

# Hazards of GMOs

**Bharat Dogra**

All over world the controversy over genetically engineered (GE) food and genetically modified (GM) crops, commonly called genetically modified organisms (GMOs) is heating up as more and more evidences become available on their extremely serious hazards and threats. What needs to be emphasised is that these warnings have the support of some of the world's most eminent and well-qualified independent scientists and experts in the field.

In May 2000 761 scientists from 79 countries signed an open letter to express their serious concern about the hazards GMOs pose to environment, food security, human and animal health. This statement of world's scientists was presented to the UN convention on Biological Diversity in Nairobi in year 2000.

In 2003 the Independent Science Panel, which consists of expert independent scientists from 11 countries covering a wide range of relevant disciplines reviewed the evidence on the hazards of GMOs. This review concluded that many GM crops contain gene products known to be harmful. For example, the Bt proteins that kill pests include potent immunogens and allergens. Food crops are increasingly being engineered to produce Pharmaceuticals, drugs and vaccines in the open environment, exposing people to the danger of inappropriate medication and their harmful side effects. Herbicides tolerant crops—accounting for a majority of all GM crops worldwide—are tied to the broad-spectrum herbicide glyphosate and glufosinate ammonium. These have been linked to spontaneous abortions, birth defects and other serious health problems for human beings, animals and soil-organisms. GM varieties are unstable, with the potential to create new viruses and bacteria that cause diseases, and to disrupt gene function in animal and human cells.

Earlier in the USA several prominent scientists (including Nobel laureates) got together to form the Washington-based Union of Concerned Scientists (UCS) and pleaded for caution in the commercial introduction of new genetically engineered products.

Howard Riss the executive director of UCS, said that they do not oppose continued research and development in this field, but insist that government approvals needed for commercialisation of transgenic crops should be halted until the government can assess and control the risks.

UCS released a study by Dr Jane Rissler and Dr Margaret Mellon which attracted widespread attention for what it has to say on the possible environment impact of genetic engineering in agriculture.

Among other things, the Rissler-Mellon study warns against the possibility of introduction of new viruses and diseases as well as proliferation of weeds. The possibility of harm will rise as the number and variety of these crops increase. Moreover, the fact that a transgenic crop has been approved as safe in USA will not mean that risks do not exist in the different environment conditions prevailing in other countries.

The Union of Concerned Scientists also studied the question of whether genetically engineered crops should be commercially released. Their 1993 study 'Perils Amidst the Promise', concluded, among other things that :

- No company should be permitted to commercialise a transgenic crop in the United States until a strong government programme is in place that assures risk assessment and control of all transgenic crops and gives adequate consideration to centres of crop diversity in the US and elsewhere in the world.

