The Kansas City Food Circle

UPDATE

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New, from Lemming Technologies

by Craig Volland

lemmings.n., small rodents who undertake mass migrations and drown in the sea.

This is a cautionary tale of the type environmentalists love to tell. Being a technical person, though, I've always had considerable respect for scientists and the scientific method as a way of searching for the truth. Of course I'm innately suspicious of what big corporations do with, or rather to, science. Experience has taught me to lag behind the typical activist bandwagon until I have time to look at the scientific literature. At least I can get my facts straight before lecturing about it.

Such has been my approach to the genetic engineering controversy. Initially I was very intrigued by the concept of genetic engineering (GE). I even subscribed to Biotechnology Magazine in the 1980s and wrote about its promise to reduce the pressure on the environment from extractive industries. A couple years ago I grew convinced that they should keep this stuff out of agriculture because of unforeseeable ecological consequences, but I have withheld judgment about medical uses.

A few months ago I read a piece on GE foods and crops by Ronnie Cummins, an organizer for the Campaign for Food Safety. He defined GE as the "practice of altering or disrupting the genetic blueprints of living organisms-plants, animals, humans, microorganisms-patenting them, and then selling the resulting gene foods, seeds, or other products for profit." He then listed the risks of this technology such as toxins and allergens in food, damage to food quality & nutrition, increased pesticide use, superweeds and superpests and the creation of new viruses and bacteria. Hmmm. He went on to say that Michigan State University researchers found that genetically altering plants to resist viruses can cause viruses to mutate into new, more virulent forms, and scientists in Oregon found that a GE soil microorganism degraded the soil ecology so much that plants wouldn't grow.

I've always had a morbid fascination with the emergence of new pathogens such as HIV, Ebola virus and mad cow disease. These horrible little beasts challenge the hubris of humanity. Apparently I'm not alone because such sensational stories are widely trumpeted on TV news to help advertisers sell a lot of fried chicken and cars. Cummins' reference to new viruses and bacteria, though. really made me think. Would gene engineers be dumb enough or careless enough to create a new monster pathogen? Naaah. I filed the article for possible use in a future Food Circle Update.

Well guess what, folks. Scientists proved it can happen!

On January 11, the Agence France-Presse ran a story in Europe entitled, "Aussie Scientists Stumble across the Doomsday Bug." Australian scientists accidentally created a mouse virus that destroyed their test animals by whacking their immune systems. They had been trying to create a contraceptive vaccine for mice as a pest control. The researchers were using mousepox, a close relation to smallpox, to deliver the desired gene. Mousepox normally causes mild symptoms in these mice, but with this new gene, it killed them all. Researchers admitted that the same thing could happen if the human smallpox virus was similarly modified.

Twelve days later the story was picked up by the New York Times. One immunologist stated that this event is unusual in that the modified organism became more virulent, not less. "It just shows these things can be done." (note: conventional wisdom.) But the article also quoted a Defense Department biologist: "It demonstrates a frightening message. Maybe it's easier to do these things than we think."

This is scary. Humankind has already tempted fate by splitting the atom and creating nuclear weaponry. Apparently it's still tough for a couple of nuts to make a nuclear bomb in their basement. However, I have no doubt that a modern day Dr. Frankenstein could make a doomsday bug in his kitchen and carry it around in his pocket.

Only a few days after this revelation I was reading an extensive article in the New York Times about how GE food went from the laboratory to a public relations debacle, featuring Monsanto, the corporation we love to hate. I knew that story, but what caught my eye was an incident in the early history of this technology. In 1970 a summer intern studying animal viruses in New York was telling her professor-mentor about an experiment she planned to do in the fall with a leading scientist at Stanford. They were going to take genes from a monkey virus and put them

In Memorium

Harriett Hanson died Jan. 5, at age 56 of pancreatic cancer. Many of the old timers in the Food Circle knew Harriet. She operated Phenix Farm and Garden Supply in the Waldo area of KC in the late 1980's. Food Circle farmer John Kaiahua had this to say about Harriett: "Harriet Hanson was organic before organic as the thing to do. Her Phenix Farm Supply was a place where us few organic growers met and shared ideas. She initiated the first organic farmers' market at the Alexander Major's House. It was held in the fall and there were about 7 growers there. We greatly missed Harriett when she moved to California." Harriett, we remember.

into a commonly used strain of the bacteria, *E. coli,* to study the purposes of different parts of a gene. Horrified, the professor strongly advised against it.

There ensued a lengthy scientific debate and a series of experiments that supposedly proved adding "almost any gene to bacteria cells only weakened them," especially E coli. (This is how conventional wisdom is made). The government lifted restrictions on experiments, and the genetic gold rush was on.

Turning the page of that same issue of the Times I found a seemingly unrelated article .. "Decoding of E.coli Genome Could Help Fight Infections." Scientists were proudly announcing the decoding of the deadly E coli 0157:H7 bacterium. (Remember the Jack in the Box hamburgers?). They found it to be much more complex than its benign relatives (plain old E coli that live in our intestines.) Apparently E. coli bacteria swap DNA much more readily than other bacteria and "some of the DNA, including the genes that produce the toxins, appears to have been *implanted by viruses"* Hmmm. E.coli 0157:H7 was first identified in 1982. You don't suppose .... Naaah.

It doesn't matter whether E.coli 0157:H7 was created naturally by a virus or by accident in some GE experiment. Clearly, accidental creation of deadly new human pathogens is not only possible but probable. The scent of evil pervades this whole enterprise. Ronnie Cummins is right. We need to leash all the Dr. Frankensteins out there before they kill us all.

Yum ... sterile feces

Marian Burros, a columnist for the New York Times Food Section (Feb 26 '01) conducted an informal taste test on ground beef. She grilled hamburgers made from fresh ground beef and from irradiated ground beef being promoted by the meat industry and the FDA. Here's her conclusion:

"The irradiated Omaha Steaks patties, what the company calls its gourmet burgers, with 13% fat, were rubbery; some tasted steamed; others had an acceptable though not especially beefy taste. Coleman's (natural) hamburgers, made from frozen ground beef with 15% fat, were tender and the flavor was good. Coleman's fresh sirloin patties with only 10% fat were even tastier. The standout, though, was Sunnyside organic, with 15% fat and full beefy flavor."

Ms. Burros noted that most animals are now raised and slaughtered under conditions that encourage bacterial contamination and the industry was looking at irradiation to solve the sanitation problem. She quoted Caroline Smith DeWaal, Director of Food Safety for the Center for Science in the Public Interest. "We'd like to see filth taken out of the food supply rather than just treated to make it safe to eat."

Last year, when celebrating FDA's decision to push irradiation, the industry claimed in their own taste test that there was no difference between irradiated and fresh hamburger. The most likely reason for the discrepancy between these two tests is that industry people were comparing irradiated burger to regular burger out of one of their high speed slaughterhouses. Another possibility is these people have been working in chemical labs for so long their taste buds are dead.

Drug makers challenge poultry drug ban

Bayer Corp is challenging the federal government's attempt to ban the use of fluoroquinolones in poultry operations. Humans have used fluoroquinolones since the 1980s, but resistance didn't begin significantly increasing until veterinarians began using the drugs in the mid-1990s, according to the Centers for Disease Control. The FDA proposed the ban. The industry says the drug is an important treatment for sick chickens used only when necessary. (A lot of chickens get sick in total confinement, though.) Source: AP

A new report by the Union of Concerned Scientists shows that 70% of antibiotic production goes to animal uses. Total use of antibiotics in healthy livestock (as a growth-promoter) has climbed from 16 million pounds in the mid-1980s to 25 million pounds today. Source: Rural Papers, Jan. 2001.

The Power of Big Ag

A tax on every hog produced in the US (the check off) has been used by National Pork Producers Council since the 1980s to finance promotion of pork consumption, like the "Other White Meat" advertising campaign. Independent farmers, angry that the money was used to promote the interests of the corporate hog producers, and even to spy on dissidents, voted out the program last year by a margin of 15,951 to 14,396. USDA Secretary Dan Glickman announced the end of the program just before he left office, but the Bush Administration has reversed the decision. Many pork producers are outraged, including the Missouri Rural Crisis Center, which helped lead the campaign and plans to file suit to confirm the results of the vote. Source AP.

Genetically unmodified Ag Scientists

Two genetics professors from Purdue University are working on genetically engineering hogs and chickens to better tolerate total confinement in factory farms. It seems the hog industry is upset because the animals they cram into small pens are too aggressive and this slows production. These brilliant people have discovered that crowded pigs will fight over food and bite each other. Hogs kept in pens of eight or more grow at an average rate of 1.6 pounds per day while uncrowded pigs grow at a rate of 2.3 pounds per day. This is costing the industry $5.6 billion per year.

Likewise vicious fights and even cannibalism are common among confined chickens. Facility operators trim the animals' beaks to reduce the damage they cause to each other. Confined chickens suffer from extreme stress which weakens their resistance to disease. The Purdue Scientists are now looking for a "docility" gene in chickens. If they find one, they'll look for the same thing in hogs. Source. AP Feb 3, 2001.

Farmer friends of the Food Circle told us that the hog industry has been trying for decades to naturally breed docile hogs. Apparently it's taking too long. The Food Circle recently conducted a study demonstrating that when two or more ag scientists are crowded into a room they start fighting over research grants. Just kidding, of course.