

God and the New Foodstuffs

(*Science and Spirit* 2007)

http://www.science-spirit.org/new_detail.php?news_id=573

Genetically modified organisms are generating a good deal of scientific and economic debate. How organized religion values this technology is anyone's guess.



by Trey Popp

It's hard to think anything would be less controversial than a proposal to plant 150 acres of rice in the rich soil of southeastern Missouri. But last year, when a company called Ventria Bioscience won approval from the Department of Agriculture to sow a genetically engineered strain of rice containing human genes, winds of protest began to swirl. Objections sprouted up from a variety of sources—local farmers, the Union of Concerned Scientists, the brewing giant Anheuser-Busch—making allies of groups that otherwise have little in common. The prospect of a crop rejiggered to produce a protein found in human breast milk was enough to make a lot of people very uneasy.

Over the past decade, agribusiness companies have been investing heavily in recombinant DNA, or rDNA, technology, which enables them to transplant genes from one species into another. They've used this technique to make plants grow faster, produce their own pesticides, and synthesize vitamins they otherwise wouldn't. Proponents of genetically modified, or GM, organisms are aiming even higher—and some of the species combinations can seem outlandish and somehow unnatural. Arctic flounder genes, for instance, have been spliced into tomatoes to allow them to flourish in colder climes. Corn has been engineered to produce compounds that can be used in pharmaceuticals.

Some scientists and environmentalists fear GM crops may have unforeseen consequences. Many organic and small-scale farmers see the new crops as an economic threat; there have been cases in which GM corn has contaminated nearby fields, ruining the market value of neighboring crops. Some social justice activists assert that a precious few wealthy companies reap the benefits of GM crops at the expense of farmers and consumers. Opposition to GM rice has, for the moment, thwarted Ventria's plans in Missouri, as well as California—and the onset of winter postponed further arguments—but GM food remains an issue that is complicated and hotly contested, qualities that make the relative silence emanating from religious organizations all the more peculiar.

From the Vatican to the National Association of Evangelicals, mum seems to be the word on what many observers consider to be one of the most pressing ethical and spiritual questions of the day, leaving those looking for guidance on the issue at a bit of a loss. For the most part, the debate is currently limited to theologians and ethicists in the academic world, who have yet to reach a consensus on what criteria should be used to judge the appropriateness of using this rapidly advancing technology. There is a considerable diversity of approaches to be found among these thinkers, but two major fault lines separate them. Curiously, the fault lines do not reflect the intellectual border separating liberals from conservatives, or even the divide between judgements based on Scripture and those informed by pragmatism. Instead, what's emerging is a faith-based fissure separating people who generally trust technology from those who express skepticism, as well as a divide separating the interests of industrialized countries from the concerns of developing ones.

Sam Gregg, whose perspective is shared by many others who look to the Bible for counsel on ethical issues, finds a mandate for the agricultural application of rDNA technology in the book of Genesis and believes it may be a powerful tool to help the least fortunate among us.

“Using and altering things of the world for use by human beings, be it food or animals or minerals or whatever, is, in principle, what humans are supposed to be doing,” says Gregg, who has written extensively about the intersection of theology and economics and is currently research director of the Acton Institute for the Study of Religion and Liberty, a think tank that promotes individual liberty and limited government. “There’s an imperative in Christianity in particular, but also in Judaism and Islam, of helping the poor and dealing with questions about poverty and hunger. Hunger is something that afflicts the developing world in particular. Genetically modified food has the potential to radically transform that situation.”

Gregg is well aware that GM foods are neither the only nor the most crucial solution to poverty and hunger. Challenges like ending corruption, establishing rule of law, and protecting private property in the developing world are more fundamental, he says. Furthermore, he unambiguously places his faith in the private sector rather than in sovereign states when it comes to controlling the means and methods of GM food production.

But that’s not the only way to interpret Scripture. Calvin DeWitt, president of the Au Sable Institute of Environmental Studies, which designs curricula for Christian universities, sees things in a radically different way. “I think both from an evolutionary biology standpoint and from a standpoint of the Scripture, the belief is that moving genes across taxa—across species, genera, and families—is a kind of abuse of our knowledge of genetics, generally driven not by respect for how creation operates or how biological systems operate, but strictly driven by questions of greed or hubris,” he explains.

As a conservationist and an avid student of evolutionary biology, DeWitt feels that science and Scripture coincide strongly in the case of GM foods. “What you discover as

you study biotic communities and the ecosystems of which they're a part is that this whole assemblage of different species has historically worked together through time," he says. Pointing to instances in which invasive species have destabilized ecosystems and pushed outmatched competitors to extinction, DeWitt is highly skeptical that humans have the wisdom to play God by shifting around genes in ways that are impossible in nature.

DeWitt, like Gregg, draws from Genesis to inform his judgement on rDNA technology. But where Gregg privileges the book's instruction to "fill the earth and conquer it," DeWitt turns to the story of Noah and the ark to make the opposite case. "There is not much concern for individuals when Noah is asked to put animals on the ark two by two," he observes. "The emphasis is on lineage. And although, at the time that was written, there wasn't the terminology to say that these are genetic lineages, they in fact are, of course. These lineages are creations of the Creator, and they are...gifts to the whole of creation."

For all the possibilities of grounding judgements about rDNA technology in strictly scriptural terms, practicality seems to outweigh pure theology for other religious thinkers. Avram Reisner is a member of the Rabbinical Assembly's Committee on Jewish Law and Standards and its subcommittee on biomedical ethics. In the late 1990s, he wrote an influential opinion about GM foods and the laws of kashrut, the dietary regulations of Judaism. Using the analogy of medical organ transplants, he argued that injecting an insect gene into a tomato, for instance, does not necessarily render the vegetable unkosher.

"Judaism is very pragmatic. It believes in medicine. It believes in bettering the human condition," Reisner says. "The [question] is: Are you being sufficiently cautious about seeing the ramifications and determining what is beneficial and what is harmful?"

The concern over being sufficiently cautious is widespread. "In one way, this is a matter of science, to determine whether or not what's being done is harmful to the human species or to animals," says James Walter, a theologian and chairman of the Bioethics Institute at Loyola Marymount University. "Doing things precipitously is always, in my mind, a moral failure."

Here, the matter comes back to whether rDNA technology really is an effective way to alleviate hunger—bringing us to the gulf between rich and poor countries. "It's not really an issue of genetically modified foods," Reisner asserts. "It's really an issue of the nature of capitalism and commerce, about the wealthier strata of society capitalizing on the progress that we make and shutting out the poor."

In some instances, companies are using rDNA technology as part of a strategy that makes farmers even more beholden to them. The most commonly cited example is the so-called "terminator gene," developed by Monsanto, which renders the seeds of one of the company's patented plants sterile and prevents farmers from sowing next season's crop from last season's seeds. Obviously, a plan to turn a farmer's one-time investment in

seeds into a yearly purchase is not going to do much good when it comes to easing the burden on the poor or alleviating global hunger. “The corporate imperative was clear, and the needs of the farmer were clear, and they were clashing,” Reisner observes. “But those aren’t problems that stem from technology, they’re problems that stem from inequality of power in the system that the world’s doing business in.”

For similar reasons, Roland Lesseps has been outspoken in his support for the ban on GM crops in Zambia. While proponents of GM organisms emphasize the potential to increase global food production, Lesseps, a Jesuit scientist at the Kasisi Agricultural Training Centre in Zambia’s capital city of Lusaka, counters that there need not be a shortage of food in the first place.

“The surest path toward elimination of hunger and malnutrition is to eliminate poverty and the unjust social structures that underlie it,” he says. “These social and economic inequalities will not be remedied, but will only be made worse, by [GM] crops.” While Gregg considers increased corporate control of agriculture in a place like Zambia to be a forward step, in Lesseps’ view, it is a development that could spell ruin.

If neither a scriptural nor a pragmatic approach to the rDNA technology debate leads to a coherent and consistent determination about GM foods, perhaps the more fruitful course is a paradoxical one: to take the focus off the technology altogether. That is the forceful recommendation of Robert Pollack, a molecular biologist and director of the Center for the Study of Science and Religion at Columbia University in New York.

“We sin deeply by not caring for the poorest of the world. Against that sin, this is just a boutique side issue. It is of no interest in religious terms. Nothing bad is done if these tools are used to help people who can’t help themselves,” he says. But Pollack’s agnosticism toward rDNA technology is complemented by a religious commitment whose strength rests in its unflinching call for us all to take responsibility, on a global scale, for both the actions of the rich and the plight of the poor.

“A religion’s guidance comes toward a proper act; it does not come toward a judgement of the tool,” he declares. “We are the tool.”

GM food has already become a multibillion-dollar business. It has reared its head in both small-claims legal disputes and world trade negotiations, in which the different stances of various countries have made it a frequent point of contention. Thus far, companies with vested interests in the technology have largely determined its development and application. A more well-rounded and considered approach will require continued input from scientists, environmentalists, and policymakers—but also from ethicists, theologians, and philosophers, drawing from a wide array of moral traditions. When the stakes include hunger, poverty, ecological risks, and unforeseen consequences, the more guidance we have toward the proper act, the better.

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