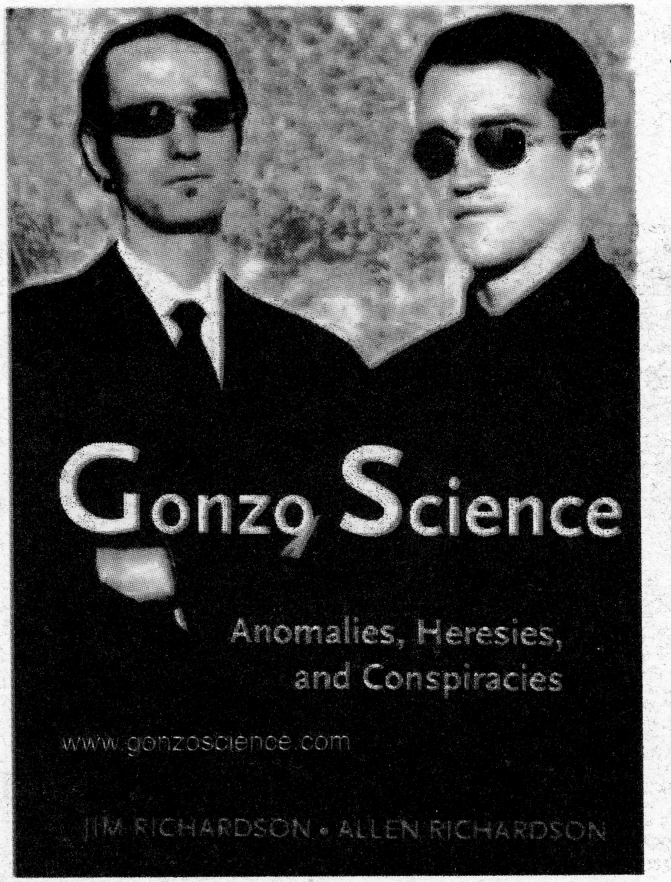

An act of God, foreseeable by no one

Genetic engineering in agriculture provides a glorious goldmine of examples of science run amuck. Genetic engineering involves moving genetic material between species in the laboratory in ways that would never happen in nature.

There remain many unanswered questions about the unpredictable nature of the engineering process and the subsequent health and environmental effects that can result. Numerous scientific, economic, and ethical issues arise when discussing why genetic engineering in agriculture cannot coexist with conventional or organic crops. The widespread use of this technology in agriculture would be far more credible if the growing and consuming of engineered food hadn't become de facto mandatory.

The incompatibility of engineered crops with non-engineered varieties comes into even sharper focus when discussing how biotechnology relates to traditionally developed crop lines and culturally sensitive plants. In the summer of 2006, Ojibwe activists and their supporters were weighing their options about how to get a state bill which would forestall the University of Minnesota's desire to grow test plots of wild rice that had been genetically engineered.

The central issue was the inevitable contamination of the natural wild rice that would have resulted. The campaign to keep-wild-rice-wild watched as the scientific consensus changed between legislative sessions.

A massive incident occurred in the long grain white-rice market when an unregulated, genetically engineered variety called LL601 (grown experimentally by Bayer CropScience) contaminated much of the domestic harvest. This event single-handedly ended the myth that genetic engineering in agriculture is a containable technology.

After having been belittled in the legislature for two years by University of Minnesota academics and private biotech sector lobbyists, Ojibwe claims that the open air tests would be uncontainable were suddenly undeniable. Months later, *Nature* magazine wrote the definitive piece on the subject and the paradigm officially shifted.

"For years, the industry said, 'This will never get out,'" said Joseph Mendelson III, legal director of the Center for Food Safety, a Washington advocacy group that has won several legal challenges against the United States Department of Agriculture's (USDA) handling of biotech crops.

"Now it's, 'It will get out, but what does it matter?' We can have a scientific debate about that, but in the meantime it certainly matters a lot economically, because so much of the world doesn't want this stuff." (*Washington Post*, March 11, 2007)

The contamination of long-grain white rice and its aftermath reveal volumes about how genetic engineering functions in the real world. It's also a classic example of the biotech industry's responsibility for its own bad publicity.

The global market never wanted engineered rice and yet this major US export was contaminated from a test plot grown on less than an acre. This was a real head-scratcher for genetic engineers everywhere. The test plot of transgenic rice, shut down years before, had more of a buffer zone to prevent gene escape than the USDA requires. It still got out.

And here's the kicker: the USDA's own investigation of the incident was incapable of determining exactly how the contamination happened. That's it. It remains a scientific mystery. The full might of the USDA's scientific power is reduced to a pair of shrugged shoulders.

The USDA fell all over itself to deregulate the offending gene - a form of bureaucratic magic that makes the illegal suddenly legal. The high level of secrecy over the exact nature of the experimental rice and why it had been commercially unfit undermine the USDA's assurances that it's safe. The Institute for Science in Society, a group critical of biotechnology, pointed out that the USDA itself was conducting similar experiments on transgenic rice - in the same region and at the same time - as the ones that resulted in contamination. This is a pretty clear conflict of interest when it comes to investigating the debacle.

Denying any culpability, the Bayer response variously blames the escape of LL601 on "unavoidable circumstances which could not have been prevented by anyone," "an act of God," and the farmers' "own negligence, carelessness, and/or comparative fault."

The case is still winding its way through the courts and is sure to be one of the most surreal legal spectacles of all time.