and 40% of its cotton are GE.

The Risks of GE Rice

Like other GE foods, the long-term effects of altered grains on human health and the environment have not been tested. Since no labeling is required, consumers in the United States have no way of knowing what they are buying and eating or the potential hazards to their families. Already there is a growing body of scientific and medical evidence on the dangers and hazards of GE foods, including rice. Documented in *Imagine a World Without Monarch Butterflies* and *Saving Organic Rice*, these include:

- Reduced nutrition
- Increased vitamin A toxicity
- Increased toxins, allergens, and disease
- Increased dependence on white rice
- Increased water pollution
- Threat to Monarch butterflies and other wildlife
- Use of increased pesticides and chemicals
- Emergence of new disease-resistant pests
- Emergence of new disease-resistant weeds
- Emergence of new viral diseases
- Loss of biodiversity
- Threat to sustainable agriculture
- Unforeseen health and environmental effects in the future

Genetic Contamination

Like other altered crops, GE rice may release engineered pollen, seed, pesticides, toxins, bacteria, viruses, or other GE organisms (GEOs) into the environment that can crossbreed with or contaminate ordinary crops. To date, thousands of acres of organic crops have been contaminated by GE corn, rapeseed, and other crops.

Following the StarLink corn disaster last year, Aventis has recalled 430 million bushels of contaminated corn that entered the human food system. More than 28,000 truckloads,

15,000 rail cars, and 285 barges of corn tested positive for the potentially allergenic GE variety.

Early this year 10% to 50% of the corn in Iowa and some areas tested positive for GEOs, though less than 1% had been planted. "Our investigations thus far from the 2000 harvest lead us to believe that virtually all of the seed corn in the U.S. is contaminated with at least a trace of GE material," warns David Gould, a member of the certification committee of the California Certified Organic Farmers. "Even the organic lots are showing traces of biotech varieties."

This spring, the Wall Street Journal tested 20 natural foods labeled "non-GE" or "GE-free" and reported that 16, or 80%, contained gene-altered material. In almost all cases, the manufacturers regularly tested their products for GEOs and the positive results were attributed to cross-pollination or contamination during storage, handling, or shipping.

As a result of genetic contamination, organic corn in the United States is now in jeopardy. Organic corn oil has disappeared from natural foods shelves entirely over the last couple of years. Gerber, the large baby food company, pledged to use only GE-free ingredients in its products and in December was forced to switch to rice in its dry mixed baby cereal because they could not longer guarantee the purity of corn.

North of the border, meanwhile, a Canadian judge dealt a severe blow to the organic movement this spring when it ruled that a Saskatchewan farmer must pay Monsanto thousands of dollars for violating the company's patent on GE rapeseed that blew onto his land from neighboring farms. Monsanto's "gene patrol" took seed samples from third generation farmer Percy Schmeiser without his permission and sued him for violating their patent rights.

Beyond the Alice-in-Wonderland legal decision—the 70-year-old Schmeiser faces \$85,000 in fines—organic canola farming is rapidly declining. Contamination is so widespread in Canada that organic farmers reportedly can no longer afford to grow the crop.

The same scenario will undoubtedly play out with GE rice and wheat when they are released. In California, Greenpeace issued an environmental report, California at the Crossroads, last summer that warned: "If current trends in the genetic engineering of California's major export crops continue, the state's producers could be facing gathering storm clouds in their export markets and the potential collapse of its organic food industry."

In addition to rice, the report warned that all organic fruits and vegetables in California's Central Valley would be at risk. In stark terms, the report concluded, "California is at a crossroads. It can choose genetic engineering or it can choose organic agriculture. Both cannot coexist in the state."

In the face of such threats, farmers across North America have rallied to oppose GE crops. In North Dakota, the State House of Representatives passed a bill imposing a moratorium on GE wheat. However, after Monsanto lobbied intensively against it and threatened to withdraw all financial support for agricultural research in the state, the Senate killed the bill. Similar legislation has been introduced in 18 states, including Indiana where the House passed a bill defending the farmers' right to save seed. In Canada, the National Farmers Union has called for a national moratorium on producing, importing, and distributing GE food.

Awakening to the Threat

As these initiatives show, across the continent, an enlightened citizenry is awakening to the GE threat and taking steps to preserve natural seeds and crops. Along with the spread of mad cow disease, foot and mouth disease, and the continuing flood of pesticides and chemicals (as documented by Bill Moyers' investigative report), food quality has emerged as the central issue of the new century.

The time has come to unite and preserve brown rice, whole wheat, and other essential foods—the foundation of human culture and civilization—before it is too late.

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