What's in it for you?

Genetically Modified Food:
The New European GM Labelling And Traceability Regulations.

A Practical Guide
For Consumers and the Food Chain

INTRODUCTION

In April 2004, the new European Union labelling and traceability regulations for genetically modified (GM) food (and animal feed) will go into effect in all Member States. These regulations will have an impact on many operators in the food chain and will require that more information be provided to consumers. This guide provides a simple and practical introduction to the new regulations. In particular, it is aimed at helping inform interested consumers and the thousands of small and medium sized companies operating in the food chain across Europe.

WHAT THE NEW REGULATIONS SAY

- The regulations state that all food ingredients made from genetically modified crops approved in the EU, should be labelled, even if they have no detectable transgenic DNA or protein.

- Food additives such as colours, flavourings and emulsifiers from GM sources must also be labelled. Process aids, such as enzymes, do not need to be labelled, whether they are GM-derived or not.

- There is no requirement for labelling if the ingredients have been made from raw materials with an adventitious or technically unavoidable GM content of no higher than 0.9% of approved GM material. The 0.9% threshold is the result of a political negotiation and in no way suggests that any more or less GM content presents any risk.

- The regulations also state that all GM animal feed should be labelled, if they contain more than 0.9% of GM material. The regulations do not apply to meat, eggs or milk (and other animal products) derived from animals that were fed with GM feed.

In this guide, a pizza is used as an example to illustrate how the regulations work at each stage of the food supply chain. A pizza is chosen because it is widely consumed throughout Europe and can be purchased in convenience stores, supermarkets and in restaurants.

WHAT IT MEANS FOR EUROPEAN CONSUMERS

Most importantly, the new labelling and traceability laws mean consumers can make an informed choice – the choice to buy and consume foods that are grown using organic, conventional or GM techniques. European consumers can continue to be confident that any GM food or feed marketed in Europe has been subject to the most rigorous pre-marketing safety assessment in the world. In the EU, each GM product must be approved prior to placement on the market.

The new regulations were agreed in reaction to Europeans' desire for more information and choice and not for food safety reasons. The United Nations, European and national authorities as well as numerous independent scientists and doctors have concluded that there are no risk to health in consuming food produced using approved GM ingredients and consumers can be assured that GM foods are just as safe as any other foods.

Under the legislation, labels must state, "this product contains genetically modified organisms", or for example, "this oil is produced from genetically modified soya". Once the labelling systems are in place, if a product is not labelled then it means that it was not made from a GM ingredient (or was made from ingredients with GM content below 0.9%). The presence of a label means that the product was made from GM materials, or in some cases, that there was not enough documentation along the chain to ensure that it is not GM.

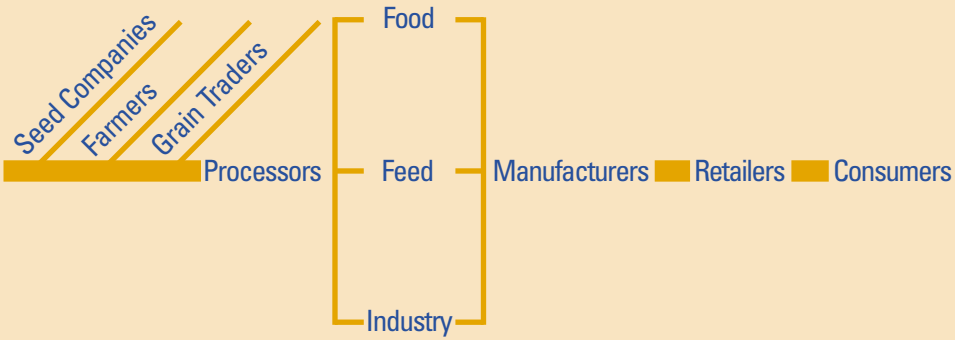
WHAT IT MEANS FOR COMPANIES IN THE FOOD CHAIN

For many companies, compliance with the GM labelling laws may be complicated. Although there is currently no widely accepted analytical way of distinguishing many GM ingredients from "conventional" ingredients, particularly in highly processed foods, the new regulations require derivatives of GM crops to be labelled as GM.

For example, if a food manufacturer wants to steer clear of GM labelling of blended vegetable oil (containing a proportion of soy oil), it will have to demonstrate that a robust segregation and traceability system is in place, confirmed by accurate documentation at all stages of the supply chain. Setting in place such a system may have a cost impact for companies along the food chain.

The task of national enforcement authorities is to ensure that the traceability and labelling regulations are applied correctly in order to ensure that consumers are indeed able to make an informed choice about what they buy.

THE FOOD SUPPLY CHAIN



SYMBOLS USED IN THIS BOOKLET

STEPS IN THE FOOD CHAIN

- Seed supplier
- Feed producer
- Farmer
- Processor
- Manufacturer
- Retailer

INGREDIENTS OF THE PIZZA

- Ham
- Cheese
- Tomato purée
- Vegetable oil
- Wheat Flour
- Flour improver
- Yeast
- Olives

Tomato pureé

Although not currently a commercial product, purée made from genetically modified processing tomatoes has been approved in the UK.

EU tomato **seed suppliers** are currently not allowed to market GM tomato seeds.

As long as GM tomatoes are not approved for growing in Europe, EU **farmers** growing tomatoes would not have to label their produce.

If GM tomatoes were to be used, the **tomato processor** would be legally obliged to label the purée, although no viable genetic material remains.

If GM tomatoes were used, the **pizza manufacturer** would be legally obliged to label the purée in the tomato sauce as GM.

If GM tomatoes had been used in the manufacture, the **retailer** would be legally obliged to ensure that the pizza he sells is labelled as containing GM if he is the manufacturer of the pizza. If he is selling a pizza made by a private brand manufacture, responsibility lies with that manufacturer.

Vegetable oil

Large quantities of GM soy and oilseed rape are grown across the world (although not yet in Europe), and the oils are traded and used globally, including Europe. Maize oil (and cotton oil) can also be produced from GM crops.

If **seed suppliers** are selling authorised GM seeds in the EU, they are legally obliged to label the seeds.

EU **farmers** are legally obliged to declare whether the harvested grain is GM (including mixed) or not.

The **seed crusher** is legally obliged to label both the oil (even though there is no detectable transgenic DNA or protein) and meal (used for animal feed). If he is selling non-GM oil, he must strictly segregate the GM and non-GM streams.

The **manufacturer** of the pizza is legally obliged to label the oil as GM unless he can trace it to a fully non-GM source.

The **retailer** is legally obliged to ensure that all the pizzas he sells are properly labelled as containing oil from GM sources if he is the manufacturer of the pizza. If he is selling a pizza made by a private brand manufacturer, responsibility lies with that manufacturer.

Ham

Many European farm animals are fed on a diet that contains GM soya and possibly GM maize, but animal products (meat, dairy, eggs etc) do not need to be labelled.

The **feed producer** must label the pig feed according to its GM content (from soy or maize).

The EU **farmer** has no legal obligation to label the meat from pigs fed with GM feed.

The **ham processor** has no legal obligation to label.

The **manufacturer** of the pizza has no legal obligation to label the ham as GM-derived.

The **retailer** also has no legal obligation to label (provided none of the other ingredients are GM).

NOTE: Animal feed may also contain additives. See section on "Process aids, additives and flavourings".

Cheese

Many European farm animals are fed on a diet contains GM soy and possibly GM maize, but animal products do not need to be labelled. In some European countries, cheese may be produced using an enzyme manufactured using genetically modified micro organisms.

The **feed producer** must label the cattle feed according to its GM content (from soy or maize).

The EU **dairy farmer** has no legal obligation to label the milk from cows fed GM feed.

The **cheese maker** has no legal obligation to label the cheese as GM-derived. He also has no need to add a GM label if he uses an enzyme (chymosin) manufactured using biotechnology to make the cheese.

The **pizza manufacturer** has no legal obligation to label the cheese as being from a GM source.

The **retailer** also has no legal obligation to label (provided none of the other ingredients are GM).

Wheatflour

No GM wheat has yet been approved in any country.

EU **seed suppliers** do not have to label their seeds.

EU **farmers** do not have to label their produce.

Flour millers do not have to label.

The **pizza manufacturer** does not have to label.

The **retailer** does not have to label.

NOTE: GM wheat is currently under development and regulatory approval is pending in North America. Should GM wheat flour be used, each part of the chain has a legal obligation to label. Seed suppliers and farmers would have to declare whether their wheat harvest was GM (including mixed batches) or non-GM. Flour millers would be obliged to label their wheat flour as GM as would the pizza manufacturer.

Flour improvers

A blend of so-called "improvers" is often used to improve processing and quality in production. This mixture includes enzymes, ascorbic acid (Vitamin C) and possibly soya flour. GM soya is approved for food and feed use in the EU, but not for cultivation.

If **seed suppliers** are selling authorised GM seeds in the EU, they are legally obliged to label the seeds.

Today GM soya is not yet approved for cultivation in the EU. In future, **farmers** growing soya would have a legal obligation to declare if their produce is GM.

Enzyme and vitamin producers will declare these components as GM if they come from transgenic micro-organisms, although this differs per country.

Improver manufacturers have to declare if the soya or ascorbic acid is from a GM source. Enzymes do not have to be labeled, as they are process aids.

The **manufacturer** of the pizza has to label the flour improver as containing GM ingredients (but the enzymes do not need labelling).

The **retailer** needs to ensure that the pizza is correctly labeled if sold under its own brand.

Yeast

Bakers' yeast that is genetically modified to increase the rate of fermentation, is approved in some European countries, but is not currently in commercial use.

If this GM yeast is used, the **yeast manufacturer** is legally obliged to declare that his product is GM.

The **pizza manufacturer** is obliged to declare the yeast as GM on the product label.

The **retailer** is obliged to ensure that the pizza is correctly labeled as made with GM yeast, if the product is sold under his own brand.

Olives

No GM olives are grown anywhere in the world.

No declaration is needed from the **farmer.**

The **olive processor** does not need to label.

The **pizza manufacturer** does not have to label.

The **retailer** only has to comply with standard labelling legislation.

PROCESS AIDS, ADDITIVES AND FLAVOURINGS

GM technology is widely used in food production. Process aids such as enzymes are often made using genetically modified micro-organisms, as are many additives and flavourings. Many enzymes used around the world in food production are produced by genetically modified micro-organisms. Examples are chymosin in cheese production, amylase in bread, and pectinase, used to clarify fruit juices, beer and wine. Other GM-derived additives include riboflavin (vitamin B2) and nisin, used as a preservative in ham and cheese.

GM-derived enzymes and other process aids do not need to be labelled under the new regulations. However, some European countries have national legislation that requires this. Additives and flavourings, on the other hand, are subject to the same labelling provisions as other food ingredients.

SUMMARY

The EU regulations were set in place to provide information and **give consumers an informed and transparent choice** – they are not and never were about the safety of GM products. GM products have, and continue to go through a very rigorous safety assessment. Consistently, public opinion polling and other research shows that the majority of European consumers want choice, and do not necessarily reject GM ingredients. The experience of some European retailers has shown that a labelled GM product on their shelves has had no negative impact on sales.

The **new regulations are stringent** and impact consumers and operators at all stages in the food chain. For some operators, the regulations may be difficult to implement. Each relevant national authority is in the process of defining the exact measures for the implementation of the regulations in their country. Regulations for labelling or declaring GM content in restaurants and cafés vary across the EU Member States and regulatory authorities need to be consulted for more information.

If food manufacturers and retailers are to ensure full compliance with the new regulations without incurring additional costs, **more widespread GM labelling** is an option to consider. At present, in the EU, this is primarily an issue for soy, maize, cotton and oilseed rape derivatives, but the same considerations will begin to apply as more GM crops are approved for sale in the EU. Unless a food is labelled as containing GM ingredients, compliance with the regulations will rely on demonstrating that appropriate measures have been taken and to be able to verify this analytically and/or through documentation.

The task of national enforcement authorities is to ensure that the traceability and labelling **regulations are applied correctly** in order to ensure that consumers are indeed able to make an informed choice about what they buy.

Worldwide, the **planting and use of GM crops increases every year** and it is expected that the range of GM ingredients available and used in Europe will continue to increase.

FURTHER INFORMATION

European Ministries and Food Agencies

Country	Food Agencies/Ministries	Original language	Website
Austria	Austrian Agency for Health	Österreichische Agentur für and Food security Gesundheit und Ernährungssicherheit GmbH	www.ages.at
Belgium	Federal Agency for the Safety of the Food Chain	Agence fédérale pour la sécurité alimentaire	www.favv-afsca.fgov.be
		Service Public Federal Santé Publique, Sécurité de la Chaine Alimentaire et Environnement	www.health.fgov.be/
Denmark	Danish Veterinary and Food Administration (Institute for Food Safety and Nutrition)	Fødevaredirektoratet	www.foedevaredirektoratet.dk/
France	Joint ministerial site on GMOs	Site interministériel sur les OGM	ogm.agriculture.gouv.fr
Finland	National Food Agency	Suomen Elintarvikevirasto	
Germany	Federal Institute for Risk Assessment	Bundesinstitut für Risikobewertung (BfR)	www.bfr.bund.de
	Federal Agency for Consumer Protection and Food Safety	Bundesamt für Verbraucherschutz und Lebensmittelsicherheit (BVL)	www.bvl.bund.de/
Greece	Hellenic Food Safety Authority (E.F.E.T)		www.efet.gr
Ireland	Food Safety Authority of Ireland		www.fsai.ie
Italy	Ministry of Health Food Safety Institute	Ministero salute Istituto Superiore di Sanità	www.ministerosalute.it www.iss.it
Luxembourg	Agriculture Ministry	Ministère de l'Agriculture	www.gouvernement.lu /ministeres/minist_agriculture.html
Netherlands	Dutch Food Authority	Voedsel and waren autoriteit	www.vwa.nl
	Ministry of Health, Welfare and Sport	Ministerie van Volksgezondheid Welzijn en Sport	www.biotechnologie.minvws.nl
Portugal	Food Safety and Quality Agency	Agência para a Qualidade e Segurança Alimentar	www.agenciaalimentar.pt/
Poland	Main Sanitary Inspectorate	G_ówny Inspektorat Sanitarny	www.gis.mz.gov.pl
Spain	Spanish Food Safety Agency	Agencia Española de Seguridad Alimentaria, AESA	www.msc.es/aesa/index.html
	Ministry of Health and Consumer Affairs	Ministerio de Sanidad y Consumo	www.msc.es/
Sweden	Swedish National Food Administration	Statens Livsmedelsverk	www.slv.se
United Kingdom	Food Standards Agency		www.food.gov.uk

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