

The response reproduced below was submitted further to an invitation to comment on the draft Discussion Paper by the Nuffield Council on Bioethics: *The use of genetically modified crops in developing countries*, during June to August 2003. The views expressed are solely those of the respondent(s) and not those of the Council.

European Federation of Biotechnology

We are delighted that the Nuffield Council has taken this subject up and is once again launching a public debate on an issue that is of great importance to world food security.

Farming has always depended on plant breeding and will continue to do so. Traditionally farmers have worked with scientists to improve crop development and this will remain so in the future. In the past 50 years the biological sciences have acquired a great deal of new knowledge both at the molecular as well as the ecological level. In order to solve problems of food security, this knowledge needs to be applied. This means that, amongst many other techniques, genetic modification has to be considered, since it is often a more precise and predictable form of plant breeding than traditional methods. This will include transferring genes from other organisms into crops as well as using DNA markers in conventional breeding.

We endorse the Council's position that such research needs to be conducted more extensively than it is today on crops that are grown primarily in the less developed countries (LDCs). This research must largely be done in the public sector of the LDCs themselves, either with the national agricultural research organizations or with an international framework, such as the institutes belonging to CGIAR, the Consultative Group of International Agricultural Research.

Compared to traditional breeding, genetic modification (GM) has the attraction that a great number of different properties can quite easily and quickly be changed. Insect resistant corn (maize) and cotton have been shown to require less agrochemicals, herbicide tolerant soya allows for easier farm management and more efficient erosion control. Thus the new GM varieties have been shown to be beneficial to the farmers both ecologically and economically.

It is particularly important to realize that many other traits can be changed, in particular traits which are of direct benefit to consumers. Crops can, for instance, be modified to have a more advantageous nutrient content, a better taste or more useful storage and cooking properties. An example is the "Golden Rice", a crop variant with a higher than usual vitamin A content. This has the potential, once it has been bred into locally adapted varieties, to prevent blindness in children. Another experimental option is to develop crops that are less susceptible to drought or flooding. Much research along these lines is being done all over the world.

GM crops are viewed with a certain skepticism by the public, particularly in Europe. In most surveys hardly more than a quarter of the population say they would today go out and buy GM products. This is so despite most scientists affirming that the presently available GM crops are no health hazard for consumers and that the ecological impact of GM crops is about the same as that of other widespread crops. Many environmental groups and green parties have written their fundamental opposition to GM into their programs. This is a calamity, because those who might in future profit most from GM crops, will not have them.

We agree with the Council's position on the difficult issue of food aid. However, it has to be understood that the big donors' position is to consider food as safe, when it conforms to the donors' own food quality regulations. In a situation of acute famine it is surely

preferable to have food that conforms to US standards than to have nothing to eat. Given enough time and money, however, grain can be ground up to flour and would then no longer be considered a living modified organism as defined by the Cartagena Protocol on Biosafety.

Whilst the GM crops available today are not of great importance to world food security, the future potential of crop breeding by GM is huge. It is therefore ethically unacceptable to prevent the future development of GM crops. At the same time it is necessary to test GM products and compare them carefully with traditional ones before putting them on the market.

*) The "Task Group on Public Perceptions of Biotechnology" is a working party of the European Federation of Biotechnology (EFB). The EFB is a loose association of diverse organizations from all European countries, who are interested and involved in biotechnology. The Task Group has about 50 personal members from all over Europe, mostly natural scientists employed by universities. Several members are professionally involved in the interaction of science and society. A small minority are industrial biotechnologists. This text has been circulated to the members of the Task Group. Chairman: Richard Braun rdbraun@bluewin.ch