

A Short History of GM Labelling

The Right to know and the Right to No

The first labelling legislation on genetically modified organisms (GMO) in food, enacted by the European Union in February 1997¹ marked the first an important victory of European Citizens' protest against Monsanto's unwanted introduction of genetically modified (GM) "Roundup Ready" soybeans, which for the first time had been shipped to Europe in 1996 without further notice. The European Parliament's rapporteur, Dagmar Roth-Berendt, was proud of the achievement. Greenpeace said it was not good enough and presented an EU wide poll that showed consumers overwhelmingly rejected GMOs in their food and a staggering 98.2% demanded labelling of GM food. Others asked "Why label GMOs, if we want to ban the stuff anyway?" Labelling GMOs in food was a political compromise between banning and generally allowing them into the food chain, which was coined as consumers "freedom of choice".

After moments of hesitation, the European Food industry backed the labelling demands. Two years later all major European supermarket chains and food brands, such as Unilever and Nestle had pledged to their customers not to offer GM products. They have kept this promise until today, many of them not only in Europe but world wide. Ten years later basically no products, which would have to be labelled as "produced from genetically modified organisms" are found in the shelves of European retailers.

On the other side of the Atlantic, ten years later, a broad coalition of Canadian NGOs demand labelling of GM food in Canada, which is still not legally required, although 84 percent of Canadians request such labels according to recent polls. Similar campaigns in the USA, where consumers demand GMO labelling of their food in the same range, have gone nowhere so far. Together with consumers in many Latin American and African countries, they are still kept in the dark by their governments about GMOs in their food. In Japan, China, Russia, India, Australia and New Zealand GMO labelling has long been the legal standard. Roughly two thirds of the world citizens today enjoy this basic right to know – at least on paper.

To label or not to label – The global divide

Ten years later, in May 2007, the International Codex Alimentarius (WHO / FAO) Commission on Food labelling² learned from its special Committee on GM Food labelling that *"The Working Group had identified nine possible options for further action by the Committee but had not considered them in detail as this was for the plenary session to decide."* There was no agreement among government representatives even on the reasons for labelling GM-food. The Working group was asked to continue its work and hold its next meeting in Ghana in early 2008. *"The Committee agreed that the time frame for the completion of this work was four years"*.

In the language of the Codex Committee the fundamental global divide over the question of labelling GM foods reads as follows:

Many delegations pointed out that it was especially important as many developing countries relied on Codex recommendations to develop their national policy or regulations in this area. (...) It was underlined by several delegations that the consumer right to know and to make informed choices was an essential element of GM labelling."

Versus:

"Several other delegations expressed the view that mandatory method of production labelling of foods derived from biotechnology was not justified on the grounds of food safety or fair trade practices, and that the consumer's right to know was not one of the objectives of Codex."

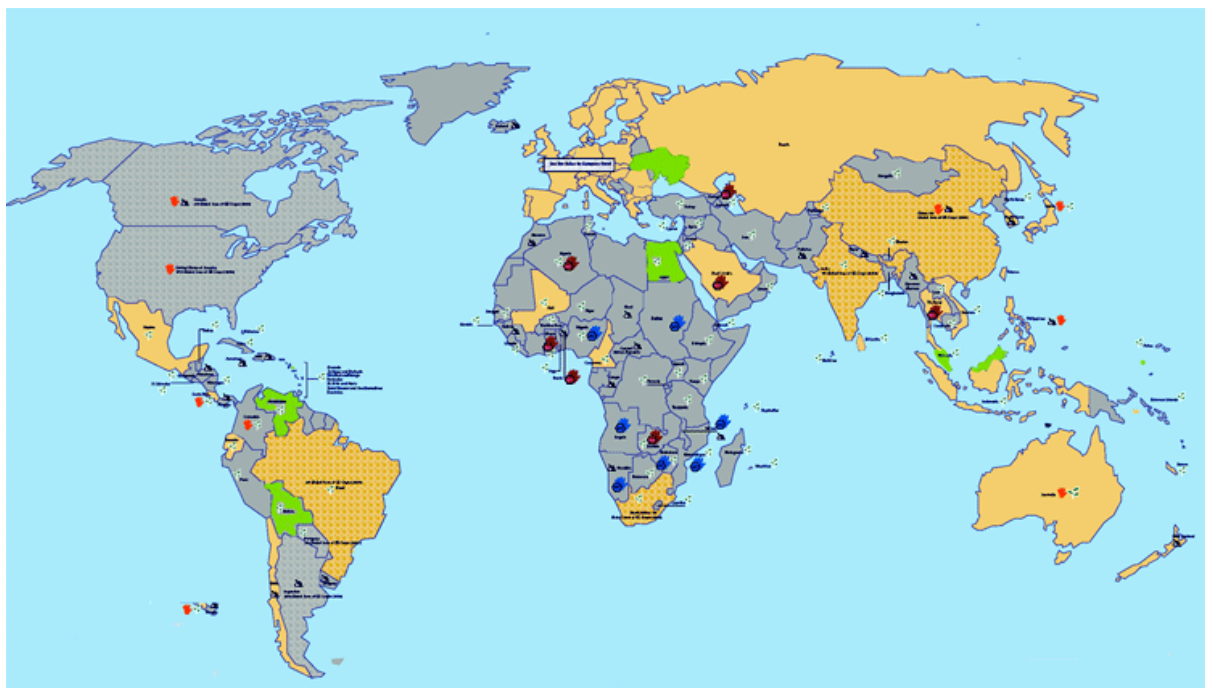
¹ Regulation (EC) No 258/97 of the European Parliament and of the Council of 27 January 1997 concerning novel foods and novel food ingredients. *Official Journal L 043*, 14/02/1997 p. 0001–0007.

² Report Of The Thirty-Fifth Session Of The Codex Committee On Food Labelling, Ottawa, Canada, 30 April – 4 May 2007 http://www.codexalimentarius.net/download/report/682/a130_22e.pdf

Another Codex *Ad Hoc Intergovernmental Task Force on Food Derived from Biotechnology* reported from its sixth session³ that no substantive progress was made and its draft guidelines are still at steps 3 and 4 of 8 before they are submitted to decision of the parties.

In other words: There are no international standards for GM Food and Feed labelling nor for its risk assessment and neither of them should be expected any time soon.

Global Status of GM Labelling Legislation.



Grey: No labelling, Yellow: Labelling, Green: Legislation currently underway

Source: Centre for Food Safety (2005)⁴ with latest additions by the author

The preface of the 163 nation's standard setting body, jointly administered by the World Health Organisation and the Food and Agriculture Organisation of the UN explains:

The Codex Alimentarius has relevance to the international food trade. With respect to the ever-increasing global market, in particular, the advantages of having universally uniform food standards for the protection of consumers are self-evident. It is not surprising, therefore, that the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) and the Agreement on Technical Barriers to Trade (TBT) both encourage the international harmonization of food standards. A product of the Uruguay Round of multinational trade negotiations, the SPS Agreement cites Codex standards, guidelines and recommendations as the preferred international measures for facilitating international trade in food. As such, Codex standards have become the benchmarks against which national food measures and regulations are evaluated within the legal parameters of the Uruguay Round Agreements.

³ Report Of The Sixth Session Of The Codex *Ad Hoc Intergovernmental Task Force On Foods Derived From Biotechnology*, Chiba, Japan, 27 November – 1 December 2006

http://www.codexalimentarius.net/download/report/675/al30_34e.pdf

⁴ Genetically Modified (GM) Crops and Foods: Worldwide Regulation, Prohibition and Production

<http://www.centerforfoodsafety.org/pubs/Worldwide%20GM%20Regulations%2011.2005.pdf>

In other words: Should one side of the divide be able to establish its view as a Codex standard, further WTO dispute settlements would follow this approach. As long as there are not Codex standards, however, trade disputes will have to refer to the different national legislation on these issues as well as the 141 country agreement of the Cartagena Protocol on Biosafety under the Convention on Biological Diversity, which sets minimum identification requirements for GM-food and feed imports, though does not prescribe whether and how to pass this information on to the final consumer of the products.

Details matter

The first labelling regulation of the European Union was based upon direct traceability: Only where genetically engineered DNA or its direct and unique protein product could be identified and tested for in the final product it had to be labelled. Highly refined food and feed commodities such as sweeteners from maize fructose, starch and oil went into the food chain unlabelled. So did products such as milk, meat and eggs derived from animals reared on GM feed. The arguably strictest labelling provisions in the world therefore failed to cover 98 percent of the GMO actually used and traded within the European Union. Maize and soybeans imported to the EU are predominantly used as animal feed and for oil and starch production. Direct consumption by consumers is minimal and restricted to a few products, such as soybean derived lecithin and maize chips.

Process or Product Labelling

In 2003, a new regulation on traceability and labelling⁵ of genetically modified food and feed partly filled the initial gaps. The regulation replaces the concept of test or product based traceability with process based traceability, thus requiring food and feed no longer containing GM-DNA but produced from GMOs to also be labelled. This covers processed products such as starch, high fructose corn syrup in soft drinks and oils. Process based labelling is also legally required under Chinese and Brazilian law. In the rest of the world labelling laws are product based.

Animal products still unlabelled

However, consumers in Europe are still not informed about the use of GM feed for animal products. Despite various initiatives from member states as well as from European citizens, there are no signs that the EU Commission will propose any change to this loophole in the near future. As a result, millions of tons of GM soybeans and hundreds of thousands of tons of GM maize and maize gluten feed are being imported into the Union and slipped into the animal feed chain. Farmers and the meat and egg industry are informed about the GM content of the feed, but not the consumers. Companies guaranteeing not to use GM animal feed must pay substantially higher prices for that feed and have then faced legal problems to convey the gm-free message to consumers - who have actually been found to be willing to pay a higher price for non-GM animal products. Organic products, which by legal definition (including an existing Codex-standard) must not use any GMO ingredients, are also free from GM animal feed.

⁵ Regulation (Ec) No 1829/2003 of the European Parliament and of the Council of 22 September 2003 on genetically modified food and feed, Official Journal of the European Union L 268/1, 18.10.2003,

http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l_268/l_26820031018en00010023.pdf

Regulation (EC) No 1830/2003 of the European Parliament and of the Council of 22 September 2003 concerning the traceability and labelling of genetically modified organisms and traceability of food and feed products produced from genetically modified organisms and amending Directive 2001/18/EC, Official Journal of the European Union L 268/24, 18.10.2003

http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l_268/l_26820031018en00240028.pdf

GM Products from Contained Use

In its new regulation, the European Union has established a complicated distinction between *products produced from* GMOs, which must be labelled and *products produced with the help of* GMOs, which need not be labelled. The latter category comprises animal products, but also enzymes, flavourings and other additives such as vitamins produced with the help of (but no longer containing) genetically modified microorganisms (GMM) in industrial containment. Many of these "little helpers" in processed food are used in a wide range of products and some of them are even hard to obtain without at least one step in their production process being affected by a GMM. There have been several attempts from industry to expand labelling requirements to this category with the idea to force GM labelling on so many products that processors would give up avoiding GM ingredients and consumers would no longer be able to reject them. So far, this trick did not work..

Box: Labelling requirements under EC Regulation No. 1829/2003

GMO-type	Examples	Label
GM plant	<i>Chicory</i>	Yes
GM seed	<i>Maize seeds</i>	Yes
GM food	<i>Maize, soybean, tomato</i>	Yes
Food produced from GMOs	<i>Maize flour, highly refined soya oil, glucose syrup from maize starch</i>	Yes
GM feed	<i>Maize, soybeans</i>	Yes
Feed produced from a GMO	<i>Corn gluten feed, soybean meal</i>	Yes
Food from animals fed GM animal feed	<i>Meat, milk, eggs</i>	No
Food produced with help from a GM enzyme	<i>Cheese, bakery products produced with the help of amylase</i>	No
Food and feed additive produced with the help of a GMM	<i>Vitamin B2</i>	No
Food additive/flavouring produced from GMOs	<i>Highly filtered lecithin extracted from GM soybeans used in chocolate</i>	Yes
GMM used as a food ingredient	<i>Yeast extract</i>	Yes
Alcoholic beverages with a GM ingredient	<i>Beer with GM yeast</i>	Yes
GM feed	<i>Maize, soybeans</i>	Yes
Feed produced from a GMO	<i>Corn gluten feed, soybean meal</i>	Yes

Thresholds

Imagine a 40.000 tonne freighter carrying GM soybeans from the US and later non-GM beans from Brazil, add the oil mill where a thousand tonnes per day are crushed and then apply the reliable detection level of 0,01% of modern PCR testing methods for GMO identification. The costs of cleaning are simply unbearable to guarantee that not 1 in 10.000 beans or kernels of maize would slip in adventitiously. Therefore labelling regulations around the world, with the notable exception of China, allow for thresholds, ranging from 0,9 percent in the EU and Russia and 1 percent in Australia, Brazil and Saudi Arabia to 3 percent in South Korea and even 5percent in Japan, Thailand and Indonesia. There are also important differences in the definition of these percentages. In the EU, 0,9 percent refers to each individual ingredient, which may only account for 1 percent of the products total weight (typical example: lecithin in chocolate). In Japan it refers to the total of the three main ingredients of the product, which in effect allows for substantially higher contamination. It is clear from the levels of thresholds that GMO labelling is not a reliable standard for health and food safety precaution, and certainly not an allergenicity safeguard. Obviously all labelling regulations only apply for GMOs, which are approved in the country and found safe to eat.

However, after major GM food contamination scandals, the USA has now taken an initiative to the Codex Task Force on Biotech Foods to allow for the "adventitious presence" of minimal traces of GMOs not approved in a country. It is hard to conceive that this proposal will fall on fertile ground within the present dispute, unless the USA was able and intended to threaten major supply crises for certain commodities without such contamination levels. The move came at the end of 2006, after long grain rice exports from the US to Europe and Japan collapsed due to a non-approved variety of Bayers herbicide resistant GM rice LL601 being found in European supermarket shelves. Presumably one mistaken seed bag of Bayers LL601 some five years ago had contaminated more than one fifth of the entire US production and still is not under

control⁶. To avoid liability for the hundreds of millions of dollars in damage to farmers, processors and retailers, Bayer now claims the contamination to be "an act of god", which sheds quite a peculiar light on the future of food safety standards in the age of GMOs.

Seeds

There is one important class of products for which the European Union has not established any labelling thresholds: Seed. As seeds, unlike chocolate, reproduce and propagate and can multiply in uncontrolled proportions it seems only logical, not to allow any thresholds above reliable detection limits for the identification and labelling of GMOs in this particular product. General labelling provisions for final products, which can no longer reproduce, exclusively serve the information of consumers. Information about the presence of GMOs in seed and reproductive material in addition are required for the risk management, such as recalls and monitoring their fate and effects in the environment. They are also an indispensable prerequisite for farmers to ensure their fields are effectively GMO free and to guarantee their customers the non-GM quality of their products.

The seed industry has long demanded thresholds for the contamination of seeds and the European Commission made suggestions for such thresholds between 2002 and 2004. The logic of these suggestions was that a threshold in seeds was necessary to reduce costs of the seed industry and need only to ensure, that the produce leaving the farm did not exceed the labelling threshold for final products of 0,9 percent.

Such an approach would corrupt the entire precautionary approach of legislation on the deliberate release of GMOs into the environment. It would also complicate, if not disable so called "co-existence" between GM and non-GM farming. Cross pollination from GM to non-GM fields would be inevitable, once grown side by side. Member States of the EU are therefore attempting to establish provisions to minimize negative effects of GM planting on neighbouring fields, including separation distances and buffer zones, detailed provisions for cleaning and handling of machinery, information and co-operation with neighbours. However, if non-GM farmers already had to assume that their non-GM seeds contained between 0,3 and 0,5 percent GMOs (these were the Commission suggestions, the industry even demanded higher thresholds), there would be no room left to manoeuvre. In addition, mills, traders and retailers presently require purity standards between 0,1 and 0,3 percent for farm products, aiming at keeping a substantial safety margin to their 0,9 maximum.

Faced with these complications and massive protest from stakeholders, civil society and many governments, the EU Commission has postponed further action on seed thresholds. But the industry keeps nagging and the Commission officially is still gathering scientific evidence on the issue. Meanwhile member state authorities test certified seeds for contamination and eliminate all seed batches exceeding the reliable detection level of 0,1 percent.

Global Trade in Seed

The International Seed Federation and all its members at the same time have established a statement in their general terms of sale⁷, which says:

Seed production has been carried out in accordance with production rules including stipulated isolation distances. However, in open fields there is free circulation of pollen. As it cannot be excluded that in seed multiplication areas the growing of approved GM plants takes place, it is not

⁶ Rice industry troubled by genetic contamination, The Washington Post, USA 11.03.2007

URL: http://www.washingtonpost.com/wp-dyn/content/article/2007/03/10/AR2007031001323_pf.html

⁷ ISF, Model for Conditions of Sale Applicable to Seed Lots, 2002

http://www.worldseed.org/Position_papers/cond_sale.htm

possible to totally prevent the adventitious presence of GM material and to guarantee that the seed lots comprising this delivery are free from any traces derived from GM plants. (Company name) has undertaken due diligence to avoid adventitious presence of GM material in this seed lot. However, (company name) gives no guarantee that the seed is GM free and can accept no liability arising from the adventitious presence of GM material.

This private disclaimer does not exempt the industry from complying with dedicated GM regulations where these exist. However, in many countries which have no detailed purity requirements with respect to GMOs, such a disclaimer may well help in evading liability and redress. International standards for seed quality, as established in the *OECD Schemes for the Varietal Certification of Seed Moving in International Trade*⁸, do not address GMO so far and their general purity standards vary at levels between 0,1 and 2 percent.

As usual in the power play arena of global trade, only where dedicated regulations for GMO in seed are established, will they be followed by industry. While the EU returns contaminated seed from main seed exporting countries, such as the USA and Chile, smaller and less powerful countries will neither have the capacity nor the legal provisions to prevent such contaminations. Seed companies such as Monsanto, Syngenta and Pioneer / Dupont have established highly sensitive and reliable testing methods for their seed lots and tend to pick the highest purity lots for EU exports, while sending contaminated lots to other less vigil destinations.

In addition, bulk commodity exports of maize kernels exported from the USA in millions of tons world wide are not considered seed in the country of origin, but may well be in the importing countries, such as Mexico, the Centre of Origin for maize, which has frequent problems with GM contamination of landraces and other seed. Massive amounts of whole kernel maize are being exported as "food aid" by the USA throughout the world, especially to Africa. Contamination of these deliveries have been subject to fierce and sometimes hardly ethical disputes between receiving countries, the USA and the World Food Programme, which oversees food aid.

Strict labelling of all reproductive material which can be used as seed, is still not implemented in most countries of the world. Without such provisions national biosafety regulations as well as labelling and export standards are under substantial threat.

Labelling provisions⁹ established under the Cartagena Protocol on Biosafety for food and feed established in March 2006, only provide minimum standards of information for the country of import. Imports of GMOs must be accompanied by documentation stating that the shipment contains or may contain GMOs including their identity, unique identifier and sources for additional information. The Protocol is quite clear and explicit as regards imports of GMOs intended for cultivation and requests a prior and fully informed consent by the country of import prior to imports of GMO.

Major exporters of GMO, USA, Argentina and Canada have not ratified the Protocol however and insist that the obligations under the Protocol must not be extended to them.

⁸ The Oecd Schemes For The Varietal Certification Of Seed Moving In International Trade are maintained by the OECDs Directore Agriculture and Trade to establish that Certified seeds are produced -and officially controlled- according to common harmonised procedures in 55 participating countries. They are identified through world-wide recognised OECD labels.

www.oecd.org/agr/seed

⁹ See Report of The Third Meeting Of The Conference Of The Parties To The Convention On Biological Diversity Serving As The Meeting Of The Parties To The Cartagena Protocol On Biosafety, UNEP/CBD/BS/COP-MOP/3/15, Decision III/10.

Handling, transport, packaging and identification of living modified organisms: paragraph 2 (a) of Article 18 (page 60 ff)

<http://www.cbd.int/doc/meetings/bs/mop-03/official/mop-03-15-en.doc>

GMO Labelling impacts on Developing Countries?

The Cartagena Protocol on Biosafety does not even provide for implementing sanctions and is certainly still far from full implementation in the national legislation and practice of most of its 141 signatory states. Access to the biggest and best value markets for agricultural products, the EU and Japan as well as to the increasingly important Chinese market so far has probably been the most effective and preventive measure to establish global labelling and biosafety standards. The GMO industry and major exporting countries such as the US, Argentina and Canada therefore argue that strict labelling in these countries is actually at the expense of developing countries access to the new technologies of genetic engineering. Hypothetical claims of losses to income and yield, have no justification in the reality of present GMO products (which are neither higher yielding nor better adapted than conventional counterparts). It appears that the main aim of such arguments is to open developing countries seed markets and introduce destructive industrialised agricultural practices.

Just in time for the dispute about minimum labelling requirements for food and feed exports under the Biosafety Protocol the International Food Policy Research Institute, IFPRI, published an extensive study on the international trade effects of GMO labelling on developing countries.¹⁰ The report argues that especially the Japanese and EU labelling regulations " *tend to affect other countries' choice of regulations. In particular, we identified two spill over effects of importers' regulations on developing countries choice of production and regulations: the fear of export loss, linked with the belief that segregation is infeasible, and the regulatory harmonization effect, linking domestic policy choice to market access.*"

IFPRI, part of the World Bank controlled CGIAR research institutions, in a futile attempt to pre-empt the adoption of the above mentioned Biosafety Protocol provisions suggests four measures to developing countries:

- 1. Adopt a comprehensive but practical approval biosafety regulatory process for GM crop production and GM food for consumption based on international standards;*
- 2. Adopt approved GM crops adapted to regional constraints and preferences that offer significant productivity increases;*
- 3. Import and consume approved GM food without further potential trade or costly restrictions (e.g., no stringent mandatory labelling or stringent information requirements, but possible voluntary labelling to let consumer choose and certification for exports)*
- 4. Adopt policies and strategies that help segregate GM and non-GM crops for exportable markets and potentially for the domestic market (non-GM niche).*

It is obvious that with this advice developing countries would be heading for major problems not only with respect to the freedom of choice of their consumers and farmers, but also their export chances to markets with stringent labelling rules. Import of unlabelled GM maize kernels for example is a safe recipe for contamination of the production in all countries not yet or not fully subdued to northern habits of exclusive use of certified hybrid seeds, which can no longer be farm saved and re-cultivated. As discussed, segregation of GM and non-GM crops and agriculture fundamentally depends upon strong and restrictive labelling requirements for all reproductive material. It also requires testing and reliable control systems not usually available in developing countries. With the exception of bulk commodities for non-food use countries seeking new export opportunities for agricultural products will soon find out that there actually is not even a niche market for GMO products.

¹⁰ Guillaume P. Gruère, 2006, An Analysis of Trade Related International Regulations of Genetically Modified Food and their Effects on Developing Countries, International Food Policy Research Institute

<http://www.ifpri.org/divs/epid/dp/epidp147.asp>

Competition on the highly industrialised sector of commodity exports on the other hand, is probably the least promising strategy in developing countries for rural development and public economic growth, for increased food safety and security as well as for agricultural exports to global high value markets. There are, of course, vast areas in so called developing countries under highly industrialised agricultural production, often exceeding levels of mechanisation, pesticide and fertiliser use in so called developed countries. Where cash crops for feed and non-food use, including future agro-fuels and energy production, are produced on a high level of industrialisation, the impacts on the rural economy and ecology are usually a disaster on it's own. Such mono-cultural systems in Brazil, Argentina and Paraguay have indeed adapted to GMO production, mainly Roundup Ready soybeans, with competitive advantages for aerial spraying and mega-mechanisation – at the cost of small farmers livelihoods and rural development, of crop rotation, soil protection and food availability to the poorest of these countries.

Opening additional fields in developing countries to the global commodity market and at the same time excluding them from access to global high value food markets may be a convenient strategy for trans-national companies engaged in the production of GMOs and pesticides. It may also serve the interests of some over-subsidised national agricultural systems to block food imports from developing countries in the future. But it will hardly serve the interest of sustainable rural development and improved food production in developing countries.

Keeping their countries GMO-Free may not only offer the best chances for developing countries to find their share in the global agricultural market and even offer competitive advantages towards major GMO-using agricultural export nations. It is probably, and more importantly, the best insurance against corporate takeover of their national agricultural production and it's priorities, which should be to feed the local and regional consumers, provide them with best available safety and food quality and to maintain and create rural livelihoods.

However governments may decide, it must be their sovereign right to chose agricultural production methods and inputs as well to guarantee transparency for farmers and consumers. To this end, labelling of seed as well as food and feed imports is the indispensable pre-requisite. Following the case of US vs. EU on GMO approvals and bans, the WTO dispute settlement body seems to try to narrow acceptable reasons for banning individual GMOs in accordance with the SPS and TBT agreement. Its approach appears to conflict with the precautionary approach under the Biosafety Protocol. It also seems to leave less room to manoeuvre on socio-economic reasons to ban GMOs and the import of GMO products. The WTO however does not question the right to impose labelling and traceability requirements.