IN THE EYE OF THE STORM

Genetically modified crops in Europe, past and future

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A long-running scare story

Europe has seen its share of food crises in recent times. Some are fairly short-lived, such as the scandal over wines contaminated with antifreeze and vegetables containing unacceptably high levels of pesticide residues. Others last longer, as was the case with so-called "mad cow" disease – bovine spongiform encephalopathy (BSE) – caused by feeding meal made from processed animal parts to cattle.

But none has had the persistence or longevity of the controversy over genetically modified (GM) crops and food. Still this rumbles on after decades. It seems as intractable a problem today as it did in the 1990s when it first surfaced. Why is this?

There are several obvious explanations. One is that, from the outset, the climate for "Frankenfoods", as they were called by the UK newspaper *Daily Mail,* was unfavourable. Earlier food scares in the 1980s and 1990s had sensitised public opinion, with people ready to hold their politicians to account on any issue concerning food safety. Secondly, the bureaucratic machinery of the European Union (EU) had not yet become sufficiently developed to create an adequate level of pan-European integration on these issues. And, thirdly, these were exactly the sorts of media stories that helped activist organisations gain publicity and political influence.

These three factors, however, were not enough in themselves to generate the GM food controversy which, by the end of the 1990s, had resulted in a polarised debate. Scientific considerations had become secondary to wider public attitudes and opinions.

Severe marketing failure

Matters were not helped by the behaviour of industrial interests seeking to commercialise the new technology. Companies in general, and the most active one in particular, Monsanto, did not pay enough attention to the context in which they were trying to market their novel products. They failed to appreciate public opinion and sentiment on food-related issues in Europe, and promoted the benefits of the new technology in ways that clearly did not resonate with their intended consumers.

KEY THEMES

- Anatomy of a controversy.
- Complex decision.
- Future prospects for breaking deadlock.

By not emphasising the real benefits to consumers, industrial players had no reservoir of goodwill and enthusiasm on which to draw when later faced with opposition. They had lost half the battle before it had even begun. In other parts of the world, especially the USA, the technology encountered far fewer acceptance problems.

Even so, a failure in marketing alone does not really explain why the controversy took hold and clung on in Europe; nor does the fact that early disagreements between scientists took some time to resolve themselves into today's broad consensus that we should embrace and not reject GM crops and foods.

The heart of the controversy

The dominant reason for GM food becoming so controversial was that it was identified early on by a number of far-sighted, active and ingenious non-governmental organisations (NGOs), notably Greenpeace and Friends of the Earth, later joined by promoters of organic farming, as being a "lightning rod" for a much wider set of concerns that they wanted to advance and popularise.

This was a late-20th century manifestation of ideas initiated by Rachel Carson in her 1960s book *Silent Spring*, an environmental "wake-up call" in which Carson accused the pesticide industry of spreading misinformation and criticised public authorities for accepting industry's viewpoint without question. Three decades later, growing environmental problems came together with the belief that capitalism – especially multinational big business – was responsible for these problems and indeed perpetuating them.

Companies in general failed to appreciate public opinion and sentiment on food-related issues and promoted the benefits of the new technology in ways that did not resonate with their intended consumers.

Those opposed to GM held a world view of global business and its ability to influence governments, at least in the USA and Europe, that set the scene for a great fight between perceived forces of good and evil. They also drew on a worry that our food supply was becoming dominated by too few private multinational companies rather than public-sector organisations. And the manner in which company marketing departments rushed to commercialise their products did nothing to argue the case for GM foods.

As a result, fairly arcane scientific debates and marketing failures transmuted into a discussion about the true meaning of sustainable development. The emphasis shifted to an examination of whether the current global model of political economy was really appropriate for both developed and developing countries. Environmental and social collapse was predicted.

Europe's regulatory response

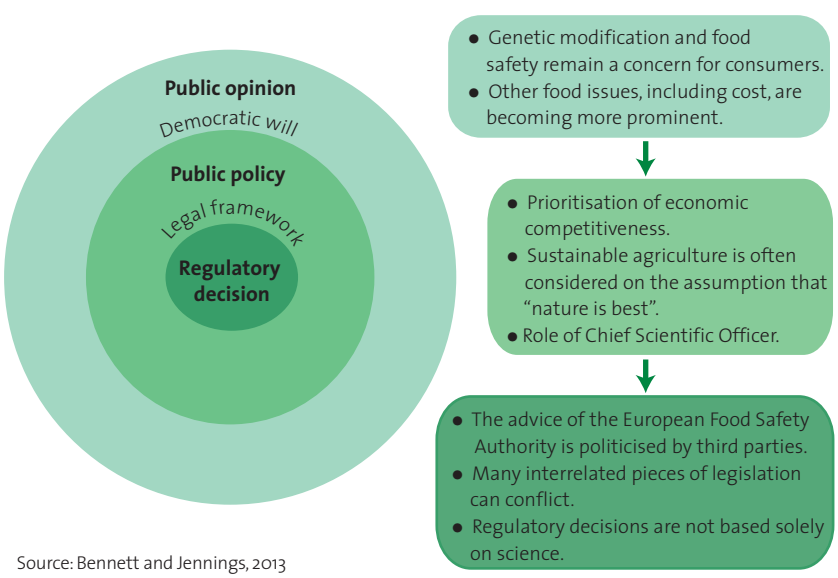
Against this hostile backdrop, Europe's current legislative framework and policy approach on GM are criticised by most environmental NGOs for being weak, and by business for being unnecessarily strict: both sides seem equally unhappy. At the same time, compared to other parts of the world, the EU's regulatory regime is considered to be highly rigorous and a firm guarantor of consumer safety and environmental protection.

Even so, the stand-off between the two sides persists, as does the controversy surrounding GM products. Some NGOs continue to oppose each new modified crop being considered for regulatory approval, argue that heavy lobbying by business and distorted scientific arguments are having an unfair influence, and mount legal challenges in the courts. Industry associations, for their part, continue to point out that the number of GM crops authorised for cultivation is lower in the EU than in most other parts of the world, and that the whole process is too slow and a disincentive to commercial investment.

Three levels of decision making

What, then, is this much-disliked process of approval and authorisation? It involves scientific consideration by the European Food Safety Authority (EFSA) followed by

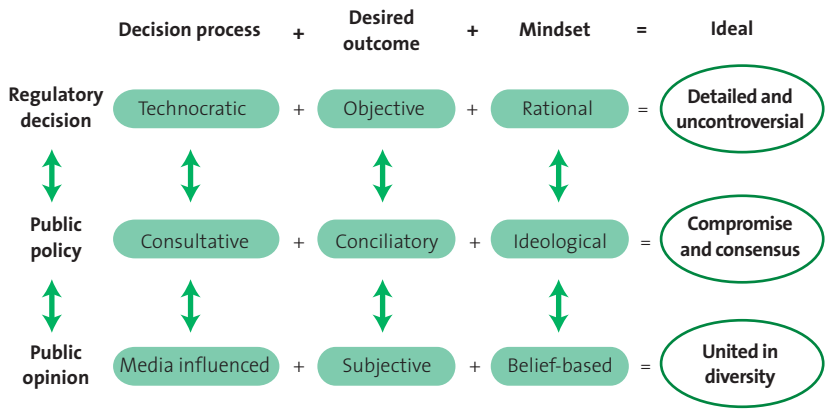
Figure 17.1 Layers of influence and the role of science in decision making



Source: Bennett and Jennings, 2013

Each level of decision making – regulatory, policy, and public opinion – has a set of characteristics that define the way decisions are made, the desired outcome, and the attitudes of those who participate in the process.

Figure 17.2 Characteristics of different decision-making levels



Source: Bennett and Jennings, 2013

expert discussions between national governments and the European Commission (EC), and ends in approval supported by the European Parliament. And it is nothing if not complex.

There are three levels of decision making. The most detailed is a specific regulatory decision on the approval or otherwise of a candidate GM crop. This is taken within the context of previously agreed legislation. The final level of influence is that of public opinion, often transmitted by means of the media as well as through the expression of political preferences at elections. The interrelationship of these different levels of influence on decisions in relation to GM crops is shown in Figure 17.1.

That is the broad picture. But, as Figure 17.2 shows, each of these three levels has its own set of characteristics that define the way decisions are supposed to be taken, the desired outcome and the mindset of participants.

In the case of public opinion, a good deal of subjectivity shapes the attitudes and beliefs of individual participants. Given the diverse histories, cultures and socio-economic situations of Europe's different countries, there is little uniformity in public opinion across the EU. Its own unofficial motto sums it up well: "United in diversity".

A very different picture emerges when one looks at regulatory decisions. These are shaped by a highly technocratic process known as comitology, which implies that all decisions are made rationally and objectively. Many thousands of decisions are

taken by the EU each year that never receive any publicity at all. Why then are those on GM crops and food so out of keeping with the norm?

The reason seems to be that there are many voices being heard during regulatory decision making and there is a lot of consultation with third-party stakeholders. The ambition is to reach the ideal of a detailed but uncontroversial outcome. Good compromises and consensus are the aim throughout, so amid this clamour of voices from all different angles – including highly divergent national positions regarding GM crops – it is no surprise that EC officials find it challenging to pin down the European interest.

The European Parliament, an institution that should be the sole forum for the direct representation of democratic opinion within the EU, also has a multiplicity of voices through a mix of ideologies of the Left and Right, Greens and others.

Crumbling boundaries

In the case of decisions over GM crops and food, the boundaries between the different levels of decision making – never wholly solid – have almost entirely crumbled. Hostile NGOs have been highly effective in using the issue to exemplify a wider problem. They cast GM as the thin end of the wedge in order to raise public concerns about any development in the technology that meets with their disapproval. They tend to portray such innovations as the creations of business corporations with no public interest in mind.

Combining this with the polarised views of Member States and the EC's commitment to comitology, there is a fear that any decision concerning GM products might be interpreted as an illegitimate imposition by an unelected bureaucracy. Near deadlock has ensued over GM approval decisions for crops to be farmed in Europe. Even the consideration of scientific evidence for a GM crop or food has been politicised in these ways – not the way in which the process was intended to operate.

What future for GM?

Where does this deadlock in decision making leave the EU in future attempts to further GM technology? Certainly, more and more stakeholders are voicing the opinion that the EU's stance has a negative effect on local investment in the technology, with knock-on effects on employment, economic and export potential. Nor does it help in meeting the global challenges of food security and climate change that affect other regions of the world more than Europe.

Keith Weller/USDA ARS/PD

By not emphasising the real benefits of novel crops when they were first introduced, the industrial players had no reservoir of goodwill and enthusiasm on which to draw when later faced with opposition.

More importantly perhaps, other regions – notably South America – see things differently. They do not perceive the health and environmental risks of GM to be as dramatic as does the EU and have gone on to exploit the technology through trade in GM food and feed. Indeed, trade in GM has grown to such an extent that it is becoming more and more difficult for Europe to source non-GM varieties and technically more difficult to guarantee that GM and non-GM are wholly separated. In fact, many millions of tonnes of GM maize and soybeans are imported each year into the EU for animal feed, making it difficult to eat steak or eggs from cattle or chickens that have not been fed on one or other of them. In other words, Europe's zero tolerance of GM may end up bringing food security problems even to the EU.

The EC is aware of this and has managed to introduce low levels of GM produce in imported non-GM animal feed. And it is even moving towards doing something similar with food, without provoking much public discussion. Though whether this will really work when it comes to food for direct human consumption is still an open question.

Another development from the EC is a new approach to decision making that might sever the link between those countries totally opposed to the cultivation and use of GM products and those in favour. The idea is that scientifically based risk assessment and consequent approval for cultivation of a GM crop would remain an EU-level task. But the actual decision to cultivate that crop would be taken at national level, thereby giving individual countries freedom to reject it for their own particular reasons.

Even though there is little genetically modified agriculture in the EU, European beef is likely to have been raised on imported biotech feeds.

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This "re-nationalisation" idea looks attractive, but it does set a precedent for invoking non-scientific reasons for withholding marketing approval for otherwise safe products of any kind. It also effectively presents an inherent barrier to trade in food and feed between EU Member States and to companies whose commercial trade is international, because it is uneconomic and uncompetitive for them to tailor their products to nationally differing markets. This runs counter to the whole spirit of both the European single market and the provisions of the World Trade Organization. So, a creative proposal remains just that: it has not been approved. Pro and anti-GM factions have once more created deadlock.

Getting public endorsement

Considering the three levels of decision making that characterise the EU in relation to GM (and other matters), it is clear that public opinion is critical to the

whole process. There seems little hope of reaching solutions at the policy and regulatory levels without having popular support.

Some parts of the EU are seeing signs of change, with other issues becoming more prominent and offsetting GM as the main preoccupation. Opinion polls indicate a slight shift in favour of GM in some countries, including the UK where the government stance has long been favourable even while some media coverage has remained highly charged. But in those countries where governments are opposed to GM there is little sign that opinion is shifting, and this situation looks likely to continue for some time unless a major crisis arises.

However, the price of food may yet have an effect on public opinion. In the UK and elsewhere in Europe, the cost of food has fallen to 10–12 per cent of weekly income, compared with some 80–100 per cent in poverty-stricken developing countries in Africa and elsewhere – that is to say food is, by comparison, very cheap in Europe. But this could change, and if fluctuations in prices were to lower the cost of GM-containing food relative to non-GM food, it would be reasonable to expect a change in attitudes and consumption patterns.

The proportion of household income that Europeans spend on food has fallen from around 30 per cent in the 1960s to 10–12 per cent today.