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A SURVEY OF NATIONAL LABELING POLICIES FOR GM FOODS

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Rising consumer concerns with genetically modified foods and products has led a number of countries around the world to introduce rules for labeling the presence of genetically modified (GM) ingredients. This paper presents a survey of the countries around the world that have adopted or indicate that they plan to adopt rules to govern labels in the marketplace. So far, more than 26 countries have either adopted provisions or announced plans for rules to assist the market to develop and deliver labeled products. The challenge facing industry, national governments and international trade organizations is that each of the systems being developed has different tolerances, diverging application, and weak or inconsistent enforcement, compounding the tasks of international trade.

Key words: genetically modified foods (GMFs); consumer labels; national regulations.

Since 1998, consumers have become increasingly concerned about the safety of genetically modified foods. Many consumers have been unhappy with the presence of genetically modified elements in the food system and have demanded mandatory labeling systems. A number of national governments have responded with national labeling policies. A recent survey shows that 26 countries plus the European Union (EU) have either enacted or signaled intentions to adopt labeling systems for GM foods but to date there has been no convergence towards a common standard.

Methodology

A search of various Internet sources between December 20, 1999, and February 8, 2000, was undertaken in order to identify countries and firms that have adopted, or have announced plans to adopt, either voluntary or mandatory labeling of genetically modified foods or food products. The search focused primarily on two main Internet sources: Agnet, an Internet archive of news and journal briefs produced by researchers at the University of Guelph (University of Guelph, 2001); and the Financial Times of London (FT.com, 2001). Additional searches were undertaken of the Organization for Economic Development (OECD, 2001) BioTrack Online and The Economist (2001). These sources were selected in order to identify a broad group of countries, representing different policy extremes. It is acknowledged, however, that these data may be incomplete. Further developments and changes announced up to August 1, 2001 are also included in the analysis and results.

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National Legislation

As of August 2001, 28 countries plus the European Union have either adopted or announced plans to introduce labels for GMFs. These labeling regulations can be categorized as voluntary, mandatory, or mandatory above some tolerance level. Table 1 presents current national rules for labeling GMFs. A number of other countries have expressed interest in, or concern about, GMFs but have yet to announce whether they will impose labeling rules. For example, Turkey, Ethiopia, and Singapore are undecided.

Voluntary Labeling

Canada, the United States (US), Argentina, and Hong Kong have adopted a voluntary labeling strategy. Canada and the US have initiated efforts to assist industry to develop standards and to implement consistent, credible labeling systems. In September 1999, the Canadian government announced it would support efforts by the Canadian Council of Grocery Distributors (CCGD) and the Canadian General Standards Board (CGSB) to develop a Canadian standard for the voluntary labeling of GM foods. The CGSB set up a committee of food industry, producer, and consumer stakeholders, which was scheduled to report recommendations in 2000, but agreement has been delayed by the need for consensus.

In the US, the United States Department of Agriculture (USDA) announced in September 1999 an independent scientific review of the biotechnology regulatory system. Public meetings, held in December 1999, highlighted public concerns about the lack of labels. In response, the USDA released Guidance for Industry: Voluntary Labeling Indicating Whether Foods have or have not been Developed using Bioengineering to provide assistance to manufacturers who want to label, offering examples of acceptable and unacceptable working. Meanwhile, during November 1999 the GE Right to Know Act (US House of Representatives, 1999) was introduced in Congress. The Act would provide for mandatory labeling of GMFs. By February 2000, it had the support of 48 congressional members (equal to about 10% of voting members). One recent development has been the increase in local efforts to impose new labeling rules. As of May 2000, altogether 16 US states had introduced bills that would require labeling for GM foods (Niiler, 2000).

Mandatory Labeling

At the other extreme, 22 countries, plus the EU, have adopted or announced plans to implement mandatory labeling systems. As of August 2001, only a handful of these countries had revealed the full structure of the labeling rules they intend to pursue and only the United Kingdom (UK), Japan, China, and South Korea have formally implemented labeling rules. At least four other countries have announced definite dates to implement mandatory labeling systems. Australia and New Zealand will implement their rules in November 2001, Thailand and Brazil plan to implement labeling regulations by the end of 2001 and South Africa announced it intends to implement its labeling regulations by 2002. A number of countries have proposed mandatory labeling (e.g., Hungary, Indonesia, Poland, Russia, Switzerland, the Czech Republic) but there is no available evidence that these countries have developed domestic systems to manage such regulations or, for that matter, any firm indication of when their systems might be operational.

Although many countries have announced plans to implement mandatory labeling, only a few have sufficiently developed their proposals enough to be able to identify the tolerance level for GM content that will trigger mandatory labeling. In order to appreciate the divergence of existing or intended labeling policies, the following sections briefly examine those systems in place or scheduled for implementation shortly.

Table 1: Status of National Rules for Labeling GM Foods.

States	Labels	Coverage	Effective Date
Australasia			
Australia & New Zealand	M	GM content in processed foods, fruits, vegetables; 1% tolerance.	December 2001
Asia			
China	M	All foods containing GM content.	May 23 2001
Hong Kong	V/M	All foods containing GM content; 5% tolerance.	Estimated 2003
Indonesia	M	Article 41, Provisions on Biosafety of Genetically Engineered Agricultural Biotechnology Products, requires labels.	NA
Japan	M	MAFF regulations exempt additives, animal feeds, and any ingredient representing less than 5% of content.	April 1 2001
Russia	V	Decree No. 12 (1999) refers to labeling of GMOs.	NA
South Korea	M	Processed foods with GM corn, soybean or bean sprouts (and potatoes in 2002); if one of top 5 ingredients; 3% tolerance.	March 1 2001
Taiwan	M	Processed foods containing GM corn or soybeans; 5% tolerance.	By 2005
Sri Lanka	B	Currently ban production or imports of GM products.	Ongoing
Thailand	M	GM content in all foods and raw products; 3% or 5% tolerance.	End 2001
Africa			
Ethiopia	M	All products.	NA
South Africa	M	New law proposed.	2002
Europe (National)			
Austria	M	Prefer a ban on GM foods rather than labels.	NA
Czech Republic	M	All products of GM origin or ingredient.	NA
France, Ireland, Spain	M	Want to label GM additives and preservatives.	NA
Hungary	M	Products containing/derived from GM material (excluding feed and novel food).	NA
Netherlands	M	Propose mandatory labeling for animal feed.	NA
Poland	M	Conform to EC 219/90 and 220/90.	NA
Slovenia	M	Conform to EC 219/90 and 220/90.	NA
Switzerland	M	Conforming to EC 219/90 and 220/90.	NA
United Kingdom	M	Grocery store and restaurant foods on sale in UK before September 1, 1998; not for additives/flavorings/food.	March 1 1999
European Union	M	Dir. 90/220: law requiring labeling of all foods and food products containing GMOs; no tolerances set.	1990
	M	Reg. 258/97: 1% tolerances; mandatory labeling of foods; no regulation for chymosin, additives or feeds.	May 15 1997
	M	Reg. 1139/98: specific rules for GM soy and maize.	May 26 1998
North & South America			
Argentina	V	No required labels; voluntary labels allowed.	Ongoing
Brazil	B/M	Ban currently in force; propose labels for products containing more than 4% GM content.	End 2001
Canada	V	Voluntary standards being developed; labels not used in interim.	2001 or beyond
Mexico	M	Senate has approved a bill for GM foods to be labeled as "transgenic" or "made with transgenic products."	NA
United States	V	GM food must be "substantially equivalent" food; exporters will meet EU standards.	2001

Note. B = Ban on GM products; M = Mandatory Labeling; V = Voluntary Labeling.

European Union Labeling of GMFs

In the EU, a number of directives set the framework for labeling systems in member states. Directive 90/220 (European Union [EU], 1990), which is an environmental regulation (especially, Annex III), sets the basic legal framework for labeling in the EU, mandating that products that contain GM products should be labeled. Given the original environmental focus of Directive 90/220, it set down requirements for labeling of GM crop varieties in seed guides. However, it did not set tolerances for these products and varieties. It was not until 1997, when the EU Novel Foods Regulation 258/97 (EU, 1997) was enacted that a 1% tolerance level for whole or processed foods was set. In 1998, the EU then passed Regulation 1138/98 (EU, 1998) to cover GM varieties of corn and soybeans that were already released before Regulation 258/97 was adopted. None of these directives or regulations requires labeling of GM additives, flavorings or active ingredients. Furthermore, although GM animal feed must be labeled, the meat produced using such feeds does not require labels under current rules. Finally, EU regulators have ruled that processed edible oils from GM corn, soybeans, and canola will not require labels, as they do not contain any novel proteins; all of the novel traits are left in the meal which, if consumed by humans, must be labeled. Most recently, the EU has adopted a legislative package on GMOs that, once implemented in October 2001, will provide rules for tracing GMOs to support the labeling rules (EU, 2001). Given the practice of subsidiarity in the EU, European Union directives and regulations do not come into effect until member states enact such provisions in their national laws, or establish enforcement mechanisms in their jurisdictions. A number of EU member states have indicated intentions to go beyond the EU base requirements, extending labeling laws to food additives and preservatives.

UK Labeling Policies

So far, the UK is the only EU member state to enact national legislation and establish enforcement mechanisms to activate the EU rules. As of March 1999, all foods, additives, and flavorings that have entered the market since September 1, 1998 and that contain more than 1% GM content have been labeled. In April 2000, the new UK Food Safety Agency extended that provision to all GM foods, additives, and flavorings, including those on the market before 1998. The UK also requires that all restaurant meals with GM foods be labeled. In support of these rules, the UK has empowered the local authorities to enforce the system and adopted a range of financial penalties for mislabeling of products. One feature that could complicate the UK regulatory system is the recent devolution of legislative authority to the Welsh and Scottish Assemblies. Wales has already attempted to exert some influence over UK regulation of GM foods by proposing to reject approval of a GM corn variety that had been approved in England. In this case, if the Welsh decision stands, the variety will not be commercialized in Wales. By extension, the devolution of authority to the regional assemblies could lead to some inconsistencies across the UK.

Japanese Labeling Policies

Japan implemented a set of mandatory labeling regulations effective April 1, 2001. As of September 2000, 29 GM crops and 6 GM food additives had secured the voluntary safety assessments in order to enter Japanese markets. From April 2001 onwards, all products are required to be assessed before they enter the market. The Ministry of Agriculture, Forestry and Fisheries (MAFF) administers the new rules that require labeling for 24 proscribed food products (no food additives are included). MAFF regulations require labels for recombinant DNA (rDNA) ingredients only if the ingredient is one of the top three food ingredients by weight and composes at least 5% of the total weight of the product. Labeling is not be required on packages less than 30 cm^2. In support of this domestic system, Japan requires importers to label as GM all bulk shipments with more than 5% GM content—between

1% and 5% tolerances, products would have to be labeled "may contain." Shipments containing less than 1% GM material do not require any labeling.

Other systems

South Korea adopted in March 2001 rules requiring mandatory labels for any whole or processed foods containing more than 3% GM content of corn, soybean, or bean sprouts (potatoes will be added in 2002). Meanwhile, Australia and New Zealand, via the joint Australia-New Zealand Food Standards Council, have developed rules for mandatory labeling for any food, processed food, fruits or vegetables that have more than 1% GM content. The rules will come into effect in December 2001. Finally, Thailand has announced it will implement a system of mandatory labeling by the end of 2001 for all whole and processed foods containing either 3% or 5% GM content.

In August 2000, two countries—Brazil and Sri Lanka—had formal bans on the production and importation of GM whole or processed foods, while a number of the EU member states have de facto bans in effect. There is some potential, however, that these bans may be replaced by labeling rules. Brazil, for example, has announced it plans to have a labeling system with 4% thresholds in place by the end of the year, which could enable the government to remove its block on trade and production.

Observations

Although most national labeling systems are still under development, it is apparent that there are wide divergences in the approaches taken by individual national governments that could cause trade disruptions. First, there is no consistency or consensus among national governments over the level or enforceability of tolerance levels, which could create uneven market access. Current systems range from 0% to 5%, while the range of products covered varies significantly. Second, it is not clear what labels in many jurisdictions will actually say. A variety of messages could be used, offering a variety of information (e.g., "GM ingredients," "Warning: contains GM ingredients," or a symbol indicating the presence of GM products and ingredients), which could create technical barriers to trade.[1] Third, labeling policies are being administered by a wide variety of governmental bodies. For example, the Agriculture Ministry is in charge in Argentina and Japan; Foreign Affairs leads in South Korea; in Canada, the Canadian Food Inspection Agency and Health Canada are both involved; the United States Food and Drug Administration (US FDA) leads in the US; while the Ministry of the Environment enforces UK labeling requirements. These different locations of responsibility will likely affect the orientation and procedures used to evaluate options and manage the process. Fourth, and perhaps most importantly, application of the rules varies widely. Many of the proposed labeling rules tend to focus exclusively on soybeans and corn, which together accounted for more than 80% of the global GM acreage in 1999 (James, 2001). Humans do not usually ingest GM cotton; while canola oil is deemed GM-free as long as the meal is not ingested directly by humans. This narrow commercialization is likely to change as more GM crops are brought to market. Meanwhile, only Australia, New Zealand, and the UK have proposed labeling regulations for takeaways and restaurants. Furthermore, only the UK has rules in place to require labeling of genetically modified material in food additives (e.g., chymosin in cheese; lecithin; artificial flavors). However, the EU did recently announce that it would consider labeling for additives with detectable GM proteins. Finally, no country has yet required meats derived from animals fed on GM feeds to be labeled, although the EU is considering the need for such regulations.

There appears to be universal agreement that consumer choice needs to be enhanced through effective labeling, to allow consumers to choose between competing GM and GM-free food products. The debate is no longer about whether or not to develop a labeling system for GM foods but rather how to develop a system that provides real consumer choice without unduly interrupting international trade in agri-food products.

Endnote

[1] See Stull (2000); Mansour (2000); and Buckingham (2000) in this issue for further discussion on this point.

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