

## **Syngentas forbidden Maize**

### **“Bt10” – An undercover GMO travels the world**

For four years, from 2000-2004, an illegal and potentially dangerous GM maize variety was grown in North America and distributed around the world.

No official agency knew that the GM maize variety, known as Bt10, existed. The Bt10 maize was sold as if it were an approved variety of GM insect resistant maize, Bt11, and no one, not even the company making it, had noticed. This could happen because the standard DNA test to identify bt11 did not discriminate between the two distinct varieties. Only when the European Commission issued a decree, requesting all maize imports to the EU to be proven free of Bt10, the company developed a specific test for Bt10. The company involved, Syngenta, has still not made all details about the Bt10 maize available to the public.

The Bt10 GM maize was never intended for growing and eating because it contains an antibiotic resistance gene which prevents bacteria being killed by the antibiotic, ampicillin. Ampicillin is one of the most widely prescribed antibiotics in Europe. If the gene from the maize had transferred to organisms in the intestines of a person or animal eating the maize, this could have been passed on to a disease causing bacterium and made it very difficult to kill. Syngenta and the US downplay the risks, but in Europe the risk is considered too dangerous to take.

Although the company informed the US authorities about the error in December 2004, other countries that may have imported the Bt10 maize were not told by Syngenta or the US until three months later, even though the export of Bt10 elsewhere was illegal. Syngenta then took another month to make a test for Bt10 maize and has only allowed one commercial laboratory to use it. The delay meant that thousands of tonnes of contaminated maize could have moved undetected around the world and no one could be prosecuted. By the time a test was ready, most Bt maize would have slipped through the system. Even so, between April and August 2005, eleven shipments of maize from the US into Japan were found to be contaminated by Bt10.

Syngenta have had to pay a fine of \$375,000 in the USA but have not faced action elsewhere. Because the tracks have been so well covered, no one will ever know if any harm has arisen from Bt10 maize. However, even more dangerous GM crops are being created in laboratories around the world, which could also contaminate our food. GM crops that produce drugs and chemicals for use by industry, are already being tested in the open in the USA and Europe. There have already been mistakes, with maize producing a pig vaccine being found among soybeans that were going to be used for food.

The Bt10 contamination incident was caused by a mix up in the laboratory, leading to it being labelled as Bt11. Procedures were so weak that the error was not detected for four years. This raises the question how many other unapproved and untested GMOs may have already been released either because no tests are available at all or because the available tests cannot properly identify minute but potentially powerful differences between similar GMOs. Validated GMO tests are only made available to authorities for approved and commercialised GMOs but not for experimental varieties. In addition the composition of such experimental varieties today is usually withheld from the public as “confidential business information”.

The biggest case of illegal GM contamination, the spread of a potentially allergenic GM maize variety “Starlink”, which happened in 2000/2001, cost the GM company responsible an estimated 1 billion US \$. And Starlink contamination of US maize is still a concern for the authorities. Simple mistakes by scientists in laboratories have also led to GM tomato seeds being sent from the US around the world as if they were non-GM, meat from GM pigs entering the food chain; and GM zucchini seeds being grown in

Germany. Will we ever be able to handle GM crops safely or is the first GM disaster just around the corner?

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## Dangerous peas

**Australian researchers stop work on genetically modified peas, because they caused lung damage in mice.**

After ten years of development, Australian researchers gave up their tests on genetically-modified field peas in November 2005. The transgenic peas had caused lung inflammation and damage in mice. Until this happened things had been going well. The peas had been outfitted by researchers from the Commonwealth Science and Industry Research Organisation (CSIRO) with a defense against the destructive pea weevil *Bruchus pisorium*. To achieve this a gene from the common bean was inserted that produces a protein known to disturb the weevil's digestion, causing it to starve. In field plantings this "genetic defense" functioned. And feeding tests with mice at first showed no ill effects.

But when the 'bean protein' taken from the peas was inhaled by mice, it triggered violent allergic reactions. The researchers' first explanation was that in the pea plants some extra sugar molecules became attached to the bean protein, which probably led to the increased allergenicity. This so-called glycosylation effect frequently creates problems in genetic engineering, and is considered hard to control.

Luckily the effect was discovered before the transgenic pea came onto the market. However this is not reassuring, as inhalation tests have thus far not been a standard requirement in risk assessment of GMO products. This case became public because the tests were done and described by publicly paid researchers.

LEM

## Illegal Zucchini

**Monsanto subsidiary: prohibited planting in Germany**

The Monsanto subsidiary Seminis illegally planted genetically modified zucchinis in fields in the German states of Lower Saxony and Rhineland-Palatinate in autumn 2005. According to the company's statement, 68 seedlings of the virus-resistant variety Judgement II, not approved in the EU, were involved.

The illegal field planting was attributed to a "mistake" and "human error", said Seminis in its apology. A sample packet with 90 grams of seed that Seminis had received from the USA had not been adequately labelled. When Seminis realized that seed forbidden in the EU was involved, the plants were dug up and brought to a greenhouse in the Netherlands that belonged to the company. It was only afterwards that Seminis informed the authorities.

The Monsanto subsidiary had thus broken more than one law. Genetically-modified plants cannot be introduced or planted. And bringing them into the Netherlands required a permit. In addition, the authorities should have immediately informed about the "mistake."

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## Gone with the wind

**With sloppy U.S. control over gene research, risk of unintended releases is unnecessarily large**

The U.S. Department of Agriculture (USDA) ignored its regulations on field testing of genetically modified organisms (GMOs), according to a report by their own inspection team. Loopholes in

regulations and poor supervision management ‘increase the risk that genetically modified organisms can unintentionally establish themselves in the environment,’ was the report’s verdict.

The USDA neglected, for example, to ensure that required security regulations were followed. Also, there was often no check to see if plants and seeds remained in the test sites, or if they had been removed or destroyed without delay when the tests ended, as required.

Since 1986 more than 10,600 proposals for 49,300 GMO field tests have been approved by the USDA department responsible, the Plant Health Inspection Service (APHIS). For their report the inspector team evaluated 91 field tests in 22 states. It was difficult for the inspectors just to find out where the test fields were located. Often neither the APHIS nor the biotech firm itself could say where their releases had taken place. Of 12 companies asked, two weeks later 4 were still not able to say where the genetic plants had been planted.

On location, the inspectors discovered the next problem. At several locations they found large amounts of left-over plants and seeds capable of germination that had been left on-site for up to three weeks after the field was harvested. Enough time for wind and animals to spread the seeds.

The team of inspectors criticized even more sharply the situation with field tests of genetically modified industrial and pharmaceutical plants. These are supposed to produce substances as raw material for industrial use. They also include substances for the pharmaceutical industry that even in very small concentrations can have major effects.

Despite the potential dangers involved, the APHIS again ignored its security role. Fields were not, as required, regularly examined, nor were harvest remnants controlled. In some cases, even 17 months after field tests had ended, the inspectors found genetic test materials in amounts of up to half a ton stored on the farms that work for the biotech industry as contract farms. To prevent the highly potent pharma-plants from ending up in the food chain, they should have been picked up by the biotech company right after the harvest and either securely stored or immediately destroyed. The report is available at: [www.usda.gov/oig/webdocs/50601-08-TE.pdf](http://www.usda.gov/oig/webdocs/50601-08-TE.pdf)

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