

GENETICALLY-MODIFIED FOOD – THE SCORE SO FAR

The Case For

I have always maintained a strictly neutral stance on genetically-modified food. This may seem out-of-character because, since 1973, I have been a grower of purely organic fruit and vegetables in my garden and on my allotment. The reason I have been neutral is because of the awful statistic that around 40,000 people die every day because of starvation or because of a greater susceptibility to disease caused by inadequate nutrition. I did say 40,000 people per day. That is so awful that mankind must look at every means to provide more food for those without. When genetically-modified (GM) food was launched about 1996 there was a lot of publicity about the potential to increase food supplies.

There is another reason for my neutral stance. The world's population was about 2.5 billion in 1948. Sixty years later in 2008 it was about 6.5 billion. By 2050, after only another 42 years, the forecast is for 9 billion. Can we feed everybody? Between 1948 and 2008 there was a massive improvement in farmers' productivity, with the use of artificial fertilisers, pesticides, herbicides, fungicides and better crops being created through hybridisation. More land was also brought under the plough. By these means enough food was grown for 6.5 billion people. However, by all accounts, further such improvements in productivity are not possible. There will be some minor improvements – better availability of chemicals to third-world farmers, a little more land coming under the plough and so on – but there is nothing on the horizon to feed an additional 2.5 billion people. The rate of increase of World crop yields from 1970 to 1990 was 2% per year but dropped to 1.1% per year from 1990 to 2007. For the same periods the rate of increase in the demand on the land for food, feed and fuel went from about 1.5% to about 1.8% per year **so already we are surviving only by running down stocks**. We have reached crossover (a term I have just invented), where the increase in food demand exceeds the increase in food supply. Crisis is on us. Can GM crops provide the answer to feed the 2.5 billion?

At the end of the Second World War food accounted for 50% of the average family's weekly expenditure. It is now only 12% because of the benefits of a very large increase in agricultural productivity – and the increase in productivity in the economy as a whole. A shortage of food causes prices to rise. Following “crossover”, from mid-2007 to mid-2008 food prices in the UK went up by 12%. Could food prices rise to the extent of accounting for 50% of the average family's weekly expenditure in the future? Possibly. We had a period of very high inflation in 1976 and I remember the shock-horror of the £5 cabbage. The demand for allotments went through the roof. The waiting list for my allotment gardens was estimated at three years. There was a move for those with multiple plots to give them up to those on the waiting list. Such times could return – and people could be urged once more to “Dig for Victory”, by digging up their lawns as they were in the Second World War when the German naval blockade reduced our ability to import food.

Now to my attitude to GM crops. I am not a Luddite when it comes to adopting new ideas for my crops. I do not use artificial fertilisers since my plants find all the nutrients they need from the manure I apply. My plants are healthy - and healthy plants are less liable to disease. I hand-weed and use physical barriers to keep out some pests. I am purely organic – and a no-dig gardener as well since the year 2000. I scan seed catalogues with great interest, looking for new varieties of my favourite fruit and vegetables. Improved varieties become available to the amateur gardener every year and I try them. If they work I then discard the previous variety. Over the years there have been great changes to what I grow and my crops are so much better these days. I welcome conventional innovation.

The Case Against

But when it comes to GM food I hesitate. It now appears that we have had two stages of GM crops. The first stage benefitted the farmers, since they were able to use pesticides and herbicides in a more efficient manner. For example, GM seeds were sold to farmers with the assurance that the crops which resulted would not be affected by glyphosate weedkiller – so the farmers simply sprayed their

crops with that devastating chemical which eliminated all weeds. As well as the farmers, the first stage also benefitted the companies which sold the GM seed and the accompanying glyphosate. But there was no significant increase in the amount of crops harvested.

The second stage of GM food is now on us, with the promise of greater crops. One example is the fabrication of salt-tolerant plants which will grow in increasingly saline soil brought about by irrigation using water from aquifers, as in Australia. Another example is the fabrication of drought-tolerant plants. The latter could be vital in those countries adversely affected by global warming and ever-reducing rainfall. However, no breakthroughs have been announced so far regarding salt- and drought-tolerant plants. So again, GM crops have not increased the amount of food produced on any significant scale. Current developments are to extend the main list of GM crops of soyabeans, cotton, maize and rape to include rice, wheat, papaya, tomatoes, sweet peppers and other vegetables. As for GM animals, there is a lot of resistance but the Enviropig has been developed in Canada and the AquAdvantage salmon in the USA. About 8% of the World's cultivated land is now being sown with GM crops. Although Europe in general is reluctant to grow GM crops, GM maize is grown in Spain - and the European Union is considering two new types of maize which make their own pesticide and a potato engineered to produce starch for the paper industry. The EU has already approved about 20 GM substances for importation.

Now for the health effects. I remember the UK government reassuring the public about the safety of the drug thalidomide – and thousands of deformed babies were the result. I remember the UK government reassuring the public about BSE in cattle – yet over 160 people have subsequently died from the human form of the disease, CJD. Notes of a 1956 cabinet meeting have just been released from the national archive. The then minister of health proposed a campaign to emphasise the damaging effects of smoking on health – but was overruled by the then chancellor of the exchequer because the tax revenue from cigarettes was too important to be put at risk. How many people have subsequently died of cancer? No, time and again the government have lined up with vested interests rather than do their duty regarding the health of the public. So I look with a jaundiced eye at those who now say that GM food is safe. The World has been eating such food for only 12 years and that may not be long enough for health effects to become apparent.

Another example of the conspiracy of “them” against the public comes from the fooling of consumers over whether they are already eating GM food. From January 2009 “organic” food in the European Union can still be labelled “organic” if it contains less than 0.9% GM organisms. And what percentage of GM organisms will the other 98% of food not labelled as “organic” contain? Much of our food and animal feed is imported from countries outside the European Union so, although GM crops are largely banned here that does not mean that the food in the supermarkets is GM-free. Can you imagine what sales would be like if the supermarkets told the truth and put labels on food stating “This item contains genetically-modified ingredients”. The public on the whole would not wish to take part knowingly in this vast experiment with human health going on elsewhere in the World - but they are already!

This tug of war between vested interests on one hand and those responsible for public health on the other goes on and on. The latest example, although not about GM aspects, shows the motivations of people. The European Union has been conducting a review of farmers' chemicals since 1991 and has taken off the market more than half of the then available 952 products on safety grounds. The vested interests are now up in arms over the proposed withdrawal of a further batch of products. They say that the unavailability of these chemicals would make the growing of grapes, fresh fruit and vegetables in Europe problematic or uncompetitive. The EU would lose its self-sufficiency in wheat, potatoes, wine and cereals. Wheat and potato yields would drop by a third. Crops such as apples and hops could no longer be grown. Yet the vested interests seem to ignore the fact that these chemicals are to be withdrawn on safety grounds. The vested interests are quite willing to put their profits before the health of consumers. Can we believe their assurances regarding the safety of GM food?

SUMMARY

The World is not managing to feed all of its citizens at present, with 40,000 people dying per day of starvation or disease brought on by inadequate nutrition. With the World population forecast to rise by another 2.5 billion to 9 billion by 2050, and with a significant increase in food production above current levels looking unlikely, we appear to be in a very difficult situation. Already, food prices are rising – between 2007 and 2008 the World price of several cereal crops increased by 50 – 100% because of shortages. We have reached “crossover” in that the rate of increase in food demand has now exceeded the rate of increase of food supply. GM crops are seen as the answer to boost food production. But after over 12 years of GM crops in various parts of the World the result so far is no significant increase in food production. The safety of GM food is unproven. The World is at a dangerous crossroads. On the one hand we seem to be faced with mass starvation of up to 2.5 billion people and on the other hand GM food does not appear to hold out the promise of a big increase in the production of food – and its long-term effects on health are not known. Help!

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