

The Taboo Food— Genetically Modified Anything

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IN HIS address to the Commonwealth Club in San Francisco last year, Michael Crichton (notable American writer and author of *Jurassic Park*) suggested that Environmentalism is a new religion and largely a ‘remapping of traditional Judeo-Christian beliefs and myths’. Crichton described organic food as Environmentalism’s ‘communion’, ‘that pesticide-free wafer that the right people with the right beliefs, imbibe’.

Organic food might also be seen as equivalent to the Jewish kosher and Moslem halal—that is, food prepared according to a correct tradition. And while Jews and Moslems have their taboo food in pork, for Environmentalists the taboo food is anything genetically modified (GM).

In Sydney, in September last year, the big names of the Australian food scene attended the launch of Greenpeace’s True Food Guide, where Margaret Fulton declared that she hoped to keep Australia free from GM food and thus our food, ‘safe to eat for my children, grandchildren and great grandchildren’.

Dr Jim Peacock, President of the Australian Academy of Science, has repeatedly made the point that, ‘Although I can’t give you an absolute guarantee that there will never be any damage to anybody, I can say that these foods are as safe as any other food on the market ... In six years (since the introduction of GM food), with billions of meals having been eaten, there’s not a single case of trouble’. But as Crichton explains, ‘One of the defining features of religion is that your beliefs are not

troubled by facts, because they have nothing to do with facts’.

While Greenpeace and Margaret Fulton advocate that Australian consumers reject GM food, and most Australian State Governments have introduced moratoriums to prevent the planting of GM food crops,¹ globally the area planted to GM crops is increasing. In 2003, 67.7 million hectares were planted to GM, representing an increase of 15 per cent on 2002. In 2002, GM planting accounted for 20 per cent of the total world area planted to the four main GM crops—soybeans, maize, cotton and canola. Over the last few years, uptake of the technology has been rapid in North and South America, but anti-GM campaigning has slowed or blocked plantings in Europe, most of Africa and parts of Asia.

While I respect Margaret Fulton’s desire not to eat GM food—as I respect the rights of my Moslem friends not to eat pork—the anti-GM campaigners do not appear to accept my right to choose GM.

I might choose to eat GM because I can see real environmental benefits from the technology—particularly in terms of reduced insecticide and herbicide use. For example, growing genetically modified Bt cotton—that has in-built resistance to cotton’s major pest *Helicoverpa*—has resulted in an average 56 per cent reduction in pesticide use since the GM variety was first planted in Australia in 1996.

The Australian Federal Government recently approved the planting of GM canola on the basis that it is no more harmful to human health or the environment than con-

ventional canola varieties. Over the next few months, the Victorian and NSW Governments must decide if they will let the newly approved (by the Federal Government) GM canola varieties be planted in farm-scale trials.

Recognizing the importance of these decisions and, in particular, to ‘prevent the genetic contamination of Australia’, Greenpeace sponsored a lecture tour by the former UK Environment Minister, Michael Meacher, to Australia from 8 to 12 February.

We are at a crossroads in Australia. We can go the way of countries such as Canada, the US and Argentina and accept GM food crops. Alternatively, we can accept the Greenpeace way and, like Europe, essentially reject the use of the technology for food production. The implications are significant for the environment and particularly for the long-term international competitiveness of Australian agriculture.

No new GM foods have been approved in the EU since 1997. Theoretically, GM foods in the EU are labelled as such, however ‘food produced using GM organisms but not containing GM material’ and ‘food from animals fed GM animal feeds’ are exempt from being labelled GM. Europe imports approximately 6 million tonnes of soybean from the US each year, of which approximately 80 per cent is GM. This GM product is crushed, and the soybean oil that is chemically identical to non-GM product is sold as vegetable oil for human consumption, while the remaining soybean-meal is typically fed to animals in feedlots.

A Bayer CropScience application to grow the same GM canola in Europe that was recently approved by the Australian Federal Government has been pending in Brussels since 1996—the same year GM canola was first grown commercially in Canada. On 2 February this year, the Belgian government, on behalf of the European Union (EU), rejected the application.

Interestingly, however, the Europeans have approved the importation of GM canola seed for consumption; that is, they will eat GM, but not grow GM. Furthermore, the documentation supporting the European decision to reject GM canola indicated that the herbicide currently used to control weeds in conventional canola in Australia will be phased out in Europe by April 2005 because of environmental concerns.

It was reported in the Australian media that GM canola was rejected by the Europeans because its planting will result in 'greater environmental harm' and is 'more damaging to wildlife' than conventionally-grown varieties. I read the final report and found that the issue was 'a loss of biodiversity' as demonstrated in farm-scale evaluation trials in the UK. The reduced biodiversity was directly attributable to 'better weed control'. In fact, there was a '3-fold lower weed biomass and a 5-fold lower (weed) seed rain' compared with conventionally managed canola. GM canola was being rejected for the very reason it had been developed—better weed control.

The history of crop cultivation in Europe dates back 2,000 years. Many crop weeds are now considered native and valued by conservationists as habitat for insects that are fodder for farmland birds. The same weeds are a production cost.

If the UK trials had shown the GM canola system did not give improved weed control, then no doubt the technology would have been rejected on the basis that it failed in its key objective. But the trials showed that cultivation of GM

canola provided superior weed control. GM canola was rejected because 'loss of biodiversity' means fewer weeds. Clearly GM is in a no-win situation in Europe.

European agriculture is heavily subsidized and is increasingly as much about the provision of 'environmental services' as it is about food production.

If our State Governments reject GM canola, we will be denying Australian canola growers the production efficiencies our cotton growers enjoy in new GM varieties and we will be putting them at a competi-

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tive disadvantage relative to, for example, Canadian canola growers. A University of Melbourne study suggested that GM canola is worth \$135 million per year to Australian farmers. The study identified the adoption of GM canola as giving farmers additional options for controlling problem weeds and earlier sowing.

A key message in Crichton's speech is that we need to 'abandon the religion of environmentalism, and return to the science of environmentalism'. A critical issue largely overlooked by Crichton, however, is the extent to which the religion of environmentalism uses the authority that science can give to an idea to justify and legitimize belief.

The day after the Europeans rejected Bayer's application to plant GM canola, Greenpeace accused Australia's GM regulator of ignoring the 'only comprehensive ecological

study ever undertaken into GM canola' which showed 'commercial planting of GM would have impacts on biodiversity that could not be controlled'. Greenpeace was correct to imply that the scientific method supported its position. Indeed, the UK farm trials were scientific in that they tested the null hypothesis that the GM canola cultivation system is equivalent to the conventional cultivation system. The results showed that the GM cultivation system gave significantly better weed control—in other words, the cultivation systems are not equivalent. However, to use this information to then determine that GM canola is 'harmful to the environment' is nonsense and ignores the environmental advantages of improved weed control—in particular, through reducing the area of cultivation needed to produce the same quantity of food. If we are to eat, we need to cultivate—but let us do it as efficiently as possible. Thanks to modern high-yielding agriculture, we now have full bellies and leisure time and can admire nature from a distance.

Untangling science from environmental fundamentalism is not going to be easy. But, to press Margaret Fulton's appeal made at the launch of Greenpeace's True Food Guide in Sydney, we owe it to our children and grandchildren to do just that. Indeed, to quote Crichton, 'If we allow science to become politicized, then we are lost. We will enter the Internet version of the dark ages, an era of shifting fears and wild prejudices.'

NOTE

- 1 Cotton is exempt from the moratorium on the grounds that cotton is not a food plant because it is grown primarily for fibre. However, approximately 1 million tonnes of vegetable oil is produced from crushed cotton seed in Australia each year.

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