



# MONSANTO out of our food

**GREENPEACE**

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Farming practices that bring about food security and sustainable livelihoods – and which address the range of social and ecological impacts of farming – exist in all parts of the world. Genetic engineering sets back and threatens all of these farming solutions. It contaminates the very seeds which are the basis of our daily food and it ties those seeds, and our futures, to the use of agrochemicals.

It does this for the benefit of shareholders in a handful of transnational chemical companies, primarily those of Monsanto, and it does it at the expense of us and our environment.

Governments and civil society need to reclaim our seeds from companies like Monsanto, and we need to move forward with real solutions that feed us all and sustain the earth.

## **Monsanto, a global polluter**

Monsanto is the leading company responsible for contaminating the environment with genetically engineered (GE) crops. Its products accounted for over 90% of the total area planted with GE crops in the world in 2001<sup>1</sup>.

Monsanto's business strategy is to develop new GE products while in the meantime building public acceptance of genetic engineering and gaining regulatory approval to find new markets for its existing GE seeds (soya, maize, canola, potatoes, cotton). For example, Monsanto has applied or received authorisation to grow GE soya in Brazil, GE maize in the Philippines, GE canola in Australia, GE cotton in India, and GE maize in Europe. It is also preparing the ground for its next GE crop, herbicide-resistant wheat.

## **A company in a hurry**

The fact that Monsanto is in a hurry to have its GE crops grown is not a good reason for governments to be rushed into authorising them. It is clear from the evidence that GE crops pose real and proven environmental, social and economic threat while offering little benefit except to the companies producing and selling them.

Monsanto is a company that exerts political influence, particularly in the USA, and is experienced in manipulating governments, the media and scientific opinion in order to gain approval for its



**Top: shipment of GE maize at dock. Below: Greenpeace activist on the anchor chain on ship delivering GE soya to New Zealand.**

products. Monsanto's marketing team will tell many stories; but in reality there is no compelling reason, no major benefit, and no big hurry for governments to give authorisation to grow GE crops.

### **A company with financial troubles**

Monsanto was bought by pharmaceutical company Pharmacia in 2000. In 2002, Pharmacia spun-off its controlling stake in Monsanto to clear the way for Pfizer (an even bigger pharmaceutical giant) to buy Pharmacia. Monsanto is now a separate company selling mainly chemicals, GE seeds and conventional seeds<sup>2</sup>.

Monsanto's stock dropped significantly during 2002, from \$33.99 in April to a 52-week low of \$13.20 in July. It hasn't recovered since and was still under \$20 in January 2003<sup>3</sup>. The CEO was unceremoniously removed in December 2002<sup>4</sup>, not long after the company wrote off \$154 million of bad debts due to the economic crisis in Argentina where it had pushed GE soya seeds and herbicide on credit. Other factors contributing to the current financial troubles include market and farmer rejection of GE crops, government regulation in many countries, increased competition for its best-selling herbicide Glyphosate since its patent ran out in 2000, and "the weather".

### **Taking control of the seed supply**

Monsanto bought its way into a key position in the seed market by spending billions of dollars buying up plant-cultivating firms including the market leaders in maize, soybeans and cotton. Included on this shopping spree were Asgrow Agronomics (1996), Monsoy (1996), Calgene (1997), Holden's Foundation Seeds (1997) and DeKalb Genetics (1997). At the same time the company acquired important GE-related patents and access to valuable germplasm. Monsanto is the dominant or next-to-dominant player in the key maize and soybean markets in North America, Latin America and Asia.

Monsanto has contaminated conventional crops on a massive scale. It is one of the companies responsible for the GE contamination of Canadian canola, and it's GE maize was found in Germany in 2001. In Mexico – the 'centre of diversity' for maize, one of the world's most important staple food crops – the company is potentially implicated in the serious contamination of indigenous landraces by GE varieties. Monsanto is currently undertaking field-trials for wheat and, in December 2002, applied to the Canadian Food Inspection Agency for commercialisation of GE wheat in Canada. It is understood the company has also applied for commercialisation in the US.

## **Monsanto: selling chemicals and suing farmers**

Most of the GE seeds marketed by Monsanto are resistant to the company's own 'broad-spectrum' herbicide, Roundup/Glyphosate. So the more GE seeds Monsanto sells, the more profit it makes on its herbicide. In 2001, 'Roundup-ready' (i.e. herbicide-tolerant) crops accounted for 77% of the acreage sown to GE crops, and Roundup is now the world's biggest selling herbicide and Monsanto's main source of profit.

When US and Canadian farmers buy GE seeds they are – more often than not – tying themselves to a contract which bars them from saving seed for use the following year and obliges them to buy Monsanto's chemicals. These contracts, and the patents on GE seeds, deny farmers the right to save, exchange and replant seeds, and forces them to buy new patented seed each season. Monsanto is currently suing hundreds of US and Canadian farmers for saving seed or otherwise breaching the patent. At the same time, Monsanto itself is being sued by farming, scientific and civil society organisations for the contamination of conventional and organic agriculture<sup>5</sup>.

## **Promises and realities**

The commercial planting of GE crops began in 1996 and was accompanied by a fanfare of promises including "outstanding yields"<sup>6</sup>, varieties that "yield higher"<sup>7</sup> and decreased use of agrochemicals. Monsanto claimed that "herbicide use was, on average, lower in Roundup Ready soyabean fields than in other US soyabean fields"<sup>8</sup>. Today farmers are still being lured with the promise of increased returns: "*There's profit in your fields. Unleash it with Asgrow Roundup Ready soybeans... With Asgrow soybeans, profitability runs wild*" says one advert<sup>9</sup>.

However, the promised increases in yield have not materialised. Independent analysis points to a drop in yield of 5-10% with Roundup-Ready soya, and this is supported by anecdotal evidence from farmers<sup>10</sup>. Likewise agrochemical use has not decreased. Analysis of data from the US Department of Agriculture reveals that more herbicide is applied to Roundup-Ready soya than to conventional soya<sup>11</sup>. Herbicide use is increasing in part because weeds are becoming herbicide tolerant<sup>12</sup>.

Farmers' profits – e.g. in the US – have also not increased. While in some cases farmers have managed to reduce production costs with GE crops, for many this has been offset by technology fees and lower market prices as well as by lower yields and higher agrochemical costs for some GE crops<sup>13</sup>.

Additionally, GE crops have brought with them a host of new issues. Herbicide resistant volunteers and 'superweeds' are emerging as serious problems, particularly with regard to GE canola<sup>14</sup>. Contamination of non-GE crops through outcrossing or mix-up during transport and handling has also become a widespread phenomenon.

## **Monsanto and trade**

It was reported in August 2002 that Rufus Yerxa, former US Ambassador to GATT and International Counsel to Monsanto, had been appointed as the US deputy to the new Director General of the World Trade Organization<sup>15</sup>. What role if any Mr Yerxa may play in the threatened US-EU dispute over GE crops at the WTO is not clear, however, the WTO ministerial meeting in Cancun, Mexico, in September 2003 will certainly have to address the issue of GE crops one way or another.

Also in Mexico, Monsanto may find itself at the centre of a major dispute if investigations reveal that its GE maize caused the recently-discovered contamination of Mexican maize landraces. Millions of tons of GE-contaminated maize have been flooding into Mexico in recent years from the US, facilitated by NAFTA free-trade rules. The Mexican government has not yet taken action to ban imports of American GE maize, the most likely source of the contamination. In addition, tens of thousands of Mexican farmers are currently protesting against the subsidized US maize imports which they claim are forcing them off their farms<sup>16</sup>.

## **Monsanto: contaminating Brazil**

Brazil is the world's second largest soya producer, with about 22% of global production. But unlike the other top growers – USA and Argentina – Brazil has not licensed the growing of GE crops. Over 70% of American soya production and over 90% of Argentine soya production is with GE seed<sup>17</sup>.

Monsanto first penetrated the Brazilian agrochemical market in the 1950s, and began to use the country as a manufacturing base two decades later<sup>18</sup>. In the mid-1990s, the company expanded into the seed industry with the purchase of research and processing facilities in soya, maize, sorghum and sunflowers from several other Brazilian (e.g. Agrocere, Monsoy) and US (e.g. Cargill, DeKalb, Asgrow) companies<sup>19</sup>. The acquisition of Agrocere alone gave Monsanto a 30% share of the Brazilian maize-seed market<sup>20</sup>. Monsanto stands to reap huge rewards if GE soya is approved in Brazil, but Brazilian farmers, exporters and civil society – and the environment – will pay the price.

Monsanto's seed sales in Brazil are currently restricted to conventional cultivars of soya and hybrid maize. However, even without GE crops, Monsanto today leads the Brazilian maize-seed market, and is second only to Embrapa, Brazil's leading federal agricultural research institution, in soyabean sales.

In fact, Monsanto has signed a series of research partnership contracts with Embrapa. The contracts are aimed at inserting Monsanto's glyphosate-tolerant genes into Embrapa's soya cultivars. Monsanto has patents on the genes and on some of the techniques, while publicly-owned Embrapa will also exercise its own Plant-Breeder's Intellectual Property Rights (IPRs) over the resulting varieties<sup>21</sup>. With their overlapping IPRs, the two partners are likely to dominate Brazil's soyabean market for many years to come. Monsanto opened a new Roundup/glyphosate production facility at Camaçari in the state of Bahia in December 2001<sup>22</sup>.

Monsanto is therefore very well placed to quickly flood Brazilian agriculture with GE seed if legal approval is ever granted, and to sell ever more of its herbicide. Monsanto's GE seeds have already contaminated Brazilian soya having been illegally imported from neighbouring Argentina.

But Brazil has much to gain by resisting Monsanto and remaining the world's major non-GE soya

producer. The figures speak for themselves: between 1996 and 2001 Brazil's exports of soya to Europe trebled (from 3.1 million to 9.7 million tonnes), while American and Argentine exports fell sharply. The country's new government has both the opportunity – and the responsibility – to ensure that Brazil does not approve GE crops and that the existing illegal GE soya contamination is stopped. The current ban on growing GE seeds in Brazil should be strongly upheld by the Brazilian courts and by the new government.

### Prevention is the only solution

Genetic engineering can have unexpected and unintended effects because the process is imprecise and random. Inserted genes may disrupt natural genes, be unstable in their new environment, or function differently than expected. Genetic contamination has the potential to be a problem that multiplies as plants grow and reproduce. Therefore, environmental damage caused by genetically modified organisms cannot be contained.

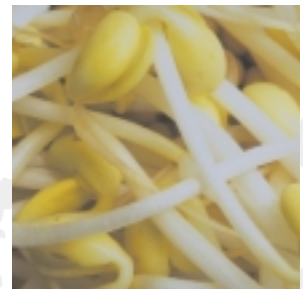
Monsanto is not the only company producing GE seeds, but it is by far the leading promoter of genetic engineering in agriculture. Monsanto must be held liable for the costs of the damage that its products cause, and be brought under the control of civil society and government regulation to prevent further damage to the environment and human health.

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#### [photos]

Soya boiling, Ulrich Baatz; docked maize, Ben Dieman; anchor protest, Fotopress; sprouts, Fred Dott



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