What is the future for GM foods in the UK?

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Introduction

Although genetically modified (GM) soya has been removed from the UK market, the issue of GM foods still has the potential to generate banner headlines and front page media coverage. The UK food industry has therefore considered how the situation may develop in the future, in order to prepare for a variety of possible outcomes.

IGD Workshop

Possible future scenarios were explored in an Institute of Grocery Distribution (IGD) workshop. IGD, the leading business research and training organisation for the UK food industry, is unique in having a membership drawn from across the food supply chain, and was thus able to bring together representatives of the relevant sectors for these detailed discussions.

Four scenarios were considered:
(1) Market rejection of GM products.
(2) The development of niche markets for GM products.
(3) GM products become mainstream markets.
(4) Complete market acceptance of GM technology.

Three broad types of GM products were considered:
(1) Products delivering consumer benefits, e.g. removal of allergens, enhanced micronutrient content, altered fatty acid composition, reduced fat products.
(2) Products delivering producer benefits, e.g. reduced need for agrochemicals, disease, drought or frost resistant crops, crops producing greater yields.
(3) Animal products involving GM technology, e.g. resulting in increased growth rate, increased resistance to disease, higher nutritional value, improved eating quality.

Scenario 1. Market rejection of GM soya

The first scenario is the current reality in the UK. The widespread concern felt by consumers is apparent from IGD research conducted in 1998 and 1999 which showed that more than 50 per cent of consumers were concerned about GM foods in the spring of
1999 (Figure 1, figures are percentages of the total sample base). The media storm in February 1999 had undoubtedly raised awareness of GM foods among the population (Figure 1). The removal of GM soya ingredients from products by retailers and manufacturers is evidence of the immense consumer pressure which brought about these changes, reflecting consumers’ genuine and deep-rooted concerns about GM foods.

It is possible that there may be further consumer rejection of GM technology, with campaign groups pressing for the removal of GM crops from animal feed, and for the removal of other ingredients produced using GM technology including additives, enzymes, processing aids, vaccinations, packaging and non-food products. Removal of these would be indicative of full-scale consumer rejection of GM technology.

How sustainable the current market rejection of GM soya is will depend on what happens elsewhere in the world. Development of a “fortress UK” or “fortress EU” mind-set, whereby the UK or Europe is alone in taking a stand against GM products, will undoubtedly lead to major tensions between trading partners. If farmer take-up of GM crops continues to increase in other countries, finding sources of non-GM supplies may become increasingly difficult and costly for UK food producers.

In contrast, if the UK situation is mirrored in other countries the possibility that the world market will reject GM products becomes more likely.

Scenario 2. Niche markets for GM products

Research conducted by IGD in 1997 suggested that consumer acceptance is likely to be higher for GM products offering a direct consumer benefit such as enhanced vitamin content, or modified fat content, than for products offering a benefit only to the producer. Producer benefits include the currently developed GM crops that are resistant to herbicides or insects. The research also demonstrated that products involving animals would be least acceptable to consumers. Hence, though future applications of GM technology to animal production may result in cheaper products, for example through the delivery of increased growth rates, consumer acceptability of these products will remain to be seen.

For GM products to become established as a niche market, as in the second scenario, the following may be needed:

• The delivery of products with overwhelming consumer benefits that cannot be met by any other production method.
• Products for which non-GM sources would be prohibitively expensive.

As GM products with substantial consumer benefits are likely to be five to ten years away from the market, it will probably take at least this long before GM products are reintroduced. The industry will need to feel very confident that GM foods will be accepted before remarketing them.

For niche GM products to become established, traceability will be essential. In addition to consumer concerns about how they are produced, another potential hurdle will be explaining the benefits to consumers, particularly products with very specific health benefits.

For example, in the USA soya oil is available with higher levels of the essential fatty acid alpha-linolenic acid (n-3 unsaturated fatty acid) that has beneficial effects on blood clotting and inflammatory responses and may therefore help to protect against heart disease. However, explaining the benefit of such a product to consumers is another hurdle. Research shows (IGD, 1998) that while consumers are familiar with advice to reduce fat intake, they have low understanding of saturates or other types of fatty acids. In the USA the high
alpha-linolenic acid soya oil is marketed as “healthier” to simplify the consumer message. Were this product to gain marketing approval in Europe in the medium term, it is questionable whether a non-specific health message would be sufficient to outweigh the use of GM technology for UK consumers.

Depending on how consumers’ opinions evolve it is possible that niche markets may develop for GM products for consumption but not necessarily for growing in the UK.

**Scenario 3. GM products become mainstream markets**

The third scenario is probably at least a decade, if not 20 years away. Research will have to convincingly establish that GM products are safe to eat with no adverse effects on the environment. Continued acceptance of GM products elsewhere in the world is likely to reduce the time scale for realisation of this scenario.

**Scenario 4. Complete market acceptance of GM technology**

For this scenario to be fully realised, GM crops would be grown without issue, and consumers would view them as natural, having no fears about them. There would be no opposing pressure groups and no need to label products.

However, this fourth scenario may be at least 20 or even 40 years away. By then many aspects of society will be different and this may favour the acceptance of GM foods. However, the question remains whether GM products will ever be fully embraced by the UK public?

**Table I Barriers and triggers to future consumer acceptance of GM foods**

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Triggers</th>
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<tbody>
<tr>
<td>Continuation of media campaigns against the technology</td>
<td>Segregation for future GM commodity crops</td>
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<tr>
<td>Demonstration of adverse environmental effects</td>
<td>Consumers show loss of faith in campaign groups</td>
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<tr>
<td>Consumer benefits are insufficient to generate acceptance</td>
<td>The Food Standards Agency is trusted by the public</td>
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<td>Negative press coverage about future technological developments</td>
<td>The price of food rises if GM technology is not embraced</td>
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<tr>
<td>There is market rejection of GM foods in other countries</td>
<td>GM products become available as a cheaper option for consumers</td>
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<tr>
<td>Segregation of commodity crops is ineffectual</td>
<td>Future technological developments make the current products seem innocuous</td>
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<tr>
<td>Public understanding of the technology remains at a low level</td>
<td>The demonstration of clear environmental benefits</td>
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<tr>
<td>An increase in the power and size of the multinational biotechnology companies</td>
<td>Greater public understanding through discussion of medical developments</td>
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<td>Campaigners against the technology remain influential</td>
<td>Introduction of a pesticide tax</td>
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<td>Potential to tailor diet to individuals through knowledge of the genome</td>
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<td>Agreement of ethical boundaries, e.g. no use of human genes in food</td>
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<td>products</td>
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<td>No evidence of adverse safety effects from long-term post-market monitoring</td>
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research community and consumer advocates.

Recent events in the UK have demonstrated that issues raising about GM foods have led to a rapid loss of consumer confidence. Going forwards, confidence is likely to be gained very slowly, and may be a case of three steps forward, two steps back.

Further information

A full report of the IGD workshop referred to is included in IGD’s recent publication *GM Foods: Past → Present → Future→…?* which also summarises the UK industry’s approach to introducing GM foods, and the findings of a five-year consumer research programme. It is available from IGD at £250 (£200 to IGD member companies). For further details contact Kaye Mercer, Marketing Department, IGD. E-mail kaye.mercer@igd.org.uk Tel: 01923 857141.

References

IGD (1997), *Consumer Attitudes to Genetically Modified Foods.*