

# Food fights

The USA and the EU are getting into another squabble over genetically modified crops

On 13 May this year, the US government filed a lawsuit against the European Union (EU) via the World Trade Organization (WTO), claiming that the failure of the EU to lift its moratorium on the import and approval of genetically modified (GM) crops and foodstuffs was in breach of WTO rules. Having waited five years since 1998, when the bans on GM products started spreading through EU member states like wildfire, the patience of the world's largest producer of GM crops had finally snapped. US trade representative Robert B. Zoellick summed it up in a statement made before the suit was filed: "The EU's moratorium violates WTO rules. People around the world have been eating biotech food for years. Biotech food helps nourish the world's hungry population, offers tremendous opportunities for better health and nutrition, and protects the environment by reducing soil erosion and pesticide use."

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Despite the truth in much of that statement, the USA's strong-arm tactics, motivated by economic considerations, may well backfire with European consumers. Naturally, there are also many scientific arguments as to why Europe should give green biotech a chance, but Europe would have done much better to address those itself, rather than wait for another country to sue it. Now GM crops and plant biotechnology risk being degraded a step further from a notorious scourge to a mere weapon in a trade war. But the blame for the escalation in the trade war between the USA and the EU should certainly not be placed on the USA alone. Clearly, the EU has

to take a big share itself, considering the feckless way in which it has handled these valuable resources.

The seeds of discontent were planted in February 1997, when Austria banned a GM corn variety, developed by Novartis (Basel, Switzerland), that had already been approved by the EU. Such a ban should only have been upheld if new scientific data could be produced to support the case—which they were not. However, "the EC [European Commission] failed to implement that legislation", according to an official at the EC, and this catalysed a spate of other bans on EU-approved GM corn and rapeseed varieties by France, Germany, Greece, Italy and Luxembourg. The EC could have avoided this by processing the cases correctly and presenting a verdict asking member states to withdraw their cases. Instead, in the midst of this frenzy, which was eagerly fuelled and supervised by non-governmental organizations (NGOs) claiming to represent consumers, the EU conveniently stopped approving any new agricultural biotech products.

Such lack of political resolve was only matched later by the EC when drafting the 6th Framework Programme, during which plant research mysteriously disappeared from the thematic priorities. It was reinstated solely at the vehement insistence of the European Plant Science Organisation (EPSO), and appeared disguised in the work programme 'Life Sciences, Genomics and Biotechnology for Health'. But the public, satisfied that its will was being carried out, was about to be persuaded otherwise by an EC that had become poignantly aware of the potential economic consequences. Hearing the creaks and groans of a crumbling biotech sector, the EC frantically set about trying to persuade the errant member states to lift their de facto moratoria on approval and field

trials of GM crop varieties. At a stakeholder conference held in Brussels, Belgium, in September 2001, entitled 'Life Sciences and Biotechnology—a Strategic Vision', some would even have described the EC's technique as 'hard sell'. Alas, despite years of cajoling, the moratoria could not be lifted. A large part of the problem, according to Chris Lamb, Director of the John Innes Centre, Norwich, UK, is that "Europe has singularly failed to look at a regulatory structure in a way detached from public opinion about those products. [...] The people of Europe may not want the products, but that's a consumer choice issue."

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To add spice to the confusion, the precautionary principle was then invoked, thus turning the proceedings into an exercise in trying to accelerate with one foot firmly planted on the brake. In the face of scientific uncertainty, says the precautionary principle, one should have the right to take appropriate measures. But with 15 member states and an equal number of ideas as to what constitutes 'appropriate', the precautionary principle was no more than a helping hand for the anti-GM lobby. The mistake was, perhaps, not to look at the other side of the argument. The EU became entangled in mechanisms for ensuring the safety of something that has never been shown to be harmful, instead of promoting the evidence that there was no reason to consider it unsafe in the first place. Added to this was the insistence of NGOs on ever lower limits for GM contamination in non-GM products; a strategy that can be perpetuated *ad infinitum*.

These events have had a devastating effect. Only one EU country, Spain, still grows GM produce, albeit only maize for cattle feed. Plant biotech companies have all but sold up and moved out of Europe, and basic research on plants is threatened. And this will certainly not be the best thing for the European consumer either, as Christopher Leaver from the Department of Plant Sciences at the University of Oxford, UK, pointed out: "We won't be involved in the technology, so we won't be involved in setting the regulations elsewhere."

Even Switzerland, a non-EU country, which in 1998 guided public opinion to being narrowly in favour of continuing GM research, has serious problems. As Richard Braun, President of Gen Suisse (Bern, Switzerland), the Swiss biotech information site, remarked, "Switzerland has a five-year moratorium only on commercial releases, but with experimental releases the regulations are so hard to get around [...] A project at the ETH [Eidgenössische Technische Hochschule] in Zürich to grow disease-resistant wheat on a mere 8 m<sup>2</sup> got stuck in legal administration for 3 years." Apart from the economic impact on European plant biotechnology, this also adds to the brain-drain that Europe has to contend with. Ingo Potrykus, the father of golden rice and Professor Emeritus at the ETH, recalled, "I had established at the ETH Zürich a curriculum 'agrobiotechnology', which was quite successful until recently; it has been cancelled now because not a single student enrolled last semester." As Marc van Montagu, founder and scientific advisor of the Institute for Plant Biotechnology for Developing Countries in Gent, Belgium, commented, "it is clear that the inventions and the construction of the first prototype plants were done in Europe. But every year Europe loses more and more. [...] Europe has been shamefully inadequate in informing its society of the technology progress in plant biotech."

Compare this picture with that in the USA, where the public has voted with its purses and mouths for the last 10 years, consuming processed foods, 75% of which contain GM ingredients. Eighty per cent of American Soya beans, 38 per cent of corn and 71 per cent of cotton plants are GM varieties. Furthermore, it is no coincidence that public trust in and enthusiasm for science are higher in the USA than they are in Europe. Like many things from the big country, the USA's example has spread to the rest of the world, where in 2002 more than

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58 million hectares of biotech crops were grown; the figure could now be nearer to 70 million hectares. In global terms, 45% of soy, 20% of cotton, 11% of corn and 11% of rapeseed are produced from biotech varieties.

Europe's example, too, has spread beyond its borders; mostly to developing countries that can ill afford to turn down GM food-aid, as Zambia did in 2002. But the lack of confidence generated by Europeans' inability to agree on a set of regulations is compounded by some of the large European food chains, which set stricter limits for GM contamination from developing world suppliers than they do for EU suppliers. Europe's stance on GM crops has long annoyed scientists like Potrykus, whose research on GM varieties is directed at alleviating malnutrition in the developing world. But he is just as annoyed by the USA's hijacking of the argument, because his laudable aims have been misrepresented for political purposes. "I cannot continue with this [justifiable] argument because Mr. Bush has discredited it very badly," he noted. "To me, it is obvious that the WTO case and Mr. Bush's propaganda will cause a most severe backlash to any attempt to gain some acceptance for GMOs [genetically modified organisms] in Europe and the developing countries." Potrykus shares this opinion with many other scientists, Braun included.

The real truth about the acceptance or otherwise of GM crops in developing countries is perhaps best told by the small, politically insignificant farmers who use them, and who see only the benefit of a higher yield.

Seventy-five per cent of all farmers using GM crops in developing countries own no more than two hectares of land, according to 2001 figures. What the USA may be more peeved about, on a political level, is the shunning of its GM-maize food-aid to Zambia, and the insistence by others that it be milled before it can be accepted. But paramount among the concerns of the USA is the damage that the EU moratorium had been inflicting on exports: an estimated reduction in potential income to US producers of US \$300 million annually. Between 1998 and 2002, the US export of corn alone to Europe dwindled from US \$63 million to 12.5 million.

Europe is just as concerned by the economic damage that public fears of GM technology are doing to the continent's agribiotech industry, but public negotiating skills are surely preferable to the brute force of another economic superpower. The EC argues that a little patience is all that is needed while newly formulated labelling and traceability regulations make their way through the European Parliament and Council of Ministers, after which the authorization regime will be restarted. Unfortunately, these regulations have a sting in the tail for US producers, because GM corn-gluten feed, previously exempt from labelling, will in future have to be labelled as GM and produced from corn that is approved in the EU. At present, more than 90% of corn-gluten feed in the EU is imported from the USA. And although the process of passing the regulations may be complete before the end of 2003, according to an EC source, a failure of the Parliament and Council to concord—as frequently happens—could delay the emergence of the new regulations until spring 2004.



All things considered, the lawsuit from the US administration could not have come at a worse time. The green biotech industry is in tatters, public sensitivities are outraged and GM technology has become further allied to economic and political imperialism. GM products can scarcely fall in popularity, but it seems that they will if the USA wins and gets its produce onto European supermarket shelves. But the USA is unlikely to be a contented winner. "What the USA is doing in trying to force GMOs into Europe will achieve the contrary of what is intended," Potrykus said. The very act of labelling them and allowing the public a choice is likely to herald their demise, and the demise too of European GM products that try to make it to market. As the EC source remarked, with some chagrin, "The whole issue is whether big supermarkets will take the risk of putting GM products on their shelves; they will take a risk for sure."

But there is another reason why the USA may not be smiling for long if it wins its case at the WTO. Ironically, not long after the case was filed, a long process of negotiations, held in Washington, DC, between the agribiotech industry and its critics concerning regulations, ended in stalemate. The process, known as the Pew discussions, involved, among others, representatives from Monsanto (St Louis, MO, USA) and consumer and public interest groups that are critical of what they consider to be poor federal regulation of the industry. The US Food and Drug Administration operates a voluntary system in which biotech companies dictate their own product-safety tests, without the need to submit full data. Some now speculate that food companies, nervous about public acceptance of GM food, could lobby congress for tighter regulations, bypassing the likes of Monsanto.



The alternative may be for food companies to avoid certain biotech crops—such as GM wheat—that are unlikely to perform in foreign markets resistant to GM products. Finally, the lawsuit itself could become an embarrassment for the WTO, whose woolly rules are not suitable for dealing with a case of such scientific and political complexity.

Whatever the short-term outcome of the present transatlantic squabble, the USA and the EU will face a future that requires even more deftness in handling public concerns than is the case at present.

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## Health is a global issue

The SARS epidemic was a wake-up call for public health authorities worldwide about the threat of emerging infectious diseases

The concerted international public-health initiative to stem the global spread of Severe Acute Respiratory Syndrome (SARS) seemed to be paying off in late May. After waxing and waning, infection and death rates were steadily falling in most affected areas, and the World Health Organization (WHO) lifted some of their travel warnings. The crippled Asian stock market also began to rebound for the first time since the Chinese authorities reported the disease to the WHO in early February. As of 29 May, 8,295 people in 30 countries have been reported to be infected with SARS and the disease had claimed at least 750 lives. SARS, the first severe and contagious new disease to emerge in the twenty-first century, was a crude and widely heard wake-up call for societies and authorities worldwide about the threat of infectious diseases in an era of global trade and travel. But seeing it from a more long-term perspective, SARS is only the thirtieth new disease identified during the past 30 years, as Noel J. Snell from the Imperial College School of Medicine in London, UK, noted in *Drug Discovery Today* (8, 22–30; 2003).

The SARS epidemic is, however, not over at the time of writing, nor is the fear it created—many people in Asia and at international airports are still wearing face masks. A new increase in SARS cases in Toronto, Canada, at the end of May tripled the tally in the city to 33 new probable victims, and the local authorities initiated new quarantine measures. Together with questions about the veracity of China's reports about falling SARS rates, the new cluster of patients in Toronto

tempered any guarded optimism that the epidemic was coming to an end. Nevertheless, scientists and public health officials had already made significant progress in fighting a disease that seemingly came from nowhere. A combination of new high-tech diagnostic methods and traditional low-tech quarantine measures helped to quickly contain SARS in many countries. Rapid DNA sequencing to diagnose the virus causing SARS and the use of infrared cameras at Asian airports to check passengers for fever prevented its further spread over international borders. A study of 1,425 patients in Hong Kong, China, also confirmed the efficacy of contact tracing, quarantining and passenger screening. It revealed that efforts to reduce the time from symptom onset to quarantine in a hospital was one of the most important public health measures in reducing disease transmission, noted one of its authors, Roy Anderson, Professor of Epidemiology and Infectious Diseases at London's Imperial College (*Lancet*, 361, 1761; 2003).

Indeed, at the beginning of June, it looked like SARS would be limited to China and Toronto. Initial cases in France, Germany, the UK and the USA earlier this year were relatively few and were quickly contained. Rapid action by the Vietnamese government also quickly rooted out the disease there, and Singapore seems to have been lucky as well. The Chinese government also became increasingly clear about the extent of the disease, and removed the Chinese health minister and the Mayor of Beijing in April, largely because they and others had tried to sweep the epidemic under the carpet last winter.