

# Science Policy

*Dick Taverner*

Generally the Government's science policy, and especially the former science minister, David Sainsbury, deserve high praise. My main concern, however, is with the depth of its commitment to the principle on which all science ultimately depends: the evidence-based approach.

Ministers pay lip service to the principle, but often fail to defend it when they come under pressure from special interest groups. There was, for instance, the decision of the Medicines and Healthcare products Regulatory Agency (MHRA) to license claims for the efficacy of homeopathic products solely on the basis of homeopathic provings. While it may seem a minor issue, for the first time the MHRA abandoned its long-standing principle that medical claims must depend on scientific evidence. Why? According to the Government's explanatory memorandum, otherwise development of the homeopathic industry would be inhibited!

As the President of the Royal Society stated in a House of Lords debate, for homeopathy to work except as a placebo requires the suspension of the laws of science. Nevertheless it is supported by public funds. Whereas the NHS cannot finance many life-saving but expensive new drugs that have been proved to be effective, it supports four national homeopathic hospitals. Some 40 per cent of GPs offer NHS treatment by alternative medicine and 16 universities award science degrees in complementary and alternative medicine (including homeopathy, reflexology, ayurveda, shiatsu and qigong).

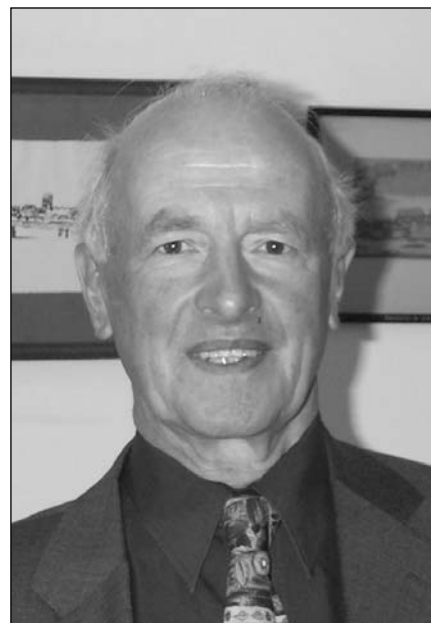
Much more important is policy on biotechnology. The Government's record on stem-cell research (except for an early wobble on "chimera" cells) is generally good. But under pressure from green lobbies, Britain like the rest of Europe has virtually opted out of

agricultural biotechnology. After years of inaction it has only recently permitted the experimental cultivation of one GM crop, a potato resistant to blight. There could be no greater contrast with China, one of our biggest future competitors, which plans to base its industrial growth firmly on science and especially on biotechnology. It will soon be responsible for over half the world's research into the development of GM crops, particularly new varieties of rice and of other staple crops that will benefit hundreds of millions of poor farmers.

Sir David King, the former chief scientist, recently came out strongly in favour of GM crops. He said they are safe, essential for feeding the hungry and can help mitigate the effects of climate change. Where were the declarations of ministers in his support? Throughout the GM debate, with the exception of one speech by Tony Blair, ministers remained silent.

Pressure from lobby groups, supported by restaurant and supermarket boasts that they are "GM free", has led the public to believe that GM crops are not safe to eat. Yet the experience of hundreds of millions of people who have now been eating food with some GM content for over a decade, has not produced a single case of harm to human health. The findings of every major independent study by independent sources, WHO and numerous national academies of science are unanimous: there is no evidence that GM crops are any less safe to eat than conventional crops.

It is claimed that GM crops are bad for biodiversity and the environment. In fact their cultivation has significantly reduced the use of herbicides and pesticides because they reduce the need to spray them. They can also avoid or minimise the need to plough, which saves energy, prevents the



emission of greenhouse gases from the soil and stops soil erosion. Many people object that GM crops mainly benefit big business, but new technologies often do. That is no more reason for rejecting the technology than rejecting life-saving drugs because they are produced by large pharmaceutical companies. In fact over 10 million small-scale farmers in developing countries have already increased their income and improved their health by growing GM crops, mainly cotton. Most of the next generation of genetically engineered crops will be developed by public funds, though chiefly in China.

So what should the Government do? It should fight within the EU to unravel the over-regulation that has made it hugely expensive and time-consuming to develop new GM crops. This regulation not only penalises small companies, but prevents the developing world exporting GM crops to Europe. Next, through DfID, it should follow where the Gates Foundation leads and help agriculture in Africa realise the benefits science can bring to such staple crops as bananas, cassava, rice and sorghum.

Above all, it should recognise publicly, as China and India have, by word and deed, that biotechnology is a key industry of the future, with a vital role in feeding three billion extra mouths, making better use of increasingly scarce agricultural land and mitigating the effects of global warming.