



The Death of Frankenfoods

-Nailing the Coffin Shut

Quotes of the Month:

“Beggars can’t be choosers.” -An unnamed State Department official, commenting on Zimbabwe and other nations’ resistance to accepting shipments of US food aid containing genetically engineered ingredients. -*Washington Post* 8/2/02

“Mandatory labeling will only frighten consumers. Labeling implies that biotechnology products are unsafe.” -Tommy Thompson, US Secretary of Health and Human Services. -*Associated Press* 6/10/02

Frankenstein is Dead

Contrary to the claims of a literal army of public relations flacks, indentured politicians, and scientists, the first wave of genetically engineered (GE) foods and crops have apparently suffered a fatal hemorrhage. Future historians will likely record Tuesday, July 30, 2002 as the beginning of the end, the day of irreversible decline for Monsanto and the Gene Giants. On that day, facing mounting global opposition from farmers, consumers, and even major US food transnationals such as General Mills, Monsanto was forced to announce that they were backing off “indefinitely” from plans to commercialize herbicide-resistant Roundup Ready wheat, the most important new billion-dollar crop in the biotech pipeline. Previously, Monsanto had promised Wall Street that the first GE wheat would hit the market in 2003. Earlier this year, facing heavy opposition, they pushed the date back to 2005.

Now Monsanto’s highly-touted GE wheat joins the growing list of obituaries of Frankenfoods and crops: the Flavr Savr tomato (RIP 1996); the Endless Summer tomato (RIP 1996); Bt potatoes (RIP 2001); GE flax (RIP 2001); herbicide-resistant sugar beets (RIP 2000); and StarLink corn (RIP 2000). Other controversial crops such as GE rice have been put on indefinite hold. Monsanto’s controversial recombinant Bovine Growth Hormone (rBGH) has been banned in every major industrialized nation except for the US, Mexico, and Brazil. Recombinant pig growth hormone (rPGH) has been approved in only one industrialized nation, Australia. Other biotech crops, including squash and zucchini, are grown by so few farmers that it’s difficult to determine if they are even commercially available.

For the first time, major US food corporations, like their EU and Asian counterparts, are telling the biotech industry to back off. As Austin Sullivan, senior vice-president of General Mills told the *Chicago Tribune* June 28, “Candidly we have told the biotech industry that we are in a perilous situation...” When asked why General Mills and other large food makers don’t just stop using genetically engineered ingredients altogether, since consumers don’t want them, Sullivan admitted, “That’s a question we ask ourselves from time to time.” Shortly before

Monsanto’s latest capitulation, a large EU grain miller bluntly told wheat industry leaders that his company would “stop buying US or Canadian wheat at once” if GE wheat was allowed on the market. Other leading EU, Japanese, and US buyers have echoed the same sentiment. Farmers in the US and Canada have also made it clear that bringing GE wheat to market would lead to a billion dollar meltdown in North American wheat exports. Desperately trying to downplay its defeat and prevent its stock from falling even further, Monsanto characterized their surrender on wheat as a “delay” until sometime beyond 2005, when consumers and industry are ready to accept gene-altered wheat, and strict grain industry segregation procedures are in place. But as Monsanto, and even Wall Street, now recognize, consumers are never going to accept GE wheat. Frankenwheat, for all practical purposes is dead. RIP. The Bush administration, for PR reasons, may still try to approve it for commercialization, but it will never be sold on the market. www.OrganicConsumers.org/gefood/gewheat0802.cfm

Compounding this crushing blow to Monsanto and the biotech industry, whose earnings and stock value since the first of the year have plummeted, a US Federal District court in Maine approved a settlement July 29 that prohibits a major factory fish farm, Heritage Salmon, from bringing its GE salmon onto the market. The Maine ruling, resulting from a lawsuit filed by the US Public Interest Research Group (USPIRG) and the National Environmental Law Center, sets an important legal precedent that threatens to block any future commercialization of GE fish—until now the second most important biotech blockbuster being readied for market. The Maine court settlement will likely impact future legislative deliberations as well, such as the recent debate in the California legislature on a moratorium for GE fish. www.OrganicConsumers.org/gefood/FrankenFishBan.cfm

Cutting off Frankenstein’s Life Support

Of course BioDemocracy News and groups like Greenpeace have been charting Frankenfood’s slow but steady global decline for several years. Leading up to agbiotech’s late-July disasters were a series of other significant blows:

On July 3, the European Parliament moved to tighten labeling requirements for genetically engineered foods, lowering the threshold triggering mandatory labeling from one percent to one-half of one percent and declaring zero tolerance for shipments of conventional food containing GE ingredients not approved for sale in Europe. US bureaucrats in Brussels complained that the labeling requirements “will seriously impair trade in agricultural biotech products,” while the pro-biotech US Farm Bureau characterized the move as “a slap in the face.” Few analysts believe that the US will actually follow through on its often-repeated threat to use the World Trade Organization (WTO) to challenge the EU’s labeling laws, since this move would set off a trade war that could destroy the WTO. www.OrganicConsumers.org/gefood/euvote070502.cfm

According to the recent Greenpeace report “Risky Prospects,” more than 35 countries have laws in place or planned which require the mandatory labeling of food containing GE ingredients, or else laws, which restrict the import of some gene-foods. These countries comprise more than half the world’s population. Although the Bush administration adamantly opposes labeling, recognizing that this will be the death of agbiotech, major polls conducted last year by Rutgers University and ABC News both found that 90% of American consumers support GE labels. Even in Texas, Bush’s home turf, a 2001 poll carried out by Texas A&M University found that 90% of Texans want mandatory labeling, and that 60% “strongly supported” labels. www.organicconsumers.org/gefood/GreenPeace032802.cfm

On June 12, Monsanto announced that its second largest customer for GE soybean seeds, Argentina, was bankrupt, and that its soybean farmers would no longer be able to receive seeds on credit. With this announcement, Monsanto was also forced to admit to investors that its global profits would decline by as much as 20% this year. Over the past three years, Argentina has become the world’s second largest producer of GE crops (their only crop being Roundup Ready soybeans), accounting for more than 16% of all global GE acreage—largely due to Monsanto selling GE soybeans on credit, as well as offering the beans at bargain basement prices. Argentina’s economic meltdown means that global acreage of GE crops will level off and start to decrease this year, contrary to claims made earlier by Monsanto and the USDA.

For the first time in US history, voters at the state level will get a chance to vote on mandatory labeling for GE foods. On July 23, Oregon’s Secretary of State announced that a ballot initiative organized by anti-biotech activists, Oregon Concerned Citizens for Safe Foods, www.labelgefoods.org has successfully gathered almost 100,000 signatures from the state’s 3.3 million residents—more than enough to place it on the ballot November 5. Although powerful biotech and agribusiness lobbies such as the Farm Bureau, the Grocery Manufacturers of America, and the Biotechnology Industry Organization have vowed to defeat the initiative, the basic fact is that 90% or more of US consumers have consistently supported mandatory labeling of GE foods. According to Jean Wilkenson of the Oregon Farm Bureau, an agribusiness front group, industry views the measure as “an attempt to stop all biotechnology by running up costs.” If Oregon voters pass the initiative, anti-GE campaigners have vowed to place similar measures on the ballot in a dozen states, including Colorado, Washington, and California. www.organicconsumers.org/gefood/ORLabeling072502.cfm

On June 8, the Organic Consumers Association, Greenpeace, and the Genetic Engineering Action Network carried out coordinated protests in over 100 cities against US supermarkets, pressuring major grocery chains such as Shaw’s, Safeway, Food Emporium, Food Lion, Publix, and Albertson’s to remove all GE ingredients from their brand name products. Coalition spokespeople pointed out that three major natural food supermarkets, Whole Foods, Wild Oats, and Trader Joe’s, with combined sales of over five billion dollars, have already responded to consumer pressure and gone GE-free for their house brands, while even larger chains such as Shaw’s and Safeway are coming under grassroots pressure to do the same.

An even larger GE-Free Markets national mobilization is planned for several hundred US cities the week of October 30. www.OrganicConsumers.org/supermarket/protests0608.cfm

Last spring activists from the OCA and the Genetically Engineered Food Alert leafleted and protested outside supermarkets in 200 US cities, part of a national campaign against Kraft and other food giants. On Earth Day, GEFA activists staged a protest outside Kraft’s annual shareholders meeting in East Hanover, NJ. Similar protests in 200 cities are planned for Oct. 5-12. www.gefoodalert.org

Good Science Displacing Mad Science

For the past decade, biotech’s mad scientists have been telling consumers not to worry about Frankenstein foods. They tell us GE crops such as Bt corn are non-allergenic and safe for human health and the environment. They say bovine growth hormone (rBGH) injected into dairy cows doesn’t increase your risk of getting cancer. Gene-altered mutants are the same (“substantially equivalent”), they say, as traditional foods. Gene-splicing is an exact procedure, sort of like laser surgery. Gene transfer or genetic pollution is nothing to worry about. Antibiotic resistant marker genes, embedded in nearly all Frankenfoods, pose no health risks. They say GE companies like Monsanto, Syngenta, Dow, Dupont, Bayer, and BASF are not just bottom line companies, obsessed by quarterly profit reports, stock options, and stock prices. The real bottom line of the Gene Giants is to help feed the world, eliminate the use of toxic chemicals in agriculture, and make us all healthier and happier.

For five years *BioDemocracy News* and the website of the Organic Consumers Association www.organicconsumers.org have had another story to tell. The biotech industry and governments have done almost no safety testing of GE foods. No serious animal feeding studies (with the exception of Dr. Arpad Pusztai’s experiments in Scotland in 1996-98, which found that GE potatoes devastated lab rats) have been carried out. No volunteer human feeding studies have been conducted (except for the rather alarming British study described below). Obvious risks like human allergenicity to foreign proteins spliced into GE foods, and transfer of antibiotic resistant genes into the human gut have been, for the most part, ignored. Millions of acres of GE crops are spreading genetic pollution, creating superweeds and pests, disrupting the balance between pests and natural predators, and killing butterflies and beneficial soil microorganisms. The more we learn about Frankenfoods and crops, the scarier they appear.

As recent developments show, good science is starting to undermine the credibility of mad science. Even mainstream, pro-biotech institutions like the National Academy of Sciences in the US, or publications such as *New Scientist* and *Nature Biotechnology*, are starting to speak out against the dangers of rushing headlong into risky territory like biopharming—gene-splicing drugs, vaccines, and industrial chemicals into common food plants such as corn, which in turn spread pollen throughout the environment. In an unprecedented move, even the Bush Administration’s own Food and Drug administration is finding the need to tone down its rhetoric—no doubt preparing to insulate itself from the massive liability lawsuits which loom

on the horizon after biopharms pollute the human food chain or after every variety of Bt corn turns out to be allergenic, not just the StarLink variety. Among the most significant scientific revelations over the past three months are the following:

Frankengenes are getting into the human gut. On July 17, the British Food Safety Standards Agency released a scientific study indicating that herbicide resistance genes from Roundup Ready soybeans have been found in the bacteria of the small intestines of three out of seven people in an experimental feeding test who consumed a soy burger and a soy milkshake containing Monsanto's GE soybeans, the most commonly used GE food ingredient in the world. The biotech industry has long maintained that gene-altered material is destroyed during digestion and that engineered DNA will not combine with bacteria found in the human gut. The British study, conducted by researchers at Newcastle University, has set off alarm bells throughout the medical establishment. If the antibiotic resistant marker (ARM) genes found in most gene-foods (such as kanamycin in herbicide resistant soybeans and ampicillin in Bt corn) are getting into the human gut and combining with preexisting bacteria, which this study suggests, then doctors and their patients may find that serious infections no longer respond to antibiotics. The findings are especially worrisome for infants and children, as well as those with compromised immune systems, whose digestive systems are weaker and more permeable than mature, healthy adults. In 1999, the prestigious British Medical Association called for a global moratorium on GE foods and crops, citing, among other risks, the threat of antibiotic resistance marker genes combining with bacteria in the human gut. Even the World Health Organization and the rabidly pro-biotech American Medical Association have called for a phase-out of ARMs in GE foods. www.OrganicConsumers.org/gefood/gegut071802.cfm
www.OrganicConsumers.org/gefood/GMDNAinHumans.cfm

Biopharming is out of control. Friends of the Earth and the Genetically Engineered Food Alert (GEFA) coalition released an explosive report on July 16, which revealed that secret biopharm crop experiments are being carried out at over 300 undisclosed locations across the US. On these farms, powerful pharmaceutical drugs, vaccines, viruses (some related to the AIDS virus), and industrial chemicals, gene-spliced into common food plants, are being grown in the open environment. In at least 200 test plots, powerful drugs and chemicals have been genetically engineered into corn, a plant notorious for spreading its pollen (and its altered genes) far and wide. As Larry Bohlen of Friends of the Earth warned: "Just one mistake by a biotech company and we'll be eating other people's prescription drugs in our corn flakes. The USDA must prohibit the planting of food crops engineered with drugs and chemicals." Even pro-biotech scientists in the journal *Nature Biotechnology* recently warned that "current gene containment strategies cannot work in the field," and that potent biopharm chemicals could end up in the food supply. ProdiGene, the industry leader in biopharming, has predicted that millions of acres of US corn will be laced with drugs and industrial chemical by the year 2010. But of course one incident like the StarLink corn contamination crisis will likely spell the end of biopharming. www.OrganicConsumers.org/patent/biopharm071802.cfm

All varieties of Bt corn are likely allergenic, not just the StarLink corn variety. As Friends of the Earth and the other members of the Organic Consumers Association's GEFA coalition have pointed out, StarLink is similar in composition and characteristics to other Bt varieties grown on millions of acres in the US. As indicated in recent issues of *BioDemocracy News*, there is mounting evidence that Bt corn may be harming the immune and digestive systems of animals and humans. www.OrganicConsumers.org/newsletter/BiodNews37.cfm

As Dr. Michael Hansen of the Consumers Union told a gathering of farmers and academics in Mexico August 2, "There is increasing evidence—from both epidemiological studies and lab studies—that the various Bt endotoxins—including those from maize, cotton, and potatoes—may have adverse effects on the immune system and/or may be human allergens." -Michael Hansen, "Bt Crops: Inadequate Testing," Lecture delivered at Universidad Autonoma, Chapingo, Mexico 8/2/02.

Pesticide residues on GE corn and soybeans may be carcinogenic. A chemical component of Monsanto's Roundup Ready herbicide, sprayed on millions of acres of herbicide resistant soybeans and corn, has been linked to increased risks for cancer. Recently the World Health Organization issued a warning that a potent nerve toxin and carcinogen, also linked to birth defects in animals and humans, was turning up in a variety of vegetables. At first the WHO suggested that the presence of the chemical, acrylamide, probably arose from cooking the vegetables at high heat. Now according to a Canadian scientific expert, Dr. Joe Cummins, another, perhaps even more basic explanation is that the acrylamide in foods is actually a residue of a surfactant, or chemical additive, routinely used to enhance the effectiveness and reduce spray drift of a number of herbicides including Monsanto's Roundup herbicide, the most widely-used pesticide in the world. According to Cummins, frying foods containing acrylamide residues would then likely increase their concentration even more. This is yet more bad news for Monsanto, who derived 70% of their profits last year from sales of Roundup herbicide. It's also bad news for the animal feed and meat industry, since non-organically raised animals are now ingesting record amounts of Roundup (and acrylamide) residues in the soybean hulls and other soy and corn-based feeds they are consuming. www.OrganicConsumers.org/monsanto/Acrylamide.cfm

Gene-splicing foods is imprecise and unpredictable. In a recent paper circulating on the internet, Professor David Schubert of the Salk Institute in San Diego, California, points out that the current crude and imprecise nature of gene-splicing foreign DNA into common foods is inherently troubling and potentially dangerous because (1) introducing the same gene into two different cell types or body parts in an organism can cause very different proteins to be produced, with radically different activity; (2) introducing new genes into cells significantly disrupts inter-cellular activity and processes; and (3) introduction of foreign genes can produce new biomolecules which can be toxic or carcinogenic. Recent advances in gene chip technology are enabling scientists such as Schubert to quantitatively measure cellular disruption caused by gene-splicing. In one experiment, the introduction of a foreign gene caused a disruption of a full 5% of all genes

in single-cell bacteria. In layperson's terms this means that 15,000 of the 300,000 genes in a plant could be disrupted by a single routine act of gene-splicing. This means that plant genes could be turned off, amplified, or turned up more, either producing more or fewer proteins (some of which are beneficial to humans, some of which are toxic) and chemical activity. www.OrganicConsumers.org/gefood/GMFoodRisks0702.cfm

Frankenstein Rising: Nailing the Coffin Shut

Frankenstein appears to be mortally wounded, but of course this beast has the ability to rise from his coffin unless we nail the lid shut. Farmers and consumers, joined by a number of brave scientists, have now, for the first time in modern history, stopped a new and dangerous technology dead in its tracks. Public acceptance and farmer use of agricultural biotechnology has peaked and is now moving down in a slow but inevitable decline. No new blockbuster Frankenfoods or crops are likely to gain approval for commercialization on the global market. Those already approved (such as Bt corn) will come under increasing pressure as scientific evidence mounts that they are dangerous for human health and the environment, and as labeling becomes mandatory in most nations. This is ground for celebration and reason for hope. The battle against genetically engineered foods and crops over the past decade has shown that the global Civil Society can stand up to transnational corporations and indentured science and government and literally change the dynamics of the marketplace, alter public perceptions, and eventually transform public policies. Congratulations to all of you. This is our common victory.

We've turned the tide of the battle, but there are still major tasks that lie ahead. Specifically we need (1) mandatory safety testing and labeling of all GE foods and crops in all nations, especially the United States, Canada, and Argentina, where 96% of all GE crops are produced; (2) marketplace pressure campaigns for removal of all GE soy, corn, canola, and cottonseed from animal feeds; (3) pressure on major clothing companies to stop using gene-altered cotton in their garments; (4) pressure on major supermarket chains and food makers, especially in North America, to remove all GE ingredients from their brand name products; and finally (5) continuing public education and pressure to prevent new Frankenfoods and crops (animals, fish, pharm drugs, lawn grass, trees) and human genetic engineering from being commercialized.

In North America we have a special obligation, and now an opportunity, to do what our counterparts in Europe, Japan, and other nations have already done: to put so much pressure on major supermarket chains like Shaw's, Safeway, and Loblaw's (Canada), and food and beverage giants like Starbucks and Kraft, that they voluntarily ban the use of GE ingredients in their products.

Although it has taken Greenpeace, the Organic Consumers Association, and allied US activists several years to gather the resources and volunteers to take on the major supermarket chains and put the heat on food giants such as Kraft/Philip Morris in

hundreds of cities at the same time, activists are confident that marketplace pressure from this point on will snowball until a critical mass is achieved. As Simon Harris of the OCA put it at a recent activist gathering in Minnesota, "The dominos are starting to fall. First, Trader Joe's supermarkets, a major regional chain removed GE ingredients from their store line brands. Now we see even a much larger company, General Mills, telling the Gene Giants they don't want GMOs (genetically modified organisms) in their products. Over the fall we will be gathering momentum in hundreds of cities. Shaw's supermarkets in New England will be the next to fall, but gradually even the largest companies like Safeway and Kraft, are going to face the kind of pressure that has broken their support for GMOs in Europe." Meanwhile activists in Europe and the rest of the world have begun positioning themselves to go after the jugular vein of Frankencrops—corn, soy, canola, and cottonseeds in animal feed—which is where 80% or more of the world's GE crops are now funneled. Analysts estimate that 30% of all animal feed in the EU, the world's largest agricultural market, is already GE-free.

Join the OCA for Nationwide Protests and Leafleting Events this Fall

The Organic Consumers Association needs the help of volunteers in the US, Canada, and Mexico to drive Frankenfoods off the market. If you are willing to help us leaflet a Starbucks café in your community (Starbucks Global Week of Action September 21-28, 2002); pressure Kraft outside supermarkets (Oct. 5-12); or leaflet and protest outside Shaw's, Safeway, and other major supermarket chains (October 26–November 2) please send an email to campaign@organicconsumers.org

Organic Communities Exchange: Join an OCA Eco-Tour to Chiapas

In addition the OCA is sponsoring a second delegation or eco-tour to Chiapas, Mexico October 29–November 5, entitled Organic Communities Exchange. The delegation, limited to 15 people, will meet with organic farmers, women's organic garden projects, Fair Trade coffee coops, biodiversity activists, and autonomous indigenous communities. Besides getting a close look at the politics of food and biodiversity in the highlands of Mexico, tour group members will have the unique opportunity to learn about and celebrate one of the most important cultural events in Mexico: The Day of the Dead (Nov. 1). The OCA guarantees this will be an enjoyable, inspirational, and unforgettable travel experience. Costs for the seven-day trip will be \$800 (airfare not included). To reserve your spot, since space is limited, send a \$400 deposit check to the Organic Consumers Association, 6101 Cliff Estate Road, Little Marais, MN 55614. Or else call 218-226-4164 or email mexicotrip@organicconsumers.org

Frankenstein is dead. But the coffin lid still rattles. Stay tuned to *BioDemocracy News* and www.organicconsumers.org for the latest news and developments.