

They don't care

The birth of Adam Nash last year marked another triumph for biotechnology. He was conceived *in vitro* and selected from among numerous other embryos because his genetic make up makes him a perfect donor of bone marrow stem cells for his older sister Molly. Stem cells were taken from Adam's umbilical cord and injected into Molly, who suffered from a rare form of anaemia. Apart from a few ethical objections in the European media, the response—from scientists, the media and the public—to this latest achievement in molecular biology has been positive. 'I've interviewed between 80 and 100 mothers [about the Nash case] and I've never had a negative response,' said Arsène Burny from the University of Gembloux in Belgium at the Genetics and the Future of Europe conference held last November in Brussels.

At the same time, 350 000 children die and another 2 million go blind each year because of vitamin A deficiency, 150 million children are underweight and 30 million children are born with impaired growth or even more serious deformities due to malnutrition. There is a biotechnological solution for these problems. Ingo Potrykus of the Swiss Federal Institute of Technology in Zurich, Switzerland and Peter Beyer of the University of Freiburg in Germany have genetically engineered a rice strain that produces beta-carotene, a precursor of vitamin A. This GM crop, coined 'yellow rice' because of its colour, could help the 124 million children worldwide who suffer from vitamin A deficiency. Other crops have been engineered to be salt-, drought- or pest-resistant and could be a blessing for farmers in the Third World who cannot afford pesticides or fertilizers. Molecular biology also has great potential for the development of cures for the major diseases that ravage the Third World—diseases such as malaria, leishmaniasis and AIDS.

As yet, the yellow rice is still sitting in a grenade-proof greenhouse in Zurich and is not expected to leave it soon. Not because of patent problems—all of the biotech companies whose patents were involved have already agreed to forego royalties if the yellow rice is given to poor countries free of charge—but because the testing of yellow rice has been delayed by the current European climate in which GM plants are seen as a threat to health and the environment. And even some interest groups in poor countries have joined this chorus—Vandana Shiva, a prominent opponent of genetic engineering in India, has opted against yellow rice because she fears that it could be used to promote the use of GM food and crops in the Third World in general.

Environmental groups argue that GM crops—including yellow rice—are a menace to the environment because they threaten biodiversity. At the same time, farmers in South America, India, the Pacific islands and Africa are hacking and burning down the rainforest to scrape a living from the soil. After a few years in one location, they move on, leaving in their wake a torched and depleted earth that is quickly eroded by wind and rain. As a consequence, numerous plant and animal species are threatened as their natural environment is rapidly disappearing. The Indian tiger and the African mountain gorilla are merely the more prominent representatives of species that are threatened by the dangers associated with human hunger, rather than by GM plants.

So does the North really not care about the fate of the majority of human beings who live in the Southern Hemisphere? Obviously, this is not the case. Whenever pictures of catastrophic famine in Africa flicker over our TV screens, we donate millions to help ease the suffering of the poor. The leaders of the industrialised countries decided last year to remit the debts of the poorest countries, giving

them some financial room to develop their infrastructures. Western pharmaceutical companies have provided African countries with a drug for the treatment of river blindness free of charge. They are also investing millions of US\$ into the development of a malaria vaccine, although the returns for such a treatment are rather meagre.

The most effective help for the poor countries, however, would be to provide them with the means to feed their people. And so it is baffling that environmental and consumer protection groups raise all kinds of objections in order to withhold GM crops from them. At the Genetics and the Future of Europe conference, their speakers asked for a 'mature debate about how to use new technologies,' as Susan Mayer from GeneWatch in the UK put it. An open debate on the use of GMOs is certainly necessary, but there is a problem. Nobody invites representatives of the poor to these debates. And for those of us living in the First World, the benefits of GM crops are not immediately visible, while the perceived threats are blown out of proportion. It seems that we have lost our focus on the problems that really matter for the majority of people on this planet.

The representatives of interest groups for the environment, patients and the disabled should ask an Indian farmer, who sees his children die or go blind, for his opinion on GM crops. Most probably, he will have one and will say loudly and clearly, 'I want it now!' Then they should ask the farmer about risk assessment, risk/benefit analysis or the precautionary principle. His astonishment about such concerns would be the most eloquent response. We should try to see things from his perspective.

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