

Long-term study finds no negative effects from GM food

GMO Safety

Mar. 22, 2012 11:21am

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- Researchers from the Medical University of Vienna have presented long-term research using GM food. They failed to find any negative effects.
- Feeding experiments, some of which lasted the entire lifetime of the animals, found no negative changes in the metabolism of pigs, salmon or mice.

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Hunting for abnormalities

At a press conference in Vienna, an international research consortium reported that it had not found any harmful health effects of GM food in animals. In their studies the scientists investigated potential long-term risks associated with feeding genetically modified Bt maize MON810 and a GM pea to pigs, salmon and mice. Through their

research they hope to find suitable biomarkers that can be used as more sensitive indicators to detect harmful effects of authorized GM foods in humans.

Authorized foods from GM plants must be as safe as comparable conventional products. That is what the law says. Until now, there has not been any scientific evidence to indicate that authorized **GMO** products could harm animals or humans. However, the public debate about possible shortcomings in the authorization procedure and the safety of

GM food has been raging for years. In particular, countries like Austria justify their critical stance in relation to plant genetic engineering by citing a lack of research into the potential long-term risks. Now Austrian researchers from the Medical University of Vienna have presented long-term research using GM food. They evidently failed to find any negative effects.

Biomarkers to help identify negative effects

The scientists involved in GMSAFOOD, a research project funded by the EU for the past three years, had set themselves the objective of using biomarkers to carry out a more thorough search for potential adverse effects of GM food on health. Biomarkers are biological traits of an organism that can be measured objectively and can indicate potential abnormal processes in the body. They include simple anatomical traits like growth rate, and certain substances in the body that can indicate immunological or allergic reactions to a food. The aim was to identify suitable biomarkers in the animal experiment using pigs, mice and salmon that can indicate negative health effects, and to test whether they can be used in humans with the help of modern bioinformatics methods. The biomarkers could then be used to conduct more sensitive checks for actual effects of approved GM foods on humans and animals as part of post market monitoring.



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Experiments with pigs, salmon and mice

In their studies, the researchers from Ireland, Norway, Austria, Hungary, Australia and Turkey fed two different GM plants to the trial animals. One was the **Bt** maize MON810, which has been authorized in Europe since 1998 and was grown on over 100,000 hectares in Spain and Portugal last year.

The other was a type of GM pea developed in Australia that carries the gene for an amylase inhibitor taken from beans. This protein gives the peas resistance to the cowpea weevil. A study published in 2005 came to the conclusion that the new protein in the pea could trigger allergic reactions in humans and animals. The **protein** did not, it claimed, cause these effects in the bean. As a result, this GM crop has never been submitted for authorization.

The feeding experiments, some of which lasted the entire lifetime of the animals, found no negative changes in the metabolism of pigs, salmon or mice. The progeny of the animals fed on the GM plants were also included in the assessment, but the researchers did not find any negative effects.

In the allergy tests, it was found that the bean protein in the GM peas can trigger allergic reactions in mice. However, the GMSAFOOD researchers say this effect was predictable because the natural amylase inhibitor protein in the bean triggered very similar reactions in the experiments they conducted. This could therefore be taken into account in a risk assessment for the authorization of such plants.

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This particular test may have yielded no negative effects, was it funded by Cargill? There are plenty of studies from around the globe that do connect GM foods to allergies and infertility. Farmers are kidding themselves if they think GM crops are the only way to farm in this century. The cons outweigh the pros for our society.

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By Charlie Juneston (not verified) on Mar 23, 2012

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