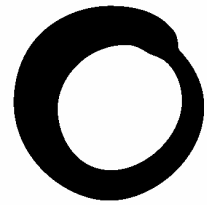


# Briefing Note



**Friends of  
the Earth**

## T25 Maize

In August 1998 the biotech company Aventis/Bayer received approval from the EU to import and market a GM maize known as T25. Two years later the UK Government proposed that a variety of T25 maize known as Chardon LL be licensed for commercial growing. This was the first GM seed to be proposed for the National Seed List in the UK, the final regulatory hurdle before the biotech company can sell GM seeds to farmers. Friends of the Earth objected and forced a public enquiry to be held. In the course of Friends of the Earth's investigations into the approval of T25, serious failings in the regulatory process and flaws in the scientific research were discovered.

### What is T25 maize?

T25 maize has been genetically modified to be tolerant to the herbicide glufosinate. In the UK it is intended to be grown as fodder for cattle. Aventis has produced two varieties, Chardon LL and Sheridan.

T25 contains a gene from a rare soil bacterium found in Cameroon. The gene causes the GM maize to produce a novel protein called Phosphinothricin Acetyl Transferase (PAT). PAT causes plants to break down glufosinate, allowing farmers to spray the fields without killing the maize plants. The PAT protein is completely new to human and animal food chains.

### Flawed science and bad decisions

A close examination of the approval given to T25 maize has revealed a catalogue of flawed science and bad decisions.

Despite Aventis' claims that T25 is “*not materially different*” from non-GM maize<sup>i</sup>, its own research revealed substantive differences. For example, two fatty acids were present in levels different to any maize study ever published<sup>ii</sup>. Safety committees within the UK and EU failed to pick up on this.

Aventis' research looking at the safety of the novel PAT protein was found to be unrealistic and not a good representation of what happens when animals eat the novel food as part of their diet. The studies were carried out on rats, which have a completely different digestive system to cattle<sup>iii</sup>.

Only one study was conducted into the effects of eating whole T25 maize. When broiler chickens were fed the GM maize and normal maize, twice as many died having eaten the GM maize. The chickens eating the GM maize also showed a greater variation in body weight. The studies prompted independent scientists to say “*this study as reported is inadequate in terms of providing any evidence or conclusions...it is very basic science that has fallen down at this stage, and I am amazed that it has not been picked up*”<sup>iv</sup>.

Only one page of the 85-page application looked at the environmental impacts, and ignored important considerations such as cross-pollination to non-GM crops and the impact of glufosinate on watercourses.

### Failures of Government and scientific advisors

In addition to the inadequacies of Aventis' evidence, there are serious concerns about the actions of EU and UK officials and scientific advisors throughout the approval process.

T25 maize gained its approval for food use through a 'fast track' route, for which Aventis/Bayer relied on a report produced by the UK's Advisory Committee on Novel Foods and Processes (ACNFP)<sup>v</sup>, in 1996. The committee had only seen an incomplete draft of the rat feeding study and hadn't seen the chicken study at all when they gave a favourable opinion. The Chair of another UK safety committee, the Advisory Committee on Releases to the Environment (ACRE)<sup>vi</sup>, subsequently admitted that the tests were not good enough to adequately assess the risks involved<sup>vii</sup>.

When Aventis/Bayer made an application to the EU in 1996 for approval for growing T25 maize, many EU member states raised concerns about its environmental safety. The issue was referred to the EU's newly formed Scientific Committee on Plants (SCP). The SCP gave its approval within weeks, despite the Committee being new and inexperienced, raising doubts about the scrutiny it gave to the data.

Government scientists from the Interdepartmental Group on Novel Feed Developments were asked to consider the safety of T25 maize for animal feed. They expressed serious concerns and recommended further testing, but these concerns were ignored.

## **The current situation**

If an application to market T25 maize were made today with the evidence previously presented, it would be rejected. Its approval was given on the basis of bad science and a weak regulatory system. In 1998 the environmental risk assessment required for marketing approval was made far more rigorous, in acknowledgement that the existing safety provisions were inadequate.

Consequently the safety of T25 has not been proven for humans, animals or the environment. It should be recalled and required to undergo a full safety assessment under the strengthened regulatory requirements. The Government should revoke the marketing consent and novel foods approval given to Aventis' T25 maize. It should certainly not be placed on the National Seed List and grown commercially in the UK.

## **The National Seed Listing**

**The above irregularities came to light during the course of a public hearing into whether Chardon LL should be put on the UK's National Seed Listing. The public's right to challenge this proposal, which is in fact the only opportunity the public has to legally object to GM crops in the entire regulatory process, is now under threat<sup>viii</sup>. As shown in the case of Chardon LL, this opportunity is essential for public scrutiny of the approval process. The next T25 seed destined for the Seed List, Sheridan, and subsequent GM seeds, must be subjected to the same democratic requirements.**

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<sup>i</sup> Submission for placing on the market of glufosinate tolerant Corns (*Zea mays*) Transformation Event T25, submitted by AgrEvo France. Reference C/F/95/12-07. Page 40.

<sup>ii</sup> *Ibid.* Pages 43 and 44.

<sup>iii</sup> Friends of the Earth, March 2001. *Bad science, bad decisions: the evidence against Aventis' GM maize.*

<sup>iv</sup> Dr. Steve Kestin. [www.defra.gov.uk/planth/pvs/chardon/index.htm](http://www.defra.gov.uk/planth/pvs/chardon/index.htm)

<sup>v</sup> Advisory Committee on Novel Foods and Processes, Food Standards Agency

<sup>vi</sup> Advisory Committee on Releases into the Environment, Department for the Environment, Food and Rural Affairs.

<sup>vii</sup> Prof. Alan Gray, April 27<sup>th</sup> 2002. *Farming To-day*, BBC Radio 4

<sup>viii</sup> DEFRA, 19 Sept 2002. *Government Launches Consultation To Improve Public Rights To Comment On Proposals Relating To GM Crop Releases*

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