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Green Biotechnology question - answer

Prof. emerit. Klaus Ammann  
University of Bern, Switzerland  
Guest Prof. Delft University of Technology  
Julianalaan 67, 2628 BC Delft,  
Netherlands

in +31 611 271 608    f +41 29 479 40 67    e klaus.ammann@uzh.ch

Skypen: +41 33 534 91 62    Skype: klausboga

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Attachment B

#### TO WHOM IT MAY CONCERN

I, professor Klaus Ammann, Emeritus of the University of Bern, and presently guest professor at the Delft University of Technology, member of the Swiss biosafety committee and member of the steering committee of the Public Research and Regulation Initiative, hereby confirm that I am an independent scientist who was a member of a panel of 11 scientists who in 2001 examined the safety of GM crops on behalf of the VIB the Flanders Institute for Biotechnology, an autonomous biotech research institute, based in Belgium, which closely collaborates with one of the leading European Universities in Biotechnology in Gent, Belgium, and we all came unanimously to the conclusion that:

GM crops currently on the market, from a safety point of view, have no problems. They are as safe as their conventional counterparts.

Furthermore, to date, to the best of my knowledge there has been no scientifically substantiated reports of negative reactions to human or animal health anywhere in the world as a result of GM food. I have prepared a scientific update of some examples of the controversy, including the references of the scientific literature, which have been recently brought to the public by certain NGOs and subsequently totally rejected by the vast majority of biotech scientists. It would be easy for me to enumerate a range of at least 20 such incidences including all the scientific and peer reviewed literature to reassure that any doubts on the safety of food derived from GM crops are completely unsubstantiated.

Signed: Prof em Dr. Klaus Ammann, Delft University of Technology  
A selection of my CV, bibliography and credentials can be downloaded under  
<http://www.botanischergarten.ch/Curriculum/Links.pdf>

The short documentation can be downloaded under  
<http://www.botanischergarten.ch/Myths/Food-Safety-KA-20070714.pdf>

With my best personal regards,

*Klaus Ammann*

**Klaus Ammann**

# Summary on the safety of food derived from GM crops

Klaus Ammann, 14. July 2007

The safety of food derived from GM crops is scientifically proven and in many cases it can be said that GM food is safer or at least as safe as food derived from crops from conventional breeding methods.

Starting from a text of one of the most important accounts on food safety from the National Academy of Sciences Committee on Environmental Impacts (2000)<sup>1)</sup> we can summarize the situation as follows: p. 68-69

The potential for transgenic pest-protected plants to pose a threat to human or animal health must be considered against the background of existing information. To date no such effects have been shown with commercialized transgenic crop plants. The work of Ewen and Pusztai 1999<sup>2)</sup> hints of some possible interaction between a lectin expressed in potato and alterations in the potato caused by the genetic engineering process. According to the study, diets containing genetically engineered potatoes expressing the lectin, *Galanthus nivalis* agglutinin (GNA), showed some effects on different parts of the rat gastrointestinal tract. Those effects fell into two categories, ones caused by the GNA transgene itself and others caused by pleiotropic effects of expressing the transgene. However, analysis of the work of Ewen and Pusztai by the Royal Society 1999 [http://www.royalsoc.ac.uk/st\\_p0154.htm](http://www.royalsoc.ac.uk/st_p0154.htm) and by Kuiper et al. (1999)<sup>3)</sup>, Lachmann (1999)<sup>4)</sup> and many others in an extensive controversy<sup>5-12)</sup> indicates that the study lacked scientific rigor. Ewen and Pusztai's replies were not very convincing. For example, data concerning the biochemical composition of the potatoes used in the study show that the nontransgenic variety differed significantly from the transgenic variety. These differences could be attributable to natural variations in potato lines and are not necessarily due to the genetic modification (Kuiper et al. 1999)<sup>3)</sup>.

Several later peer reviewed publications, based on extensive research and reviewing the existing literature on food safety have been published, only two named here: König et al, based on an important multiannual research programme of the EU, ENTRANSFOOD from 2004,<sup>13)</sup> and a very extensive report on food safety by the National Academy of Science of the US from 2004:<sup>14)</sup> here the most interesting paragraphs on the comparison of traditional and biotech breeding and its safety consequences on pages A further extensive report taking care of many other potential risks of GMOs has been published by the Flanders Interuniversity Institute for Biotechnology<sup>15)</sup>. As a whole, there is a rich literature on food safety published, and it is generally accepted in the academic community of food safety researchers that food derived from GM crops is as safe as conventional food.

Some NGOs notoriously opposed to GMOs try from time to time to disqualify the science behind those many studies, but it takes usually a few weeks until the rebuttals are published, the latest case is the controversy on a Bt maize: A paper by Seralini *et al.*<sup>16)</sup> purporting to invalidate the Monsanto conclusions (incidentally based on old data) has just been dismissed by EFSA: "following a detailed statistical review and analysis by an EFSA Task Force, EFSA's GMO Panel has concluded that this re-analysis of the data does not raise any new safety concerns". As a matter of fact the Seralini study operates with an unprofessional and flawed approach in statistics.

[http://www.efsa.europa.eu/en/press\\_room/press\\_release/pr\\_efsa\\_maize\\_Mon863.html](http://www.efsa.europa.eu/en/press_room/press_release/pr_efsa_maize_Mon863.html)

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