



St Columban's Mission
Global & Local

Living the Gospel: Responding to Challenge

Genetic Engineering of Food Crops

What is it?

Recent discoveries in genetics have allowed scientists to isolate and transfer genes expressing specific characteristics between living species. This process is known as genetic engineering or genetic modification and is the most recent form of biotechnology. While biotechnology has been practiced in agriculture for centuries through the selective breeding of particular plants or animals to maximize certain traits, this new technology goes much further. What has changed is that now science is able to take genes or gene sequences from one species and transfer them to another, totally unrelated species. This process produces a 'transgenic' product. One real life example of this process was to identify and isolate the gene in Atlantic salmon which enabled them to withstand the cold waters of their natural habitat. The gene controlling this characteristic was then inserted into tomatoes to allow them to tolerate frost. This new transgenic tomato is then patented by the company which developed the process and farmers must buy the seeds from this company and pay royalties each time they produce a crop. The creation of new organisms or species of crops with specific characteristics has the potential to generate huge profits for companies which invest in the technology. It also has the potential to promote monopoly ownership of the food of the world!

"Corporations are promoting biotechnology even though many independent scientists have genuine fears about the safety of GE foods for human consumption... If the corporations are successful, a handful of them will control the seeds of all the staple crops globally. This would be a nightmare for food security."

**- Fr Sean McDonagh, *Patenting Life? Stop!*
Dublin: Dominican Publications, 2003, p.12**



What might the impact on poor farmers be? Why may missionaries be concerned about this?

What are the ethical concerns for Christians?

Human dominion over inanimate and other living beings is not absolute; it is limited by concern for the quality of life of all people, including generations to come; it requires a religious respect for the integrity of creation.'

- *The Catechism of the Catholic Church*, no. 2415

The ethical and moral aspects of GE food is the focus of Fr Sean McDonagh's work. Fr McDonagh is a Columban missionary priest whose experiences in the Philippines, led him into the field for ecological sustainability and its theological foundations. He points out that such issues as the lack of research into the impacts of gene transfer across species, the profit motive of GE companies and the use of patenting laws to impose control, robbing poorer nations of their genetic riches and rights over the seeds they have bred and the assault on biodiversity of the 'terminator gene' which makes plants sterile, all have an ethical dimension.

For centuries, Fr McDonagh argues, western civilization has been dominated by a homocentric world view – the rest of creation was there to

benefit human kind. This has been reinforced in the Judeo-Christian tradition through the narrow interpretation of the biblical text, 'Be fruitful and multiply, and fill the earth and subdue it; have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth' (Gen 1:28).

More recently the Church has come to recognize that ALL God's creation has an intrinsic value of its own, and while humans may be 'governors' of creation, this comes with a huge responsibility to care for creation and to ensure that future generations will inherit an Earth which God intended for all human kind for all ages. Such a stance requires respect for all life and appropriate actions to preserve and safeguard all life. The theological concept of 'solidarity' must now include solidarity with Earth.

Why is genetic engineering of food a problem?

Some major concerns include:

- Life is sacred and a gift from God. The **ethics of patenting a life** including human tissue raises serious moral and religious questions.
- The potential **threats to human health** of GE crops are largely untested. The long-term impact of the process of using viruses as a 'vector' in transferring genes is unknown. There are also risks involved in cross species contamination or viruses mutating and infecting a new species.
- **Transnational corporations and large agri-businesses** have the potential power to control the world's food sources and major crops. They are commercial organizations seeking to maximize profits, rather than feed the hungry.

- Australian farmers have expressed concern about the potential **contamination of crops** from GE 'escapes' resulting in the loss of premium prices or even being sued as happened in Canada.
- **Inadequate labeling regulation** in Australia means that consumers may not even be aware that GE ingredients are in the products they are already purchasing from the supermarket shelves.
- **Subsistence farmers** will become dependent on buying seed each year if the 'terminator gene' proposed by TNCs eventuates. This means that the crop produced will be sterile so farmers cannot save seed for next year's planting. They need to purchase new seed each season.
- **Biodiversity in nature** will be severely threaten should GE species cross-pollinate with wild relatives or 'escape' to produce super weeds.

An excellent 26-minute DVD with discussion booklet is available on this topic from your nearest Columban Centre or contact Rev Charles Rue on (02) 9352-8023.

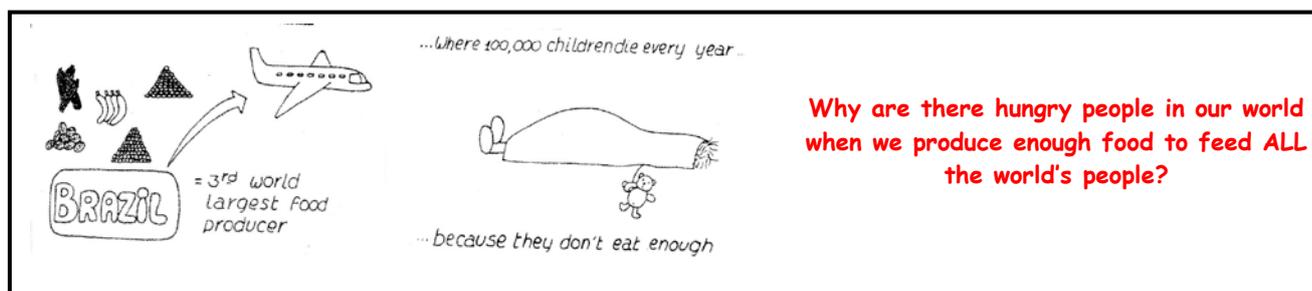
For more information and ideas see:

Gene Ethics Network: www.geneethics.org.au

GM Watch: www.gmwatch.org.

Network of Concerned Farmers: www.non-gm-farmers.com

Greenpeace True Food Guide: www.truefood.org.au



Why are there hungry people in our world when we produce enough food to feed ALL the world's people?

Columban Mission Institute
Anne Lanyon

annelanyon.cmi@columban.org.au

PH: (02) 9352-8021 FAX: (02) 9746-8033

Columban Mission Centre
Janette Mentha

jimentha@columban.org.au

PH: (03) 9375-9475 FAX: (03) 9379-6040