

# Labeling Genetically Modified (GM) Foods

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## **Question: Why not label GM foods?**

**Answer:** It's not that easy. First, there's no simple or standard definition of "GM" (genetically modified) foods. There are differing legal or regulatory definitions in different jurisdictions and even in different agencies of the same country. Even consumers are undecided about what foods should be labeled. For example, should a food from soybean be labeled if it has been genetically engineered to have another soybean gene in it or only when it has a gene from a non-soybean? Similarly, what if the processed food is identical to the regular version, such as soybean oil, where there is no "foreign" DNA or protein present? Finally, if a product like pizza contains dozens of ingredients and only one of them is from a GM item, should the pizza be labeled as GM?

In the case of pizza, for example, for decades most of the cheese produced worldwide has been GM because it uses an enzyme produced in a bacterium rather than an enzyme from the stomach of an animal. When all pizza is GM because of the cheese, should all pizza be labeled as GM? Food labels are important to consumers and the current policy is to have only health, safety, and nutritional information mandated on the label.

## **Question: Don't consumers have a "right to know" what's in their foods?**

**Answer:** On the surface, this sounds like a fundamental right of the consumer. However, the situation is more complex since there's really no statutory right to know — just consider the composition of popular foods such as Kentucky Fried Chicken™, or the composition of Coke™, and other foods with ingredients protected by trade secrets. Potentially toxic or allergenic ingredients, changed nutritional composition, and those that affect the way the product is used must be indicated on the label. However, food processors are sensitive to consumer interests, and do provide choices where they believe there is sufficient consumer demand.

The organic and kosher industries are two examples of market segments catering to those who have particular food demands. The organic industry prohibits the intentional presence of GM foods for philosophical reasons (the kosher market does not), so choice is provided in the marketplace for consumers wishing to avoid GM foods.

## **Question: What is the current food labeling policy in the U.S.?**

**Answer:** Current policy requires mandatory food labels for those foods with ingredients different from regular versions of the same foods, and if there are any new allergens, toxins, or changes to

nutrient levels. Surveys have consistently shown consumers approve of this health and safety based labeling policy and do not wish to see it changed. Most GM foods on the market are identical in composition to regular versions of the same foods. The method of breeding (e.g., GM) does not alter health or safety aspects, so there's no need to specify the breeding method on the label.

One of the requirements of food labels in the U.S. is that the label must not be misleading. But a simple "contains GM ingredients" is certainly misleading, partly because many people don't know what GM actually is. According to surveys, many of those who claim to know GM define it incorrectly as a food or crop to which a chemical has been applied. But the regulatory definition simply limits GM to products of recombinant DNA breeding. Another factor to consider is that a label would mislead when it claims the food contains GM ingredients in the case of vegetable oils or starches, or meat from animals fed on GM feeds, because the foods do not physically contain any GM ingredients.

**Question: What's the difference between a process-based label policy and a product-based policy?**

**Answer:** The current U.S. *product*-based label policy is objective and easy to enforce, because it considers the physical and chemical properties of the food; any lab can sample the food and test it for potential allergens or toxins and measure the amounts of vitamins, nutrients, etc. As an example, added sugar must be on the label, but it is not necessary to specify whether the sugar (the tangible product) was extracted from sugar cane or sugar beets (the process).

In contrast, the demand for GM food labeling mandates a *process*-based policy; it relies on the *process* of genetic modification as a trigger for the mandatory label, even when the physical properties of the resulting food are unchanged. Any proposed process-based label policy would be subjective and probably impossible to enforce because there is no scientific and legally acceptable means to independently verify whether a bottle of corn oil contains oil from GM corn plants. In the sugar example, even sensitive lab tests cannot distinguish sugar obtained from beets versus that obtained from sugar cane.

In addition, the process of breeding is irrelevant to any legitimate health or safety concern. The process of GM is a means to tweak the genetic makeup of a plant, animal, or microbe. Many different breeding methods, both modern and traditional, are "unnatural" yet are used extensively in plant breeding, animal husbandry, and microbial strain development. Opening the label policy to mandate labels for specific breeding processes means labels for all manner of different breeding methods. Beyond that, once the policy is opened to various processes and other non-health and safety issues, certain groups will demand labels for food prepared in myriad different ways.

Current policy provides voluntary labels for certain market segments, for example organic, kosher, or halal foods. Clearly, mandatory labeling should be limited to those physical and chemical factors relating to health and safety. Otherwise, the information on the label will become so irrelevant as to obscure true health and safety information, and consumers will cease reading them altogether.

**Question: If we adopt process-based labeling, why should it be limited to the process of GM?**

**Answer:** In abandoning product-based labeling in favor of process, we have to ask what other processes consumers would like to see on the label. Clearly, some consumers desire GM-process labels, but what about labeling for other contentious processes? For example, use of pesticides is of interest to many consumers. Once the process-based labeling door is open, there will be no reason not to label foods with the type and amount of pesticides used in their development. Interestingly, such labels would favor GM foods, because GM crops typically require far fewer pesticides than conventional and even organic foods.

Similarly, some consumers may be wary of ionizing radiation and mutagenic chemicals, so we'd have a mandate to label foods from crops developed using these processes. Again, labels would then have to be applied to foods from many organic and conventional crops, because induced mutagenesis (using ionizing radiation and chemicals) is considered a "traditional" process of breeding and the thousands of resulting mutant crop varieties are grown by organic and conventional farmers.

Then, considering almost all foods are made from a wide range of crops grown on different farms and blended together, virtually all foods will have at least some ingredients requiring these process based labels. Will consumers find such long, complex labels on all foods truly informative?

**Question: How much will mandatory labeling cost? Who will pay it?**

**Answer:** The cost of labeling is not just for printing a little sticker, it is to maintain the credibility of the labeling system altogether. That is, all of the proposed GM label schemes are impracticable, in that there are so many exemptions, variations, ambiguities, and inefficiencies that consumers will come to disregard labels, perhaps even disbelieving the information when it becomes apparent that something claimed to carry GM has none. While this is misleading enough, it can cause real harm when the disbelief extends to legitimate health and safety information also on the label, such as whether a product contains a potential allergen or the amount of sodium or calories, etc.

Various studies on label compliance costs have estimated an increase in GM food prices of at least 10 percent. And, as usual, consumers will ultimately pay the costs. In our free-market society, consumers making demands pay for the implementation of those demands. For example, consumers of kosher, halal, or organic foods pay for the provision of those special — and specially labeled — foods when they purchase them, as the costs of implementation are added to the cost of the food product. However, the people demanding labels on GM foods are, in general, wishing to avoid GM foods. Those consumers buying GM foods generally don't care if they're labeled or not.

With implementation costs ordinarily added to the product cost, the purchasing consumer ends up paying for the cost of labeling implementation, something they did not want. So, the market has to figure a means to have those consumers demanding GM labels pay the cost of satisfying their demand. So far, no such mechanism has been proposed. It seems unfair to charge higher prices to those people who don't care or don't want the GM label policy, and especially unfair to poorer people who face higher food prices for all foods with no particular benefit to themselves.

**Question: So, what should go on a label?**

**Answer:** Clearly, information concerning health, safety, and nutrition is the top priority. That means safety warnings (for presence of allergens or toxins to which sensitive consumers might react adversely) as well as relevant health information, such as calories per serving and sodium, fats, and other components impacting consumer health. Other information that doesn't contribute to informing health and safety may be voluntarily included.

Recent studies show consumers prefer food labels with simple design and minimal content, and so label content should be limited to information related to health and safety, and, so far, GM foods are no different in terms of health, safety, nutrition, or taste from their more traditional counterparts. Certainly there are consumers who wish to avoid GM foods. Those consumers can choose organic foods. That way, food prices will remain as low as possible, labels will continue to provide meaningful information, and all consumers can choose for themselves which foods to buy.