GENETICALLY MODIFIED CROPS

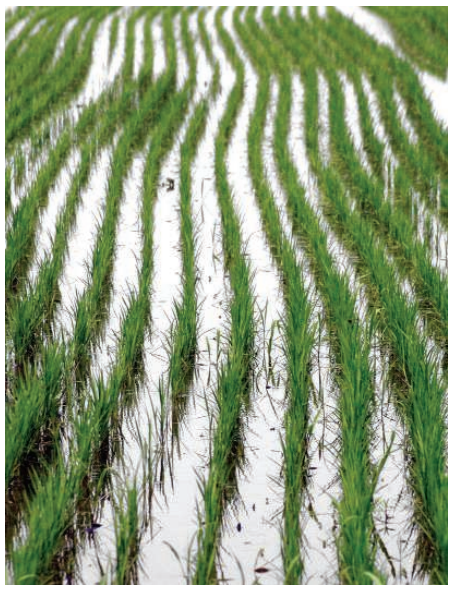
Tracing the Transatlantic Spread of GM Rice

Amid product recalls and plummeting prices, scientists are trying to figure out exactly how traces of an experimental variety of genetically modified (GM) rice ended up in commercially available supplies in the United States and Europe. Although the herbicide-resistant strain was never approved or marketed, traces of it have appeared in samples collected on both continents. Agriculture officials stress that the rice poses no health threat, but its spread is a cautionary tale that introduced genes may be harder to contain than some scientists and industry leaders had hoped. The finds "set a really bad example for genes that we do want to keep contained," says plant geneticist Norman Ellstrand of the University of California, Riverside.

The variety, called Liberty Link 601 (LL601), was grown in test plots in several states between 1998 and 2001. Designed to be resistant to the broad-spectrum Liberty herbicide sold by Aventis CropScience (later bought by the German company Bayer), it was not as successful as hoped, and Aventis discontinued research on the strain in 2001. In late July, Bayer notified the U.S. Department of Agriculture (USDA) that it had found traces of LL601 in commercial samples of long-grain rice stored in Arkansas and Missouri. When USDA announced the find two and a half weeks later, U.S. rice prices fell by nearly 10% in 2 days.

On 11 September, European Union officials confirmed that 33 of 162 samples tested by rice millers across Europe, a major importer of U.S.–grown rice, had shown traces of LL601. Officials in Sweden and France also said they found traces of the gene in commercially available rice. And Greenpeace said it had found traces of LL601 in rice for sale at Aldi supermarkets in Germany, prompting a nationwide recall.

How the gene spread so far is still a mystery. Rice is thought to pose a relatively low risk of cross-contamination because it self-pollinates, often before the flower even opens, lowering the likelihood that wind or insects could spread GM pollen. Steve Linscombe, a rice breeder at Louisiana State University (LSU) in Baton Rouge, where some of the test plots were grown, says they strictly followed USDA standards, exceeding the minimum requirements for buffer zones between the test plots and conventional rice. However, the university did say it found "traces of genetic material" from LL601 in samples



Fertile questions. Scientists are trying to trace how an experimental strain of genetically modified rice spread to rice sold in the U.S. and Europe.

of foundation seed rice grown at LSU in 2003 for the widely grown Cheniere variety. Foundation seed is the original stock of a commercially available variety. It is distributed to seed-producing farmers, who then plant it to grow seed rice that is sold nationwide. Linscombe says the university is working with USDA to determine how the LL601 gene could have entered the Cheniere seed stocks.

Doug Gurian-Sherman of the Center for Food Safety in Washington, D.C., says regulations designed to limit the spread of introduced genes should require more extensive testing of such seed stocks. The possibility of contamination "needs to be taken seriously," he says. Ellstrand says that a careful investigation of what led to the spread will be crucial for scientists planning field trials of GM plants that contain more sensitive genes, such as those for pharmaceuticals or industrial products.

–GRETCHEN VOGEL

BIOETHICS

Researchers Attack Newspaper Probe of Trials

More than 100 clinical researchers have published a scathing critique of a lengthy newspaper article, which had suggested that a National Institutes of Health (NIH) researcher designed two drug trials to favor the products of company sponsors. The researcher, Thomas Walsh, an expert on treatment of infections in patients with cancer and immune deficiencies, was also a target of a congressional panel last week looking into how NIH disciplined scientists who broke rules on consulting with drug companies.

The lead author says the unusual publication is partly a response to a wave of recent media coverage suggesting that clinical trials are "rigged." "This sensationalism is hurting the process of drug approval and is hurting patients," says Elias Anaissie of the University of Arkansas for Medical Sciences in Little Rock, who with 108 co-authors published the online commentary in *Clinical Infectious Diseases* last week.

In the 5700-word report on 16 July, the *Los Angeles Times* detailed Walsh's role in leading clinical trials of two new antifungal drugs. The report suggested that doses of the older drugs being compared were too low. It also questioned whether a federal employee should have presented the companies' data to the U.S. Food and Drug Administration.

The 13 September journal commentary accuses the newspaper of "unfairly malign[ing]" Walsh and "fear-mongering" by suggesting that "the entire process of drug development … is corrupt." The researchers, 10 of whom co-authored trial publications, say the doses used were the standard of care. A footnote to the commentary describes many of the writers' extensive ties to drug companies. "You can't work in this field and not work with pharma. It's impossible," says Anaissie.

A House Commerce subcommittee last week grilled federal officials about why Walsh and another researcher who broke consulting rules are still working at NIH (*Science*NOW, 13 September, sciencenow.sciencemag.org/cgi/content/full/2006/913/1). Last year, NIH found Walsh guilty of "serious misconduct" for accepting about $100,000 from 25 drug companies without seeking permission or reporting the income. But the congressional panel is not pursuing Walsh's role in the two trials, says spokesperson Kevin Schweers. It is "following the money, not the science," he says.

–JOCELYN KAISER

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