

# GENETIX CRIME UNIT

## Exposing Genetic Contamination

### Genetic engineering exposed

Genes are the tiny building blocks that make up every living thing. Genetic engineering is when genes from plants, animals or bacteria are inserted into plants or animals in a laboratory<sup>(1)</sup> to create new organisms that would not occur naturally.

The new organism made by this method is called a genetically engineered organism or GE organism. This is very different from normal breeding where related plants are crossed.

The problem is that inserting genes can make strange things happen as they can interfere with the plants or animals own genes and might make the food toxic and bad to eat.<sup>(2)</sup> GE organisms are living so can spread, reproduce and cause problems to the environment. The release of GE organisms to the environment is irreversible. This is why Greenpeace is against GE organisms being released into our fields or used in our food.

While scientific progress on molecular biology has a great potential to increase our understanding of nature and provide new medical tools, Greenpeace believes that it should not be used as justification to turn the environment into a giant genetic experiment by commercial interests.

### The case against genetic engineering

For thousands of years people have bred and grown crops for food.

Seeds have been handed down from generation to generation until...

A few decades ago big chemical companies like Monsanto<sup>(3)</sup> started genetically engineering crops in the laboratory. They mainly did this to make crops resistant to weed killer (herbicide). This means more chemicals can be sprayed directly on the plants.



July 2006 Greenpeace activists entered a GE maize field in Southern France and carved a giant crop circle with an 'X' in the GE maize, marking the field as a contamination zone.  
© Greenpeace/Gleizes

Monsanto promised that the genetically engineered (GE) crops would yield more and use less chemicals. These claims have not been substantiated and in some cases even the opposite has happened. Certain GE crops have led to more chemical use, lower yields and other problems like super-weeds, weeds that are 'herbicide-proof'. Worst of all - when GE crops are grown in fields they can spread by seed, pollen, animals, insects and humans. GE crops get mixed up with normal food crops and change them, so thousands of years of agriculture could be ruined.<sup>(4)</sup>

We also don't know what long-term effects GE will have on soil and the animals, insects, plants and birds that live in the environment and also to our health.

GE crops are also PATENTED this means the seeds are copyrighted so it is illegal to save seeds and pass them on. This puts at stake the world agriculture and it's harmful for everybody except the companies who own and sell the seeds.

But people all over the world from farmers to scientists are saying NO to GE crops. By saying we want to stay GE free we are winning the fight to keep our environment and food chain natural.

More and more food companies are committing to not use GE ingredients and more people are buying sustainably grown, pesticide free, healthy food and that is good for people and the planet.

## **EXHIBIT A**

### **Genetic engineering a crime against nature**

#### **WITNESS: UK government**

In March of 2005 the final results of the UK government trials (the so called Farm Scale Evaluations) were published. The field experiments - which lasted for more than four years - found damage to wildlife following cultivation of GE organisms. The results were a severe blow to the agro-chemical industry, and the results of the tests stopped widescale growing of GE winter oilseed rape.



The results of the trials showed, that amongst other things, compared to conventional oilseed rape, growing GE winter oilseed rape led to

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- fewer important food plants for insects and birds
- an increase in grass weeds which farmers may have to tackle with more herbicides, which would further damage wildlife.

#### **WITNESS: Mexico**

Maize was first domesticated ten thousand years ago in Mexico. Farmers and breeders around the world rely on indigenous Mexican maize to create new varieties that can adapt to diverse and changing environments around the world.

In November 2001 scientists from the University of California discovered contamination of indigenous varieties of maize with genetically engineered (GE) varieties. The likely source of the contamination is imported maize from the US.

As GE maize is not approved for growing in Mexico the threat to farmers of widescale pollution of age old maize is of major concern.

## **EXHIBIT B**

### **Genetic engineering a crime against farmers right to grow GE free**

#### **WITNESS: Spanish organic maize farmer**

"This year I will again sow maize. But if it is again contaminated I will abandon the growing of organic maize. It is obvious that I cannot carry on my shoulders the episodes of contamination like these, year after year."

This chilling statement came from Enric Navarro, an organic maize [corn] grower from Girona in Spain whose farm has been dedicated to organic maize cultivation for the last four years. In 2006 his crop was contaminated by genetically engineered maize. He doesn't know where it came from. It could have been from any non-organic field, quite literally, anywhere on the wind.

Enric chose to burn nearly two-thirds of his organic maize crop after testing revealed up to 12.6 percent of it was contaminated with GE, rather than allow the contaminated maize to enter the food-chain.



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Enric's contamination story is one of many in a recent report on GE maize contaminating Spanish farmers conventional and organic maize.<sup>(5)</sup>

### **WITNESS: 1.4 billion people Food security risks**

Some people say that we need to have GE crops because we need more food for the future. GE crops are not a solution to hunger because the real reasons for hunger are that people don't have money for food or land to grow crops.

Another reason GE is not a solution to hunger is that it is controlled by greedy companies that make farmers pay extra money to grow GE seeds and not allow them to save seeds for the next season. This will make things even worse for poor farmers.

The general secretary of the World Council of Churches, Rev. Dr Samuel Kobia said, "The UN Food and Agriculture Organization estimates that 1.4 billion people depend on farmer-saved seed as their primary seed source."

The real solution to hunger and malnutrition is access to a plentiful and diverse diet. This is best achieved by growing a good mixture of natural crops that don't need expensive chemicals or machines and can be easily grown by poor farmers.

There is enough food in the world and it is important to distribute it more fairly.

### **EXHIBIT C**

#### **Genetic engineering a crime against consumers right to eat GE free**

##### **Health Risks**

##### **WITNESS: British Medical Association**

There has been no long-term health testing on the effects of GE foods so no one can claim they are safe. In April 2004 the British Medical Association (which unites 80 percent of British doctors) published a statement which says that there is a "lack of evidence based research with regard to medium and long-term effects on health" of GE foods.



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##### **WITNESS: Rats eating GE maize**

In June 2005 Greenpeace obtained a feeding study, done on rats by Monsanto, using a strain of GE maize (called MON 863). Monsanto's feeding study showed significant and alarming differences between rats fed on GE maize and rats fed on conventional non-GE maize. Among other things white blood cell counts for rats fed on the GE maize were significantly different

## Doors closing in the face of genetic engineering

More and more states, regions and provinces have GE-free policies and are protecting the environment and their citizens from GE crops and food.

Following several food scandals and consistent public opposition against GE food, many food retailers and manufacturers have pledged to source their products from GE-free sources. A recently published Greenpeace report shows that the European Union (EU) – with its 455 million consumers one of the biggest food markets in the world – is almost completely closed to GE foods.<sup>(6)</sup>

As a result of worldwide opposition the spread of GE crops has so far been fairly limited. Four crops are dominant and make up almost 100 percent of all commercial applications of GE crops around the world. These crops are: soya, maize, oilseed rape and cotton. Apart from these commercial applications, thousands of (field) experiments with GE organisms are conducted around the world. These experiments include the use of animal and human genes in a wide range of plants and these field trials carry the same risks of contaminating our food and the environment.

Globally GE crops cover less than one percent of arable land.

### Governments

While the US (that produce more than two thirds of GE food in the world) is the biggest proponent of GE foods, other countries are more cautious. Governments around the world have forbidden the use of GE technology in food and agriculture or severely restricted its use.

### CASE CLOSED

Genetic Engineering guilty as charged for crimes against nature, crimes against the right of farmers to grow, and consumers to eat, GE-free crops and food.

### SENTENCE

To halt the growing of genetically engineered crops and focus on GE-free crop and food production that is grounded in the principles of sustainability, protection of biodiversity and providing all people to have access to safe and nutritious food.



July 2006 Greenpeace activists take GE maize samples on a field near Borken, Germany. This GE maize contains an insecticide, which not only kills the European corn borer, but also other insects like butterflies and honey bees.  
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### FACTS: Genetic engineering exposed

- Globally consumer preferences are against GE in food.<sup>(7)</sup>
- 27 of the 30 top European retailers have a non-GE policy throughout the EU or in their main market where they make more than 80% of their sales.
- 80% of GE crops get used for feeding animals.
- 94% of the worlds GE crops are grown in just four countries (USA, Argentina, Canada and China).
- 91% of GE seed is made and owned by one company called Monsanto.<sup>(3)</sup>
- Because labeling laws are not very good you usually can't tell from the label if a food has come from a GE plant or not but the Greenpeace GE free food guide can tell you this. See [www.greenpeace.org/gefreefood](http://www.greenpeace.org/gefreefood)

#### Footnotes:

- (1) GE can also be where certain genes are deleted or 'silenced' in a plant or genes from the same species are added.
- (2) For example in the USA GE soybeans unexpectedly cracked in the heat. Also GE Starlink corn was deemed not fit for humans to eat because it was potentially allergenic.
- (3) Other GE companies include: Bayer, DuPont and Syngenta.
- (4) This has happened in the home of maize, Mexico, where GE free maize has become mixed with GE maize.
- (5) Impossible Coexistence. The report was written by Greenpeace in cooperation with farmer organisation Assemblée Pagesa and civil society group Plataforma Trangènics Foral. April 2006. [www.greenpeace.org/raw/content/international/press/reports/impossible-coexistence](http://www.greenpeace.org/raw/content/international/press/reports/impossible-coexistence)
- (6) European markets report. Greenpeace International. February 2005. [www.greenpeace.org/raw/content/international/press/reports/european-markets-report-2005.pdf](http://www.greenpeace.org/raw/content/international/press/reports/european-markets-report-2005.pdf)
- (7) World consumer preferences are against GE in food Executive summary. New Zealand Royal Commission of Inquiry on Genetic Modification. 2001.

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