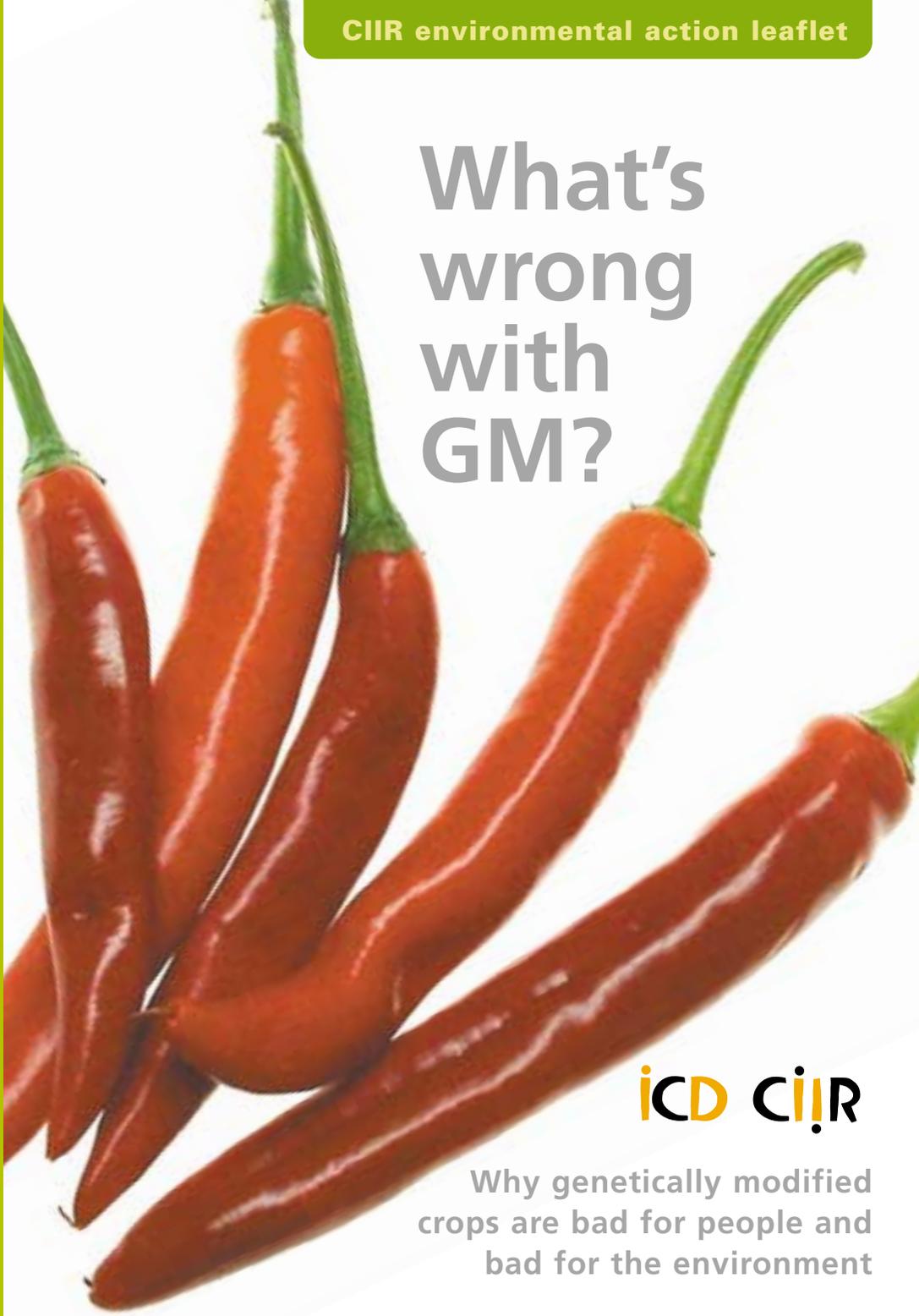


# What's wrong with GM?

**iCD CIIR**

Why genetically modified  
crops are bad for people and  
bad for the environment



# Why should we care?

Genetic engineering of crops is a complex and controversial issue. It is also an issue with far-reaching implications – for the environment and for people, for the way crops are produced and the world's people are fed.



As an agency working for sustainable international development, CIIR is especially concerned about the impact of genetically modified (GM) crops in developing countries. We believe that the introduction of GM crops in these countries will endanger small farmers' livelihoods, undermine poor people's ability to feed themselves, and increase the pressures on already damaged and vulnerable environments.

We believe that an alternative approach to agriculture that is environmentally, economically, culturally and socially sustainable will help reduce poverty and help protect the environment. In contrast, growing GM crops will do the opposite.



# What are GM crops?

People have been selectively breeding or cross-breeding plants for centuries – for example, to adapt them to a particular climate or improve their yield. What makes genetic engineering radically different from traditional breeding methods is that genes are transferred between completely unrelated species. For instance, animal genes are transferred into plants and bacteria genes are moved across to food crops.



Two main types of GM crops are:

- insecticide crops: these have had genes transferred from a natural bacterium so that they can act like insecticide plants and kill the pests that eat them
- roundup-ready crops: these have been made tolerant to specific herbicides, so that when these herbicides are applied only weeds and other plants are destroyed ('roundup' is a herbicide originally developed by the biotechnology corporation Monsanto).

Other GM crops include those that have been made resistant to fungal infections and those that have had their nutritional properties enhanced (such as 'golden rice' which contains vitamin A).

**The introduction of GM crops will endanger small farmers' livelihoods, undermine poor people's ability to feed themselves, and increase the pressures on already damaged and vulnerable environments**



# What's wrong with them?

Advocates of GM crops argue that GM crops are good for the environment since they will reduce the amount of agrochemicals (pesticides and herbicides) that need to be used in crop production.



However, opponents of GM crops believe that these crops are a threat to the environment. The claim that GM crops require fewer herbicides and pesticides has been proved wrong. They require fewer chemicals than conventional crops in the short term but gradually they need significantly more.<sup>1</sup>

Genetically modified organisms (GMOs) threaten plant biodiversity. Planting GM crops is not a question of choice: once they are planted somewhere, crops elsewhere become contaminated by them. This could be especially disastrous for organic farmers.

For example, although it is illegal to grow GM maize in Mexico, in 2001 researchers found that traditional maize varieties grown by farmers in two remote Mexican states had been contaminated with GMOs from GM maize.<sup>2</sup> There are thousands of varieties of maize in Mexico. If contaminated by GMOs, these precious indigenous varieties could be irretrievably lost.

**Planting GM crops is not a question of choice: once they are planted somewhere, crops elsewhere become contaminated by them**

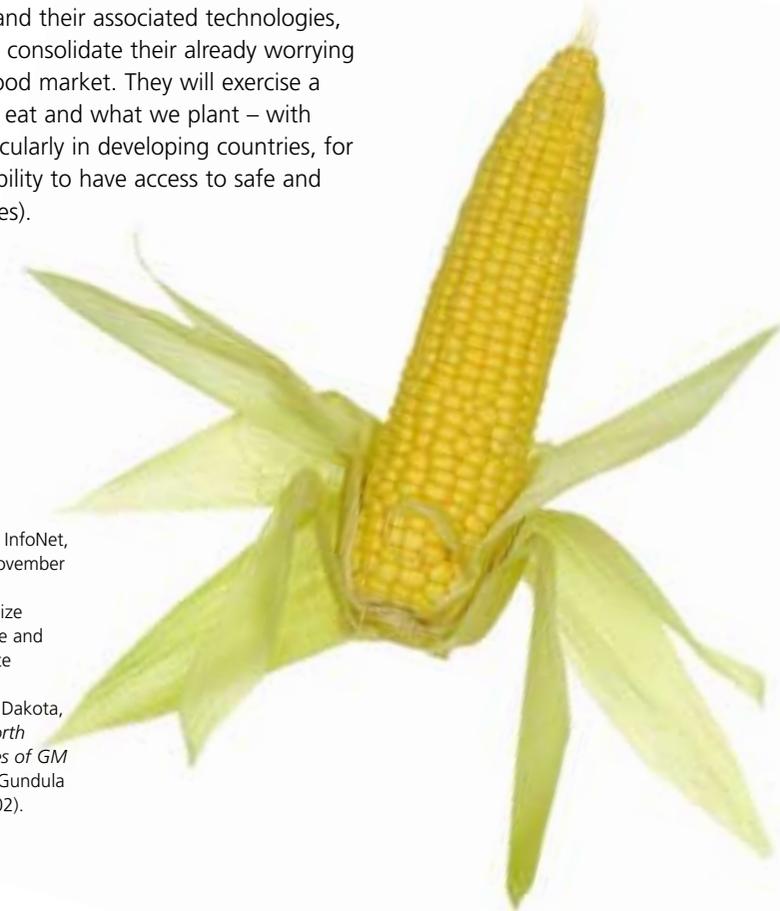
Some farmers whose conventional crops have been contaminated by GM material have found themselves obliged to pay fees to biotech corporations (which have patented the GM material) or face legal action. In the words of a US farmer: 'Farmers are being sued for having GMOs on their property that they did not buy, do not want, will not use and cannot sell.'<sup>3</sup>

GM crops are produced for corporate profit. Seeds, and the chemicals that are required to grow them, must be bought from the multinational biotech corporations. Farmers are prohibited from saving and sharing seeds: every year they must buy more seeds and the associated agrochemicals from the corporations.



The majority of farmers in developing countries struggle to afford even the most basic inputs (seeds, fertilisers, etc). Their survival depends on the age-old practices of selecting, saving and sharing seeds from one year to the next. GM crops do not allow farmers to do this.

By patenting GM seeds and their associated technologies, biotech corporations will consolidate their already worrying control over the world food market. They will exercise a monopoly over what we eat and what we plant – with devastating effects, particularly in developing countries, for food security (people's ability to have access to safe and nutritious food at all times).



<sup>1</sup> Charles M Benbrook, BioTech InfoNet, Technical Paper Number 6, November 2003.

<sup>2</sup> See 'Mexico confirms GM maize contamination' on the Science and Development Network website [www.scidev.net/news](http://www.scidev.net/news).

<sup>3</sup> Tom Wiley, a farmer in North Dakota, quoted in *Seeds of doubt: North American farmers' experiences of GM crops* by Hugh Warwick and Gundula Meziani (Soil Association, 2002).

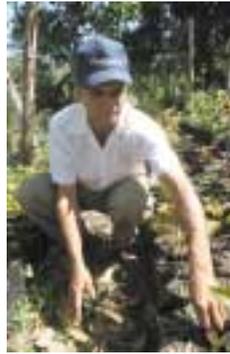
# Resistance to GMOs

Biotech corporations have faced resistance to the introduction of GMOs in Europe from faith groups, consumers, environmentalists, non-governmental organisations and MPs.

In the South, several developing countries – such as Angola, India, Sudan, Zambia and Malawi – have said no to GM crops. They have also resisted GM foods as food aid. USAID, the US international agency, has exerted enormous pressure through the United Nations World Food Programme, effectively telling countries that they have no choice: accept GM food, or get no food aid at all.

In May 2004, more than 60 groups from 15 African countries, including environmental and development organisations and farmer and consumer groups, wrote an open letter to the World Food Programme denouncing the way in which hunger is being cynically used to impose GM crops and food on developing countries.

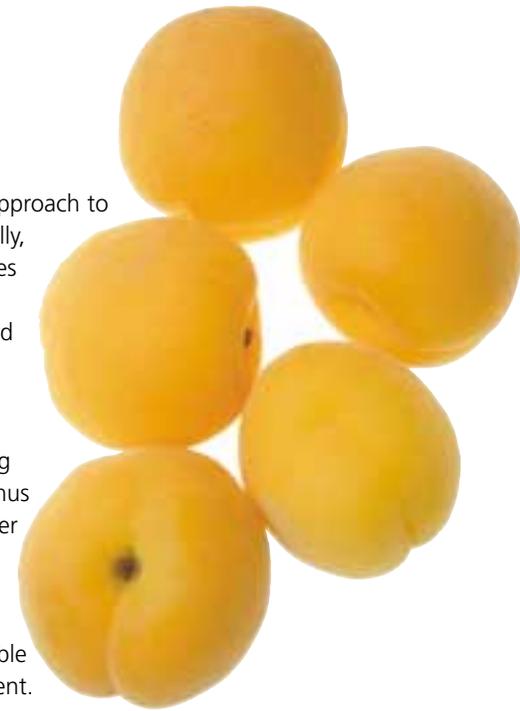
Biotech corporations and the US government present GM crops as the solution to world hunger. The reality is that there is enough food in the world to feed all of us. People experience hunger because they have no money to buy the food that is available, or because they have no means to grow this food. The real causes of hunger and poverty are social and economic inequalities that will not be fixed by biotechnology. Instead, GM crops will make these inequalities worse.



# What is the alternative?

Agroecology or sustainable agriculture is an approach to agriculture that is environmentally, economically, culturally and socially sustainable. It emphasises crop diversity and rotation, conserves natural resources, and favours small and medium-sized farming rather than agribusinesses and large corporations.

Moreover, it focuses on food security (ensuring there is enough food for people to eat) and thus prioritises the production of staple crops (rather than cash crops for export). It is a key livelihood strategy for poor farmers in Latin America and the Caribbean, who have recognised that their best hope for a sustainable future is to nurture and protect the environment.



## How can we promote sustainable agriculture?

We need to:

- use aid to maximise the potential of sustainable agriculture to reduce poverty in developing countries
- change international trade rules so that they do not force developing countries to 'liberalise' their economies – instead, we ought to enable these countries to invest in sustainable agriculture and rural development
  - free the poorest countries from the crushing burden of debt, which forces them to focus on export-led development, over-exploit their natural resources, and neglect their most vulnerable people.



# What can you do?



## Find out more:

[www.gmwatch.org](http://www.gmwatch.org)

[www.soilassociation.org](http://www.soilassociation.org)

[www.abcfinformation.org](http://www.abcfinformation.org) (website set up by biotech corporations)

[www.nuffieldbioethics.org](http://www.nuffieldbioethics.org) (see [www.gmwatch.org](http://www.gmwatch.org) for counter comments on the Nuffield Council for Bioethics)

## Write to your MP to:

- express concerns about the forceful introduction of GM crops and food in developing countries and its implications for the food security of poor farmers
- ask him/her to urge the UK Department for International Development (DFID) to prioritise research on the potential of low-cost sustainable agriculture methods to reduce poverty in developing countries, instead of unsustainable and unsafe technologies such as GM.

[Find details of local MPs at [www.locata.co.uk/commons](http://www.locata.co.uk/commons)]

## If you are a Catholic:

- write a personal letter to the Vatican expressing concerns about GM crops and the way in which biotech corporations are actively seeking the endorsement of the church.

[For a sample letter visit [www.ciir.org](http://www.ciir.org) or write to CIIR Environmental Action at the address below]



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Catholic Institute for International Relations (CIIR)

Unit 3, Canonbury Yard

190a New North Road

London N1 7BJ

Charity reg no 294329 Company reg no 2002500



In some countries CIIR is known as

International Cooperation for Development (ICD)

Design: Twenty-Five Educational. Printed on 100% chlorine-free recycled paper by APG (APG holds ISO14001 accreditation for international environmental standards).

Produced with the financial assistance of the European Commission. The views expressed herein are those of CIIR and can therefore in no way be taken to reflect the official opinion of the European Commission.

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