Labelling genetically modified soya and maize in the EU

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Abstract

European regulations for labelling the genetically modified commodity crops Round-up Ready Soya and Bt Maize have been agreed and came into force on 1 September 1998. The regulation requires labelling of ingredients that contain genetically modified DNA or modified protein. Labelling is not required where processing has resulted in modified DNA or protein being destroyed. With the aim of providing consumer information and ensuring consumer choice, UK industry had phased in labelling of genetically modified soya and maize protein since January 1998, ahead of the EU regulation being agreed. This voluntary labelling was on the basis of guidelines drawn up by an IGD Working Group. The voluntary guidelines are very similar to the EU labelling regulation. Under the terms of the labelling regulation, further discussions are necessary in Europe to agree a list of ingredients that will not require labelling on the basis that no modified DNA or protein is present, with the aim that these ingredients do not need to be tested each time they are used. Where efforts have been taken to source the non-genetically modified varieties, the concept of a threshold has been put forward to allow for adventitious mixing with the genetically modified crop. Further discussions are necessary to agree where the threshold should be set. It is expected that the regulation will be the basis for labelling future genetically modified products.

Introduction

Marketing genetically modified foods in the EU falls within the Novel Foods and Novel Food Ingredients Regulation which came into force on 15 May 1997. The definition of “novel” is a food or ingredient that has not previously been consumed within the European Community to a significant degree.

In addition to providing a system for the pre-market approval and safety assessment of novel foods across EU member states, the regulation also sets out requirements for labelling novel foods in addition to those required for labelling foods under community law. The regulation excludes food additives, flavourings or extraction solvents as these are controlled by separate regulations.

It took eight years to agree the novel foods regulation, prior to which controls on the sale of novel foods were agreed individually by each member state. Under the regulation it is mandatory to seek approval to market a novel food. Products approved by individual member states but not marketed before May 1997 have to be reassessed under the novel food regulation.

Labelling provisions

Article 8 of the regulation is concerned with labelling and was drafted such that novel foods could be considered on a case-by-case basis. It requires that consumers are informed of:

• Any characteristic or food property which renders a novel food or food ingredient no longer equivalent to an existing food or ingredient. Information about the characteristics and properties modified and the method by which they were modified should be included. Examples of characteristics are composition, nutritional value, nutritional effects and intended use of the food. An example of a genetic modification requiring labelling would be oil that has been modified to provide a different fatty acid profile and nutritional composition.

• The presence of material not present in an existing equivalent foodstuff which may have implications for health. An example is protein from a known food allergen source such as peanuts.
• The presence of material not present in an existing equivalent foodstuff which may give rise to ethical concerns. Examples are the presence of a gene from an animal source for vegetarians, the presence of a gene from a pig for Jews and Muslims, and the presence of a gene from a cow for Hindus.

• The presence of a genetically modified organism. On this point, it was recognised that further clarification of the basis for labelling was necessary. The extent to which ingredients from genetically modified foods should be labelled was clearly going to require considerable discussion. It was always intended that refined products, such as sugars and oils that were free of genetically modified material, would not require labelling as this would not be meaningful to consumers. It was also clear that there would be practical difficulties in labelling commodity crops and the ingredients obtained from them.

In the USA, unless the composition of a genetically modified food has been altered, labelling is not required to indicate that foods and ingredients are produced from genetically modified sources.

Labelling Round-up Ready Soya and Bt Maize

An initial complication with labelling genetically modified foods in the EU was that Round-up Ready Soya (Monsanto) and Bt Maize (Ciba-Geigy) had been approved for use in Europe prior to the novel foods regulation coming into force, and therefore fell outside of the scope of the regulation. Labelling could not be imposed as no safety problems were identified by the risk assessment. However, some member states announced their own national labelling measures and this situation potentially presented future difficulties for trade.

The need for a consistent EU policy on labelling to apply uniformly to all genetically modified products across all member states was recognised. In view of this a regulation was issued to bring Round-up Ready Soya and Bt Maize within the scope of the novel foods regulation, and second, Commission proposals for detailed labelling rules for these two products were issued in Autumn 1997.

The initial labelling proposals were not well accepted. However, under the UK presidency of the EU a number of amendments were put forward and the regulation was finally agreed at the end of May 1998. A transition period of 90 days was agreed and the regulation came into force on 1 September 1998.

The labelling regulation

The basis of labelling needs to be meaningful to consumers. In view of this, labelling is based on the principle that the presence of genetically modified DNA renders foods and food ingredients from genetically modified soya and maize “no longer equivalent” to their existing counterparts and therefore consumers should be informed about this. Where modified DNA has been destroyed by processing, the foods and food ingredients are considered equivalent, unless modified protein is present, and do not require labelling. Where labelling is necessary, the requirements are that:

• ingredients containing modified DNA should be labelled with the wording “produced from genetically modified soya/maize”;
• the wording should be displayed either in brackets after the ingredient in the ingredients list, or as a footnote indicated by an asterisk;
• the wording should appear on the label when products do not have an ingredients list;
• where an ingredient is already listed as being produced from soya or maize the footnote can be abbreviated to “genetically modified”; the asterisk should be directly attached to the word “soya” or “maize”;
• labelling applies to compound ingredients that are less than 25 per cent of the final product;
• claims that a product is made from non-genetically modified ingredients can be made on a voluntary basis;
• additives, flavourings and extraction solvents are presently excluded from the regulation; however, these ingredients are likely to be addressed by specific legislation in due course.

The original proposals included the provision for “may contain” labelling, particularly with reference to commodity crops. However, during discussions it was agreed not to allow
this form of labelling. This means that in practice, analysis of products will be used to enforce claims that products do not contain genetically modified ingredients, rather than analysis being necessary to label products as containing genetically modified ingredients. In view of this, the concept of a list of ingredients that would not require labelling has been agreed. Further discussions are necessary in Europe, to include advice from the Scientific Committee on Food and relevant evidence from analysis, to agree which ingredients should be on this list. The main purpose of this approach is that the ingredients listed will not require testing each time they are used to prove they are free of genetically modified DNA or protein.

In 1997, 15 per cent of the US soya harvest consisted of Round-up Ready Soya and this is predicted to rise to 40-50 per cent of the 1998 harvest. As genetically modified varieties are not being segregated from the conventional varieties, any food product containing soya is likely to contain some genetically modified soya. The same is also true of maize, although the proportion of the genetically modified variety is lower than that for soya.

A non-genetically modified variety of soya and maize that has been identified at source and followed through the food chain is known as “identity preserved soya/maize”. The availability of such supplies enables food manufacturers and retailers to offer consumers a choice should they wish not to eat products containing genetically modified ingredients. As more of the genetically modified varieties is grown, it will become increasingly difficult to ensure that “identity preserved” sources are free of genetically modified varieties.

In view of this, the concept of a labelling threshold to allow for the accidental mixing of genetically modified soya or maize with “identity preserved soya/maize” was put forward in the EU labelling regulation. Further discussions are necessary by the Commission to consider the practicality of setting a threshold and, in the light of scientific advice, to consider the basis of the threshold and to agree the levels.

Voluntary labelling in the UK

Labelling of genetically modified soya and maize protein ingredients had been phased in since January 1998, ahead of the EU labelling regulation being agreed. This was to ensure that consumers were informed about the presence of genetically modified ingredients in food products, and to enable them to exercise a choice. The decision to do this was taken in November 1997 when it was clear that the proportion of genetically modified soya would be approximately 15 per cent of the 1997 US harvest, which would be present in food products throughout 1998.

The basis of labelling was the IGD voluntary guidelines that had been drawn up by an IGD cross-sector working group, consisting of representatives from food manufacturers, retailers, scientists, agriculture, consumer groups, and trade bodies. This group had been set up in 1994 and its aims were to agree a common UK industry policy, supplement EU regulations where this was felt to be necessary, and gain consumer confidence in the technology as genetically modified foods are introduced.

The IGD guidelines are very similar to the EU regulations. They distinguish between products and ingredients that are themselves genetically modified and products and ingredients that are derived from genetically modified foods and organisms. The guidelines require labelling of whole foods and of ingredients that contain modified DNA, whether active (intact) or not. They also require labelling of products that are no longer equivalent to an existing counterpart with the indication where this is due to genetic modification. Also recommended is the provision of information about why products have been genetically modified. Compound ingredients

labelling of ingredients to be based on whether or not they originate from a genetically modified source.

However, labelling needs to be meaningful to consumers, hence the decision to base labelling on tangible differences between products as evidenced by the presence of modified DNA or protein. Refined products such as oils and sugars would be chemically identical whether from genetically modified crops or not, unless the modification specifically altered the composition, in which case labelling would be required.
containing genetically modified components should be labelled, and though additives are not specifically excluded, in most cases labelling would not be required on the basis that labelling due to trace quantities of modified DNA would not be meaningful to consumers.

The guidelines strongly advise against making claims for products that do not contain genetically modified ingredients as this will be unhelpful in the long term in gaining consumer confidence in the technology.

**Qualitative consumer research**

Consumer research was conducted by IGD in August 1997 to gain an understanding of consumer awareness and views about genetic modification in general, and specifically about the introduction of genetically modified soya. This included how consumers would like genetically modified soya to be labelled, and how consumers would like to be informed about genetically modified foods.

It was clear from this research that consumers did not like labelling that stated “may contain genetically modified soya”. This was interpreted as a warning rather than providing information, and did not give consumers confidence in the products. Positive labelling was preferred even if the levels of genetically modified material in the products would be very low. When purchasing products for consumption at home, consumers wanted products to be labelled as this conferred that the food producers had nothing to hide about use of the technology. Though consumers recognised that they may not read the information on the label they felt reassured by its presence and felt it should be a legal requirement to label products. However, consumers did not want information about the presence of genetically modified ingredients if eating out in a restaurant.

Consumers also wanted simple and clear information to be available in the form of leaflets and felt that supermarkets were the most obvious place for this. They particularly wanted information that presented both sides of the debate. They also felt that advertising was an appropriate means of communication.

**Further reading**


IGD (1997b), Consumer Attitudes to Genetically Modified Foods. Results of Qualitative Research.

EC Regulation No. 258/97. “Novel foods and novel foods ingredients”.

EC Regulation No. 1139/98. “Compulsory indication of the labelling of certain foodstuffs produced from genetically modified organisms”.

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