

# Force-fed a diet of hype

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The verdict of the market means nothing to the GM industry and its government friends

It is curious that this government, which goes to such lengths to show that it responds to market forces, appears to believe, when it comes to genetic modification, that the customer is always wrong. Tony Blair may have spent six years rolling back the nanny state, but he instructs us to shut up and eat what we're given. The public has comprehensively rejected the technology; the chief scientist has warned that pollen contamination may be impossible to prevent; the field trials suggest that GM threatens our remaining wildlife. Yet the government seems determined to force us to accept it.

The best way of gauging its intentions is to examine the research it is funding, as this reveals its long-term strategy for both farming and science. It seems that the strategy is to destroy them both.

The principal funding body for the life sciences in Britain is the Biotechnology and Biological Sciences Research Council (BBSRC). It is currently funding 255 food and farming research projects; 26 are concerned with growing GM crops, just one with organic production.

We're not talking about blue-sky science here, but research with likely commercial applications. We should expect it to respond to what the market wants. The demand for organic food in Britain has been growing by 30% a year. We import 70% of it, partly because organic yields in Britain are low and research is desperately needed to find ways of raising them. Genetically modified food, by contrast, is about as popular with consumers as BSE or salmonella.

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This misallocation of funds should surprise us only until we see who sits on the committees that control the BBSRC. They are stuffed with executives from Syngenta, GlaxoSmithKline, AstraZeneca Pharmaceuticals, Merck Sharp & Dohme, Pfizer, Genetix plc, Millennium Pharmaceuticals, Celltech and Unilever. Even the council's new "advisory group on public concerns" contains a representative of United Biscuits but no one from a consumer or environmental group. What "the market" (which means you and I) wants is very different from what those who seek to control the market want.

All the major government funding bodies appear to follow the same line. The Homegrown Cereals Authority spends £10m of our money every year to "improve the production, wholesomeness and marketing of UK cereals and oilseeds so as to increase their competitiveness". It lists 67 wholesome research projects on its website. Only one is designed to increase the competitiveness of organic farming. The Meat and Livestock Commission funds no organic projects at all, but it is paying for an investigation into the potential of the gene whose absence causes "double muscling" in cattle. Deletion of the gene leaves the animal looking like Arnold Schwarzenegger, though with rather more brains. When pictures of a double-muscled bullock were published recently, the public responded with outrage, especially when the welfare implications were explained. It is not easy to see how the results of this research could or should ever be commercialised. But the commission regards the possibility of engineering cattle with a defective muscling gene as "an exciting development".

These distortions are as bad for the scientific community as they are for farmers and taxpayers. As consumers continue to insist that there is no future for these crops in Britain, the heads of the research institutes are now warning that British scientists will be forced to leave the country to find work.

Michael Wilson, the chief executive of the government-funded body Horticulture Research International, recently told the Guardian that "Britain is lining itself up to become an intellectual and technological backwater". If so, it will be partly as a result of his efforts. Wilson, who describes himself as "evangelical" about GM, has spent the past three years switching his institute's research away from conventional breeding. He can hardly complain about the brain drain when he has tied the careers of his scientists to a technology nobody wants.

"The way things are going," according to Christopher Leaver, the head of plant science at Oxford University, "plant biotechnology is going to be stillborn here." Well, the way things are going is very much a result of the way he has directed them. Until this summer, he sat on the BBSRC's governing council. At the university, he has engineered a brain drain of his own by closing the Oxford Forestry Institute (perhaps

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the best of its kind in the world) and shifting the focus of his department from whole organisms and ecosystems to molecular biology and genetic engineering. Undergraduates want to study whole systems, so the few remaining lecturers with this expertise are massively overworked, while the jobs of the rest are threatened by the lack of demand for the technology he favours. The shift is not entirely the fault of men such as Wilson and Leaver. The government's research assessment exercise, which determines how much money academic departments receive, grades them according to the numbers of papers they produce and the profile of the journals in which they are published. You can spend 30 years studying the ecology of coconut pests in the Trobriand Islands, only to discover that you can't publish the results anywhere more prestigious than the Journal of Trobriand Island Coconut Science. But a good genetic engineering team can publish a paper in Nature or Science every few months, simply by repeating a stereotyped series of tests.

Because they cannot persuade us to eat what we are given, many of Britain's genetic engineers are turning their attention to countries in which people have less choice about what or even when they eat. The biotech companies and their tame scientists are using other people's poverty to engineer their own enrichment. The government is listening. Under Clare Short, Britain's department for international development gave £13m to researchers developing genetically engineered crops for the poor nations, on the grounds that this will feed the world.

Earlier this year, Aaron deGrassi, a researcher at the Institute of Development Studies at Sussex University, published an analysis of the GM crops - cotton, maize and sweet potato - the biotech companies are developing in Africa. He discovered that conventional breeding and better ecological management produce far greater improvements in yields at a fraction of the cost. "The sweet potato project," he reported, "is now nearing its 12th year, and involves over 19 scientists ... and an estimated \$6m. In contrast, conventional sweet potato breeding in Uganda was able in just a few years to develop with a small budget a well-liked virus-resistant variety with yield gains of nearly 100%." The best improvement the GM sweet potato can produce - even if we believe the biotech companies' hype - is 18%. But conventional techniques are of no interest to corporations, as they cannot be monopolised. If the corporations aren't interested, nor is the government.

Those of us who oppose the commercialisation of GM crops have often been accused of being anti-science, just as opponents of George Bush are labelled anti-American, and critics of Ariel Sharon anti-semitic. But nothing threatens science more than the government departments that distort the research agenda in order to develop something that we have already rejected. #