

Swiss national research programme: “Benefits and Risks from the Deliberate Release of Genetically Modified Plants” (NFP 59) - Results (published 28 August 2012)

- Authors: Various
- Link: http://www.nfp59.ch/e_index.cfm (general programme information available in English, German and French)
- Key results summary (published 28 August 2012): http://www.nfp59.ch/d_resultate.cfm?kat=7 (in DE and FR for the moment, possibly soon also in English)

Highlights:

No evidence for health or environmental harms

The national research programme benefits and risks from the cultivation of GM crops (NFP 59) has identified no evidence for health or environmental harms posed by green gene technology. 13 out of 30 the studies which were funded by the government in the framework of this programme looked specifically into the health and ecological effects of GMOs. The work included analyses of over 1000 relevant publications. No substantiated evidence for any harmful effect of gene technology could be found. *“Based on long term observations and many scientific studies, no negative health effects from commercially used GM Crops are verifiable”. “The use of Bt maize can have positive health effects. It can lead to a lesser contamination of food and feedstuffs by neuro toxic or cancerogenous mycotoxins”.* Where negative effects were found, these were in all cases related to bad agricultural practices. The genetic modifications did not play a role in this regard. *“All of the identified negative effects are not typical consequences from gene technology, but also occur in conventional or incompetent agriculture”.*

Call for product rather than process based risk assessment

The final report also includes a call to review risk assessment. According to the report, risk assessment should not continue to be based on the breeding method used, but on the specific properties of the resulting plant varieties. *“New methods of green gene technology can contribute to an improvement of biosecurity”. “Risk assessment should emanate from the product, i. e. from the plant, and not from the breeding process.”*

Acceptance of the technology

“The worries about agricultural gene technology contrast with the fact

that up until now none of the feared negative consequences for health and the environment have occurred." About one-third of Swiss farmers interviewed for the study would grow biotech crops, if those offer solutions for agricultural problems (e. g. disease resistance). 23% of consumers bought clearly labelled bread made from Bt-maize at vending stalls in several Swiss cities, where also organic and conventional maize bread was offered. There was no negative effect of selling Bt-maize bread side by side with conventional products. On the contrary, overall sales were highest when all three kinds of bread, including Bt-maize bread, were on offer – consumers apparently appreciate a broad assortment of goods. Even if the majority of Swiss consumers currently is sceptical about "gene food", 71% of consumers want free choice and are against a ban of GM food.

Economic Aspects

"GM crops could reduce production costs in Switzerland. Especially if no till practices are introduced at the same time". Cultivation of Bt maize at current low pest pressure levels would probably not be economical, but herbicide tolerant oilseed rape, maize or sugarbeet would increase net margins of the farmers, even after deduction of the co-existence costs (for HT sugarbeet: +CHF 640 /ha per year). However, in comparison to the very high government subsidies for Swiss farmers, these economic advantages are moderate and by themselves might not motivate farmers to switch production methods.

Co-existence is possible

Even in Switzerland, with its densely structured agricultural landscapes, co-existence between biotech crops and conventional production systems is possible. For important cultures the required measures would be easily fulfilled, and the associated costs would be moderate (only a few percentage points of overall production costs). *"Costs for co-existence measures are small compared to overall production costs. And they could be further reduced".*

Background:

This national research programme was agreed by the Swiss government in 2005 and involved dozens of academics from most Swiss universities. The overall budget was 12 million CHF (close to 10 m €). This programme confirms again the main findings of recent EU research programmes involving over 400 independent research groups and with EU research funding of over 300m €.

(<http://ec.europa.eu/research/quality-of-life/gmo/>;
http://ec.europa.eu/research/biosociety/pdf/a_decade_of_eu-funded_gmo_research.pdf)

Additional information:

Links to the comprehensive literature reviews which were carried out (in addition to the Swiss research projects) to summarize the global knowledge about various aspects of GM crops:

- **Synthesis and Overview Studies to Evaluate Existing Research and Knowledge on Biological Issues on GM Plants of Relevance to Swiss Environments**
NFP 59: Review of International Literature, [Jeremy Sweet](#), [Detlef Bartsch](#) Full text:
http://www.vdf.ethz.ch/service/3498/3499_Synthesis-and-Overview-Studies_OA.pdf
- **Medical Issues Related to Genetically Modified Plants of Relevance to Switzerland**
NFP 59: Review of International Literature [Karin Hoffmann-Sommergruber](#), [Karoline Dorsch-Häsler](#) Full text:
http://www.vdf.ethz.ch/service/3496/3497_Medical-Issues-Related-to-Genetically-Modified-Plants_OA.pdf
- **Genetically Modified Crop Production: Social Sciences, Agricultural Economics, and Costs and Benefits of Coexistence**
NFP 59: Review of International Literature [Joachim Scholderer](#), [Wim Verbeke](#) Full text:
http://www.vdf.ethz.ch/service/3494/3495_Genetically-Modified-Crop-Production_OA.pdf