

Rice producers pay for accidental release of Bayer's genetically-engineered rice

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In August 2006, rice markets worldwide were rocked by the US Department of Agriculture's (USDA) announcement that the US rice crop had been contaminated by unapproved Bayer GE rice with genetically-engineered herbicide resistance.

A cascade of costly events ensued. The ultimate cost to the US rice industry was between \$741 million and \$1.29 billion US dollars, plus costs to foreign companies and still-undetermined legal damages against Bayer. The origin of the contamination remains unexplained to this day.

Costly contamination

The GE contamination was first found in the 2006 long grain rice crop in Arkansas and neighbouring US states. The chain of events that was unleashed impacted not only US farmers and processors but rice shippers, importers and retailers the world over.

Within days of the announcement, Japan, the EU and others closed their markets to US rice imports. Nevertheless, GE rice contamination was detected in Europe, Africa and elsewhere in the following months, prompting product recalls from the Philippines to Ghana and implementation of a strict EU testing regime.

The result was a near-immediate \$168 million loss of value in the US harvest registered on US futures markets (Raun 2007). By the end of the 2006-2007 marketing season, the futures market downturn plus lost exports cost an average of \$70,000 for each of the 6,085 rice farms in the US as of 2007 (USDA 2009).

Further undermining confidence in US rice, in October 2006 France announced that it had found a second illegal Bayer transgene in rice imported from the US (EU RAS 2006).

With prices plummeting, US farmers and processors spent nearly \$100 million to eliminate GE contamination from farms, elevators and seed supplies. Shipping companies, retailers and others also suffered losses due to paralysed shipments and rice supplies that could not be marketed.

In total, the scandal is estimated to have cost the US rice industry at least \$741 million dollars and as much as \$1.29 billion. This estimate does not include costs to companies in Europe and elsewhere, who were forced to test for and clean up LL601 contamination, and payment of as yet undetermined compensatory and punitive legal claims filed against Bayer (see overleaf).

Table 1) LL601 rice contamination cost estimate

Period of reference	Low estimate	High estimate
<i>Clean-up (2006-07)</i>		
Farm clean-up and seed testing	4.3	5.4
Processor and elevator clean-up costs	87.6	91.0
<i>Lost farm and business income</i>		
Lost farm revenue (06-07)	27.4	27.4
Export losses (06-07)	254.0	254.0
Post-2007 export losses	89.0	445.0
<i>Commodity markets</i>		
US futures market losses (2006)	168.0	168.0
Other losses (shippers, retailers, etc.)	50.9	112.8
Total loss (Millions US dollars)	741.2	1,284.6

Origin of the contamination never explained

An especially disturbing aspect is the lack of explanation for how the contamination occurred - even to this day - prompting questions about the safety of GE field trials and negligence by developers of GE crops.

LL601 was developed in the late 1990s by Bayer Cropscience (then Aventis), and grown experimentally in Louisiana. Commercial development was terminated in 2001.

Following detection of the contamination five years later, the United States Department of Agriculture (USDA) spent 14 months and 8,500 staff hours trying to determine how it happened. Despite the effort, in October 2007 USDA investigators concluded that insufficient documentation existed of Bayer's prior handling of LL601 and thus "the exact mechanism for introduction [into conventional rice] could not be determined" (USDA 2007).

Sources

- European Union Rapid Alert System for Food and Feed (EU RAS) (2006). Report of Week 41. http://ec.europa.eu/food/food/rapidalert/reports/week41-2006_en.pdf
- Greenpeace (2007). Risky Business - Economic and Regulatory Impacts from the Unintended Release of Genetically Engineered Rice Varieties into the Rice Merchandising System of the US (Report by Neal Blue Consulting). <http://www.greenpeace.org/international/press/reports/risky-business>
- Harris, A. 2009. Bayer Blamed at Trial for Crops 'Contaminated' by Modified Rice. Bloomberg News, November 4th 2009. http://www.bloomberg.com/apps/news?pid=email_en&sid=aT1kD1G0t0N0
- Smith D and Manthey T (2009). Rice farmers in state, elsewhere file lawsuit on engineered strain. Arkansas Democrat-Gazette, 20 August 2009.
- United States District Court for the Eastern District of Missouri. Genetically Modified Rice Litigation. <http://www.moed.uscourts.gov/mdl/06-1811.asp>
- USDA (2009). US Census of Agriculture 2007. <http://www.agcensus.usda.gov/>
- USDA (2007). USDA Concludes Genetically Engineered Rice Investigation (Release No. 0284.07). <http://www.usda.gov/wps/portal/usdahome?contentidonly=true&contentid=2007/10/0284.xml>

Compensation sought

Bayer and US rice millers are facing more than 1,200 lawsuits from those who suffered losses as a result of the failure to contain Bayer's GE rice. Claims have been filed by farmers, rice merchants and European food processors who unwittingly imported illegal GE rice.

Bayer is fighting the lawsuits and refusing to accept full financial responsibility for the escape of its unapproved GE rice. In August 2008, Bayer blocked US farmers from suing it collectively as group (a 'class action') in a US court. This means that farmers must pursue their claims individually. As a result, in August 2009, nearly 1,500 farmers filed new claims in Arkansas, adding to hundreds of other individual suits previously filed in several US jurisdictions.

In December 2009, the first verdict was passed in the case of two Missouri farmers. The farmers were awarded \$2 million US dollars for the damages they sustained as a result of the contamination. In passing its verdict, the jury indicated Bayer had been lax in its handling of the seed. Bayer countered that it exceeded industry standards in its attempt to avoid contamination, and went as far as to say "*even the best practices can't guarantee perfection*" (Harris 2009). This admission makes it clear that contamination, and the costly consequences documented here, will remain a constant threat while GE crops exist.

Timeline of contamination:

