

## **The power in food GM crops - a defining issue of our time**

In August 2001, people from Scotland's Black Isle, and the Moray Firth and Inverness areas in general, congregated in a lay-by beside a field near the village of Munloch. The field was being sown with oilseed rape genetically modified to tolerate herbicides and was the largest field trial of its kind in the UK at the time. From day one the decision emerged to continue the demonstration against this GM trial, and to watch over what was going on - gathering and relaying information, lobbying, petitioning and staying put at the big field's edge. This became the Munloch GM Vigil. The local planning authorities subsequently gave it leave to remain, and the Scottish Parliament eventually adopted its petition.

In the spring of 2002, the Scottish Parliament's Transport and Environment Committee voted to plough in the Scottish GM trials as a result of the petition in Scotland being furthered by the Public Petitions Committee. In early 2003, the Scottish Parliament's Health and Community Care Committee published a damning report as a result of its inquiry into the health impact of GM Crops (*Inquiry Into GM Crops*, SP Paper 743). By March 2005 executive government intransigence had been worn away, as the present policy statement of the Scottish Executive makes clear:

The Executive recognises that the public are uneasy about GM and that there is limited support for the commercial planting of GM crops in Scotland. The biotechnology companies have yet to persuade Scottish farmers and consumers that there are real benefits to be gained from GM crops. The Executive's role is not to persuade people to accept GM products.

On 22 March 2005, the *Independent* newspaper covered its entire front page with the banner headline, 'The end for GM crops: Final British trial confirms threat to wildlife':

Yet another nail was hammered into the coffin of the GM food industry in Britain yesterday when the final trial of a four-year series of experiments found, once more, that genetically modified crops can be harmful to wildlife.

The four-year study had shown that the powerful weed killers that the crops are engineered to tolerate would bring about further damage to a countryside already devastated by intensive farming. This was a victory for a broad-ranging, hard-fighting, UK-wide campaign.

The Munloch GM Vigil is part of the worldwide movement against GM crops. Its successes in Scotland show that popular campaigning can achieve results, and this too is something that is being experienced on an international scale. This article is written by people from the Vigil, one of whose aims is to spread more information about GM crops and the multinational companies, which promote and profit from them.

## **GM crops - the background**

Transgenic agriculture first appeared in the mid-1990s in the US, and American companies remain the world's largest growers and advocates (the European Union today barely allows any commercial plantings). The crops that are grown on a commercial scale are mainly for use in animal feed or cotton production, largely because of their potential for trade on bulk commodity markets. Four varieties - soybean, maize, cotton and canola (rapeseed) - represent 99 per cent of commercial GM plantings (an estimated 1.6 per cent of the world's total agricultural area), and are worth more than \$40 billion each year. The value of the GM products themselves is estimated at \$4.7 billion (the market value of global biotech crops is based on the sale of biotech seed plus any technology fees that apply), just over a tenth of the total commodity crop market **for these commodities**. Companies make various claims for the crops from their GM seeds - for example that they resist a particular insect pest or tolerate particular pesticides - which then boosts sales of their pesticide. The taking out of patents for these seeds is a highly questionable practice, particularly when it comes to plants the whole world has had a hand in growing and developing; the patents extend charges for intellectual property rights into contracts, and tie farmers into business systems that deny them the right to harvest seed from the crops they have grown, with prosecution threatened if company detectives discover they have done so. There are even cases of farmers whose crops have been contaminated by GM seeds spilt from trucks or from cross-pollination who have then faced costly litigation from GM producers, and hefty fines. 'Terminator' technology is the perverse extreme of this process - whereby sterile seeds are distributed, forcing farmers to buy their seeds annually. However this line of development has been halted; there is a global moratorium on field trials for this drastic technology, and a recent attempt to overturn the moratorium was defeated at the 2006 Convention on Biological Diversity.

Six multinationals lord it over the seed and chemical production ring - Syngenta, Bayer, Monsanto, Dupont, BASF and Dow; and Monsanto has 90 per cent of the GM seed market. The financial status of these players is far from secure, however, because of legal opposition from many countries to the importing and planting of GM crops and foodstuffs. This has led to various attempts to get round the obstacles, many of them unsuccessful. In 2005, following an investigation by the US Department of Justice and the Securities and Exchange Commission into Monsanto's operations in Indonesia, the company was fined \$1.5m for bribing local officials. Problems first surfaced when Monsanto disclosed to regulators in November 2002 that an internal audit had uncovered compliance irregularities in Indonesia, where the company had been losing money. In fact Monsanto closed down its Indonesian GM cotton sales operations in 2003, after two unsuccessful years, which had produced complaints over yields and pricing. Monsanto has also had to ditch other ambitions: it announced in May 2004 that it would not be introducing GM wheat to the market, and that it would halt its GM canola programme in Australia. Furthermore it has sacked 10 per cent of its workforce, and diversified away from GM, buying the non-GM vegetable seed company Seminis, and pulling out of the development of crops producing drugs (pharma crops).

The American Corn Growers Foundation (ACGF) and the American Corn Growers Association (ACGA) have consistently warned US farmers that they risked losing their exports of corn gluten because of the rejection, by the EU in particular, of their use of GM varieties. According to Dan McGuire, CEO of the ACGF:

Blundering biotech companies and their arrogance toward world buyers and consumers cost the US the valuable, cash paying European Union corn market since 1996, and caused substantial corn export reductions to Japan. Now, adding insult to economic injury, some biotech companies and their carelessness are putting the EU-25 import market for US corn gluten feed and meal in serious jeopardy, with the EU-25 now testing every cargo.

Larry Mitchell, ACGA CEO, added, "If the crafters of the current US farm policy still believe it is 'export oriented' they should require the biotech companies to get on board. Biotech arrogance is losing US exports. Maybe those same biotech companies should be sent the bill for lost corn markets, low corn prices and the resulting high cost of the farm program." When an illegal GM (Bt 10) variety grown in the USA, and exported to the EU and Japan, was discovered in 2005, all US corn exports were halted.

One of the main arguments put forward in favour of GM crops is that they will help to end world hunger and aid the health of people in developing countries. The argument about wider food availability is open to question on a number of points. Not the least of these is THE argument that the North would BE in a better position to advise on the problems of world food distribution if it made a start on the wastage of food in its own hemisphere:

Official surveys indicate that every year more than 350 billion pounds (160 billion kg) of edible food is available for human consumption in the United States. Of that total, nearly 100 billion pounds (45 billion kg) - including fresh vegetables, fruits, milk, and grain products - are lost to waste by retailers, restaurants, and consumers. By contrast, the amount of food required to meet the needs of the hungry is only four billion pounds.<sup>1</sup>

Europeans are as guilty of waste. Every year in the UK food worth £20 billion (30 per cent to 40 per cent of all produce) is discarded. This is an amount that could lift 150 million people from starvation each year.<sup>2</sup> The food shortages that exist in some parts of the world are more likely to be reduced by greater global equality than by the peddling of transgenic technology by multinational companies.

The argument about health is also a weak one, as is evident from the story of 'golden rice'. Following its failures in the marketing of GM wheat, the industry's agenda is now focused on rice - the world's major crop. However recent contamination incidents in China, where the possibility of selling GM rice is being mooted, have created an adverse reaction in world markets, the strength of which will determine the future of GM food in this area. Whilst the discovery of rice contaminated with a gm variety trialled 5 years ago

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<sup>1</sup> 'Food Waste and Hunger Exist Side by Side', Haider Rizvi, Tierramérica, 3.9.04 (IPS)  
"http://www.ipsnews.net/print.asp?idnews=25343" www.ipsnews.net/print.asp?idnews=25343.

<sup>2</sup> 'What A Waste', *Independent*, 15.4.05; see also 'Britons throw away third of food', BBC News (UK edition) <http://news.bbc.co.uk/1/hi/uk/4443111>

in the USA, has pushed us rice prices into a tailspin, and brought about import restrictions across the globe. And yet in this battle for GM rice, there has been a recurring dream of golden rice, a product that will drive blindness from malnourished children, a dream that can still be evoked as a powerful blandishment to critics and sceptics. Patents are being sought for the rice genome that would secure profits not only on a slice of intellectual property along a section of the rice genome, but on patents for similar genome sequences in all plants - a kind of universal patent. In the competition for this kind of hot property, claims and counter-claims for new products such as golden rice are part of the battle between companies.

Much has been made of the potential health benefits of golden rice, which is a product engineered to produce a form of beta-carotene, which could help people produce Vitamin A (though only if eaten with other vegetables). It is estimated that 250 million people in the world are deficient in vitamin A, with children being especially susceptible, and the industry accordingly launched a campaign for the product in January 2000 (but not the product itself). Funding was made available from the Rockefeller Foundation and EU for the development of golden rice, contributing to a 17-year development programme at \$6.2 million a year, an overall total of more than \$100 million. But even now, after six more years of research, a viable rice variety that can be grown in Asia has yet to appear, and no study has confirmed that the human body can metabolise the beta-carotene. Critics have also pointed out that abnormal quantities of golden rice would have to be eaten to obtain the required level of vitamin A, and that ready alternatives are available in leafy plants and a diverse diet. Vitamin A deficiency arises where there is poverty, poor food distribution, lack of land and resources and a vacillating political will that avoids addressing the issues. If the resources to overcome these injustices are available - as they apparently are for developing golden rice as a GM pipe dream - why are they not used to fund the much cheaper alternatives that already exist? The World Health Organisation can give a high level dosage of vitamin A in tablets costing 5 cents each. Two of these tablets each year can prevent blindness. Only \$25,000 is needed to prevent 500,000 children going blind each year due to malnutrition. In this context, the \$100 million-plus spent on research and development for golden rice is an opportunity cost that beggars belief: it represents an opportunity for very few and a cost for millions. As the editor of the *Lancet* has commented, 'Seeking a technological fix in this area may be the most commercially malevolent wild goose chase of the new century'.

### **The international trade in GM products**

For the US government, agriculture is not only of vital symbolic importance at home; it is also a key ingredient of its urgent desire to expand its share of trade in a dangerously hostile and competitive world. The US government and its agricultural lobby gravitate towards control of the food supply for monetary power and all the geopolitical influence that can get them. To imagine that this is a plot derived from the administration, however, is to misunderstand the intensity of industrial agriculture on the American prairies. The co-incidence or collusion of interest between this highly capitalised sector and government domestic and foreign policy is not a sinister conspiracy but a safeguarding of

mutual self-interest. What better way to do this than supplying food aid through the United States Agency for International Development (USAID), thus providing guarantees for the agricultural companies that their food and feed stocks have a market overseas if all else fails. The production of particular bulk commodity crops is subsidised by the United States Agricultural Department (USDA), as is their export into world markets. To quote USAID: 'Of the 50 largest customers for US agricultural goods, 43 - including Egypt, Indonesia, Korea, Taiwan, and Thailand - formerly received food assistance. In short, aid leads to trade, from which Americans stand to benefit directly'. Every country but the US gives such aid in cash, enabling food to be sourced and grown locally. In 2003, Zambia rejected the offer of GM corn as aid from the US, arguing that the corn posed a long-term risk to the nation's food security, because there was a risk it was toxic and would contaminate local seed. Zambia was vindicated in this position, since the government subsequently managed to avert food shortages, in fact producing a surplus.

The US also has agricultural technical advisory committees, established in 1974 'to ensure a private sector voice in establishing US trade policy and trade negotiation objectives'. Former US Trade Representative Robert Zoellick pointed out that Bush had selected people for these who would support 'the continuation of the Bush Administration's aggressive push to open foreign markets to US agricultural products'. When announcing a private sector appointee, Zoellick said, 'Coordinating with our agricultural community will continue to be important as the tempo of negotiations for global, regional, and bilateral trade agreements intensifies'.

National European governments and the EU have used the law to keep GM food products out of Europe, but, unbeknownst to consumers, Europe still imports large quantities of GM soya in animal feed. Campaigns are in process to raise awareness about this, and to introduce GM labelling on meat and dairy products. Pressure is being put on supermarkets to clear GM animal feed completely from their supply lines. Such initiatives have wide support, with there being every chance of achieving the changes that are necessary. The US government and agricultural lobby have resisted restrictions on the import of GM products, however, arguing that such restrictions on trade infringe free trade regulations. (It should be noted here that the US has not signed up to the UN Cartagena Protocol on biosafety; nor are traceability, labelling, liability or coexistence measures in place in the US itself.)

Pressure from US companies to avoid the legal restrictions imposed in Europe and Japan has been strongly felt in South America. In Brazil, the world's second largest producer of soya beans (after the US), legislation was passed in 2005 that seems likely to make legal the sowing of some GM products. This was greatly to the satisfaction of Monsanto, who said it had been working since 1997 to be able to legally sell its RoundUp Ready soybeans there (though for some time there had already been substantial illegal sales of GM seeds smuggled into Brazil from Paraguay and Argentina). 'The bio-safety law demonstrates that Brazil is committed to a science-based regulatory system', said Brett Begemann, executive vice-president (international) for Monsanto. 'We need to know that we can protect this investment so we can continue to bring new products to growers globally.' The full implications of the new law currently remain to be seen - as does the

extent to which Brazil has fallen to these pressures, and indeed the viability of GM soya in Brazil; this is a country where drought - exacerbated by the largely illegal clearance of rainforest, precisely to grow soya - causes major losses of soya crops.

Global trade in bulk animal feed is largely comprised of soya, with most GM soya coming from the US and Argentina. Much of this is exported to China, a place that has a huge demand for soya - it is the centre of origin and diversity of the soya bean plant itself. China imports soya to feed its rapidly expanding pig and poultry sectors, and one important struggle in the anti-GM campaign internationally is for the guarantee of non-GM supplies for this major importer. A worldwide effort to interrupt the supply of GM soya, highlighting the Argentinean and the Chinese issues as well as the associated deforestation in Brazil, has now begun.

Argentina, dominated for years by military and business elites, the International Monetary Fund and the World Bank, sees a majority of its people facing a precarious day to day scramble to obtain whatever food is going. But its economic and food supply crisis has more to do with this dominance than with any problem of natural resources. Over the last few years the acreage given over to GM soya has massively expanded and this intensive agricultural sector is booming. Charitable beneficence has even provided the hungry with GM soya as a main ingredient in the soup kitchens, though this is a product never before part of the Argentinean diet. A devastating monocultural agriculture has grown up based on GM soya, and this has diminished the supply of its formerly diverse food crops.

A new twist has Monsanto taking Argentina to court in Europe claiming patent rights on the GM soya found in its export cargoes, even though these patents are not recognised in Argentina. This is a further sign of the considerable disarray in the production and trading sector of GM products.

In Mexico a sharper resistance, culturally embedded and potent, is emerging to prevent a star spangled GM maize republic being brought in from across the northern horizon. In an open letter to the Mexican government and international community, published in October 2003, a wide range of organisations representing peasant farmers and indigenous communities proclaimed their opposition to GM crops. They released results from their own testing that had found GM contamination of native maize in at least nine Mexican states, in many cases occurring over several generations, even though the planting of transgenic maize is prohibited in Mexico. All the contamination was identified as stemming from the five multinationals that control the agricultural biotechnology industry. The letter states:

Mexican indigenous peoples and peasant farmers, the creators and developers of maize, consider this contamination to be one of the greatest attacks on their cultures, economies and livelihoods. Maize is a fundamental part of the diet and culture of every Mexican ... It is urgent that a process of decontamination be undertaken by civil society, peasant and indigenous peoples' organisations ... Given their intimate

knowledge of their land, crops and farming systems, farmers are the only actors capable of leading this process.<sup>3</sup>

## **GM crops in India**

Soya is one of the four major crops in the global transgenic agricultural programme, but cotton is another, and this has serious implications for Indian farmers. Cotton in India - the cry of independence - is not a bulk commodity food crop, but it remains a potent symbol on many fronts. In the centres of cotton production in India where small-scale farming still counts overwhelmingly, cottonseed and cottonseed oil are used as food and animal feed. Campaigns against GM cotton in India undoubtedly derive some benefit from those elsewhere, and are notching up successes on a daily basis, but these successes derive mainly from a strong culture that remains primarily agricultural, with a network of organised local, state and national groups. It is no surprise therefore that genetically modified cotton is being so vehemently resisted there, and that India should play such a crucial role in the international battles over GM crops. It represents for the GM programme a vast resource and a place of critical strategic interest.

Monsanto, which has a stake in the Indian agri-biotech company Mahyco, managed to get the Indian government to approve the growing of GM cotton during 2002, despite a million-farmer demonstration against it. And this decision on cotton potentially signalled the way forward for mustard, soya and maize. Even so, in 2006 there are no signs that GM mustard, soya or maize are anywhere close to entering the commercial agricultural scene in India; the production of GM cotton also met a serious reverse when the government decided to refuse consents for the release of a number of GM cotton varieties. A recent supreme court decision to halt all approvals for further gm trials, following deaths of cattle that had grazed on gm cotton leaves, has further bolstered the campaign. The situation may be muddled, but it is now under scrutiny and pressure as never before.

The movement in India is developing not only because of the independent-mindedness of its people, but also because of the nature of their individual household economy, which is largely agriculturally based, and is driven by the need to produce as much as the need to consume. Most consumers in India remain productive in their household economy, and for that reason remain en masse a powerful group in its democratic process. Indian states also have considerable autonomy, and this also can help the resistance. Thus, for example, the Andhra Pradesh government barred Monsanto from marketing and selling its Bt cotton varieties in the state. (Bt is *Bacillus thuringiensis*, introduced as a means of controlling bollworm depredations.) The decision was taken following the failure of the company's seeds in previous crops, and its refusal to pay compensation to farmers as decided by the agricultural commissioner of the state. According to its agriculture minister: 'The company has to respect the government's order and it has never behaved as a good corporate citizen with us'. The decision in Andhra Pradesh, which is considered to be the seed capital of India, could harm the business prospects of the company in other

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<sup>3</sup> [www.etcgroup.org/article.asp?newsid=417](http://www.etcgroup.org/article.asp?newsid=417).

parts of India. Since the ban in Andhra Pradesh a catalogue of crop failures and health problems have been reported.

The harshness of economic forces has led to many suicides by Indian farmers; the business of food is one that is deadly serious. And yet the suffering of farmers and their grassroots campaigning helps to create an authentic voice of urgency that can deliver redress and justice, little by little, front by front. One major success for Indian campaigners came after a ten-year campaign, spearheaded by an Indian NGO, when in May 2005 the European Patent Office finally decided to revoke in entirety a patent right it had earlier granted on a fungicide derived from Neem. This is an Indian medicinal tree that has been used for several thousand years to treat infections and skin conditions. The patent application was deemed an act of bio-piracy.

## **Europe**

In Europe there has also been a mixed picture. Agriculture ministers have been divided, and unable to find the necessary qualified voting majority to approve releases of GMOs. The EU itself is in conflict at the World Trade Organisation with the US over the bans imposed by individual nations and regions on growing GM products. The EU Commission at one point highhandedly decided to end the six-year moratorium on imports, but its proposal to stop the national bans was successfully opposed by the Council of Environment Ministers in 2005.

In 2005, the European Commission advertised for tenders for a study on the cumulative long-term effects of genetically modified crops on human and animal health and the environment. This marked the success of one strand of campaigning, and indicated how much the ground had shifted in the two years since the Scottish Parliament health committee report on GM crops. Then in 2006 the WTO did not deliver the verdict sought by the United States and other major GM crop producing countries on GM crops. It chose not to comment on their safety and, contrary to reports in some US media, recognised the rights of all nations to restrict the imports of GM foods. The US government and agri-biotech industry claimed as a success the WTO's declaration that once biosafety regimes were put in place, they must be followed through. But the hopes of a great breakthrough into the EU market for GM food were effectively dashed by the WTO decision.

In the struggle over the control of food between people and the alliance of corporations and governments, the campaign against GM is being won. Despite monopoly power and the patenting of strands of natural life, the demand of awkward customers can succeed even in the teeth of democratic deficits. The solidarity of different campaigns around the world has brought out common questions on health, environmental and socio-economic impacts, and on the structure of agriculture. The GM campaign has been an entry point to attack the iniquities of subsidised bulk commodity production, dumped inedible surpluses and expensive waste. From this, discussion has become much sharper about protection of the environment in its widest sense, access to healthy, affordable food produced for the world's peoples and the correlative removal of poverty. Bad business, bad government,

bad science and bad philosophy have been and will continue to be unravelled at every level and on every front that they operate on. There may well be a realisation of where power lies; and once people realise they have been sleepwalking around, totally glaukit, they will perhaps grasp that their responsibility is to reclaim their own power.

*Anthony Jackson and Nigel Mullan  
for the Munlochy GM Vigil.*