

Analysis of Pre-Conference Consultation

We received thirty-three submissions¹ over the two-month period of the consultation. Both the potential benefits and concerns of GM food were raised. They have been divided into the following categories:

- ◆ potential risks for human health;
- ◆ environmental safety;
- ◆ the regulatory processes and consumer involvement, and
- ◆ socio-economic and ethical concerns.

Potential Risks for Human Health

The principal health-related issues addressed in the submissions were: potential toxicity (the case of Showa-Denko's L-tryptophan causing Eosinophilia Myalgia Syndrome); increased cancer risks (e.g. Monsanto's recombinant Bovine Growth Hormone); food allergies caused by foreign proteins; unexpected gene transfer of antibiotic resistance marker genes, and potential damage to food quality and nutrition.

Overall, correspondents concluded that whilst there was a lack of clear evidence that genetic manipulation of plants was hazardous to human health, it could not be proven 100% safe. For this reason, some requested an immediate moratorium on further development of GM food, and others advocated the adoption of practical measures such as labelling. Some criticised the inadequacy of the current testing/assessment requirements. For example, labelling of the origins of genetically engineered components in all food was proposed because current testing requirements for allergenicity were considered inadequate.

Environmental Safety

Some submissions concerned the environmental/ecological risks of GMO-based agriculture. Such risks included genetic pollution by GM pollens, including cross-pollination of GM material with wild relatives; increased pesticide residues in soil and crops due to the growing of herbicide-resistant crops; risks to the food-chain and eco-system; damage to beneficial insects and soil fertility; genetic bio-invasion, and the creation of "superweeds" and "superpests".

Many of those who replied called for a moratorium on GM crop development, recognising the current status of understanding of ecological systems to be incomplete and available data for the assessment of such environmental risks insufficient. Calls were made for the introduction of new methods or processes to improve scientifically-sound risk assessment, such as for post-release monitoring, and suggested software-based dispersal models for the assessments of wind-mediated pollen dispersal.

¹ The submissions were from UK (11), the Netherlands (8), the USA (5), Canada (4), the Philippines (1) and Nepal (1). The origins of 3 submissions could not be identified.



Regulatory Processes and Consumer Involvement

The majority of submissions stressed the need for public involvement in the assessment and decision-making process, regardless of individual positions on GMOs. They stated that consumers needed to have access to information that addressed their concerns and interests about new technologies like genetic engineering. On the other hand, some acknowledged that decisions often had to be based on inadequate data and value judgements when assessing risks. A number of submissions expressed the necessity of taking into account social, cultural, ethical, philosophical and religious values/attitudes in addition to the criteria of professionals (such as scientists and policy-makers), in decision-making.

Some considered that current decision-making on GM food by governments might be driven by commercial interests of profit-seeking industry rather than by public interest, and requested the establishment of a more transparent, comprehensive and independent regulatory framework. They suggested several new mechanisms for effective public consultations, taking into account cross-cultural and individual differences in attitude, and involving social science expertise.

Several correspondents supported the (appropriate) labelling of GM food to afford consumers freedom of choice. Although submissions referred to risk analysis and the precautionary principle as appropriate ways of coping with the "uncertainty" problem, some warned that the precautionary principle should not be invoked as an easy, quick alternative to undertaking a difficult risk assessment. Some acknowledged that the existing regulatory framework based on substantial equivalence was a well-established process, but felt that a biological testing program could be adopted.

One person commented that conventional plant breeding was more than crossing and selection within a species and that it was critical for these techniques to be considered when comparing GM to conventional crops. A proactive role for science in biotechnology development was stressed – with science not only providing information but also serving as the main tool for solving problems regarding health and the environment.

Socio-Economic and Ethical Concerns

Many raised questions regarding the benefits of GM vis-à-vis conventional foods. Some favoured genetic engineering to non-genetic engineering technologies, considering genetic engineering not only more efficient, but also preferring the fact that with GM the "foreign" material in the end product was generally minimised. Others were uncertain as to the benefits of genetic engineering, criticising current scientific arguments in favour of GM crops as being selectively and narrowly based, possibly led by profit-motivated companies, and denigrating options of organic and other forms of sustainable agriculture. They feared that such narrow approaches to agriculture threatened food security for the future and asked for reappraisal of genetic engineering vis-à-vis organic techniques.

The majority of submissions expressed concern about the socio-economic impact of GMOs on farmers and their societies in developing countries. Some feared that GM food would not only fail to ensure food security, but would also increase poverty, degrade the environment and diminish choices for consumers and farmers in developing countries. Correspondents were concerned about potential damage to the poor who lacked basic infrastructure to monitor, control and clean up impeding genetic pollution, and the negative effects of plants' patents on farmers.



Correspondents also expressed ethical concerns regarding genetic engineering. Some stated that genetic engineering disrupted genetic blueprints, and that patenting of animals degraded the value of living creatures.

