Retailer policy on GM feed questioned

Fears that the consumption by livestock of feeds containing genetically modified (GM) grain and soya could affect the safety of the resulting meat, dairy and egg products were strongly rebutted at a conference last month.

Entitled "Genetically Modified Animal Feed: Replacing Myth with Facts", the conference was held at the Institute for *Animal Nutrition of the University of Zurich* and organised by the Institute in collaboration with *InterNutrition, the Swiss Task Force on Research and Nutri*tion.

K. Aulrich (left), B. Stadler ©InterNutrition

Less mycotoxins with GM

Transgenic varieties of maize earned significantly higher marks with respect to lack of contamination with mycotoxins, with levels as much as 90% lower than those of conventionally bred varieties, Karen Aulrich, *Institute for Animal Nutrition, Federal Institute for Agricultural Research in Braunschweig, Germany*, reported. The absence of tunnels bored by feeding caterpillars left little opportunity for fungal growth.

Aulrich presented numerous feeding studies involving cattle, pigs and poultry and said that transgenic crop plant varieties and their conventional parent varieties showed fully comparable nutritional-physiological properties. In her opinion, this provides a clear indication that the introduction of new genes has produced no undesirable changes in the metabolism of these transgenic varieties.

Caspar Wenk, Director at the *Institute for Farm Animal Research* in Zurich also confirmed that there is no extraordinary risk associated with the digestion of transgenic crop plants.

Genetic material is digested almost entirely in the stomach and the small intestine, he told the conference, but it is possible that fragments of DNA comprising tens to hundreds of genes are absorbed at least temporarily by (primarily) immune cells, where they are broken down in a prolonged process. This is a completely natural process, which applies to all DNA ingested with food, he said.

In addition to the roughly 5 to 10 g of DNA consumed by a dairy cow in the course of one day, the animal also digests as much as 200 g of bacterial DNA from the rumen and intestines along with several grams of its own DNA contained in abraded cells.


J. Morel (left), C. Wenk ©InterNutrition

Swiss acceptance of GM

Public opinion in Switzerland is changing towards biotechnology. A multi-year study covering the period 1996 to 1999 showed that the proportion of those who expressed disapproval of genetic modification (GM) technology diminished over the three-years from 62% to 46%.

Peter Tesdorpf, President of the *Association of Swiss Grain Importers*, estimates that Switzerland will continue to procure most of its vegetable protein feed (about 90%) on the world market, noting, for example, that 43% of the soyabean products available on that market this year are transgenic. In addition, feeds comprising transgenic varieties of maize and rapeseed are also to be found in European feed troughs.

No allergic response from GM food

The issue of food allergies was addressed by Beda Stadler, *Institute for Immunology and Allergology*, Inselspital, Bern. He showed that food allergies are actually quite rare, and that the plant proteins that trigger them are contained within a small group of thoroughly researched proteins.

In his opinion, the GM foods currently available on the market do not cause new allergic responses, as humans have been in contact with all of the proteins introduced to these plants for a long time. The proteins come from bacteria we routinely consume every time we eat lettuce or radishes.

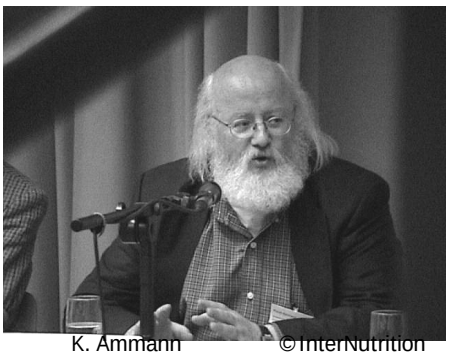
None of these proteins exhibit such typical allergenic features as high concentration in rew matter or strong resistance to digestive action in the intestinal tract.

Legal issues

On the current legal and political situation with regard to GM feeds in Switzerland. Swiss law on GM feeds requires that raw materials an single-component feeds containing more than 2% of such material must be labelled accordingly, Jacques Morel, Vice-Director, *Federal Agency for Agriculture*, reported.

Seed produced abroad, e.g., for maize and soyabeans, may contain no more than 0.5% of transgenic material. Negotiations on ways to close the remaining regulatory gaps are to begin shortly.

In addition, Klaus Ammann, Director of the *Botanical Garden, University of Berne*, appealed directly to advocates and opponents of transgenic crop plants to work together in developing sustainable and ecologically sounder agricultural production methods.



K. Ammann ©InterNutrition

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