THE WTO AND THE MANDATORY LABELING OF GENETICALLY MODIFIED FOODS

by

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ABSTRACT

The manipulation of nature using modern biotechnology has resulted in the creation of Genetically Modified (GM) foods. There are states already enacting laws requiring the mandatory labeling of GM foods so that consumers can make informed choices as to what food to eat. However, on the flip side, the mandatory labeling of GM foods can also constitute non-tariff barriers as it can impose burdens on states that export GM foods. How should these two interests be balanced? This thesis takes the ambitious challenge of exploring whether the mandatory labeling of GM foods enacted under the government's protection of the consumers' right to information regarding what food to consume is consistent with the World Trade Organization (WTO) framework, particularly the Agreement on Technical Barriers to Trade (TBT Agreement). This thesis holds the view that the WTO, an international organization established to promote trade liberalization, can incorporate protection of consumers' interests by including it within to the interpretation of "legitimate objective" contained in Article 2.2 of the TBT Agreement. Rather, the heart of problem lies in the threshold setting of exempting mandatory labeling. In particular, the dispersed threshold should be adjusted. In order to solve this issue, this thesis contends that both the TBT Committee and the dispute settlement system should be utilized.

RÉSUMÉ

La manipulation de la nature au moyen de la biotechnologie moderne a permis la création d'aliments génétiquement modifiés (GM). Certains États promulguent déjà des lois concernant l'étiquetage obligatoire des aliments GM, afin que les consommateurs puissent faire des choix éclairés en matière d'alimentation. Cependant, d'un autre côté, l'étiquetage obligatoire des aliments GM peut aussi constituer une barrière non tarifaire, car il pourrait imposer un fardeau sur les États qui exportent des aliments GM. Comment équilibrer ces deux intérêts? Cette thèse relève le défi ambitieux d'étudier si l'étiquetage obligatoire des aliments GM, promulgué par les gouvernements en vertu du droit à l'information du consommateur de produits alimentaires, entre dans le cadre de l'Organisation mondiale du commerce (OMC), et plus particulièrement, dans celui de l'Accord sur les obstacles techniques au commerce. Cette thèse suggère que l'OMC, une organisation internationale qui vise à promouvoir la libéralisation du commerce, peut inclure la protection des intérêts des consommateurs dans l'interprétation de l'« objectif légitime » prévu à l'article 2.2 de l'Accord sur les obstacles techniques au commerce. Le cœur du problème réside plutôt dans l'établissement d'un seuil d'exemption à l'égard de l'étiquetage obligatoire. Le niveau de ce seuil devrait notamment être ajusté. Afin de résoudre ce problème, cette thèse propose que le Comité des obstacles techniques au commerce et l'Organe de règlement des différends soient tous les deux consultés.

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INTRODUCTION

The effects of globalization and the development of biotechnology have brought many benefits as well as challenges to our daily lives.[1] Genetically modified (GM) foods can be pointed out as a significant example. One of the benefits of GM foods is that they help to increase the food supply and thus lead to a decrease in the world's malnourished population without increasing acres of farmland.[2] Moreover, GM foods are considered to be environmentally friendly in that they help "farmers reduce their reliance on insecticides and herbicides".[3] Furthermore, from a nutritional standpoint, some GM foods contain more vitamins than do traditional foods.[4]

Yet, concerns about GM foods linger, particularly with regard to their effects on human health. It is too early to conclude that such foods are safe,[5] as many types of GM foods are still awaiting approval or are still being examined, reflecting this uncertainty over safety.[6]

This deep concern indeed has an influence on international trade. Globalization results in the flow of goods, services, and people among states, and its effect on GM foods is no exception. However, there are many states that restrict the flow of GM foods into their states. The scope and forms of restriction differ among states: the most relevant here is the mandatory labeling of GM foods.

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[1] For definitions concerning globalization and biotechnology, see Chapter 1, below.

[2] Charles W. Smitherman III, "World Trade Organization Adjudication of the European Union-United States Dispute Over the Moratorium on the Introduction of New Genetically Modified Foods to the European Common Market: A Hypothetical Opinion of the Dispute Panel" (2002) 30 Ga. J. Int'l & Com. L. 475 at 480.

[3] US Department of Agriculture, "Agricultural Biotechnology: Frequently Asked Questions", online: USDA <http://www.usda.gov/agencies/biotech/faq.html> (date accessed: 19 April 2003).

[4] *Ibid.*; Smithermann III, *supra* note 2 at 481, which includes the following examples: "golden rice, enriched with beta-carotene to prevent blindness and increase disease resistance [...] and wheat and peanuts that no longer contain allergenic properties."

[5] Dr. Pusztai notes that scientific studies about effects on health have been inadequate and that more should be conducted. Arpad Pusztai, "Genetically Modified Foods: Are They a Risk to Human/Animal Health?", online: Actionbioscience <http://www.actionbioscience.org/biotech/pusztai.html> (date accessed: 18 August 2003).

[6] See EU, *Questions and Answers on the Regulation of GMOs in the EU*, online: The European Union <http://europa.eu.int/comm/dgs/health_consumer/library/press/press298_en.pdf> (date accessed: 18 August 2003). The information is dated as of July 2003. It posts both the approved and the pending lists of GM foods. See also Ministry of Health, Labor, and Welfare of Japan, *List of the Products Whose Safety Assessment were Completed by MHLW*, online: The Ministry of Health, Labor and Welfare of Japan<http://mhlw.go.jp/english/topics/food/sec01.html> (date accessed: 18 August 2003). The list of in-process examinations can be downloaded from <http://mhlw.go.jp/english/topis/food/sec0102.html>.

There is no uniform law to regulate the mandatory labeling of GM foods in terms of international trade.

This thesis explores controversial issues regarding the mandatory labeling of GM foods and its compatibility with international trade. In particular, this thesis examines whether the mandatory labeling of GM foods constitutes a non-tariff barrier to trade and thus disrupts international trade. In other words, in this thesis we will seek to determine whether the mandatory labeling of GM foods should be avoided so as to promote the liberalization of trade. In order to investigate this issue, the hypothesis of this thesis is that despite the regulation of GM foods consisting of non-trade values such as food safety and consumers' right to information about the foods they are eating, the World Trade Organization (WTO) is the appropriate forum to which to bring this issue as it has the capability to solve it. However, because globalization has brought us an interrelated web of rules, policies, and non-trade concerns, the WTO has to simultaneously consider the question of how to give legitimacy to its decisions so as to facilitate balanced trade liberalization. The endeavor to find equilibrium and give legitimacy to decisions at the same time might be a difficult and exhausting task, but still it is necessary. The significance of this hypothesis is that it enables us to illustrate how globalization and the development of biotechnology affect the international trade regime.

This thesis is composed of three chapters. Chapter 1 briefly reviews the background surrounding the mandatory labeling of GM foods issue so as to provide an understanding of the key issues behind this trade friction. There are three subsections within this chapter. The first overviews international trade in agriculture, emphasizing the difficulties arising from agricultural negotiations within the framework of the WTO. Achieving compromises in this sector is deemed extremely difficult, since it has been described as "one of the most prominent and acrimonious issues on the world trade agenda".[7] These difficulties in essence flow from domestic pressures originating from a variety of interest groups. Accordingly, it has been acknowledged that "governments have, in effect, conferred a special status on the agriculture sector, a status based on economic, social and political

[7] Michael J. Trebilcock & Robert Howse, *The Regulation of International Trade*, 2nd ed. (London: Routledge, 1999) at 191.

considerations".[8] The second subsection illustrates how the development of biotechnology and food safety constitute some of the most serious international concerns. The third subsection of this chapter identifies the definition and scope of GM foods. The potential benefits and drawbacks of these foods are also presented.

In Chapter 2, perspectives regarding the mandatory labeling of GM foods are introduced. The United States (US) and the European Union (EU) have been chosen as representative states in order to analyze whether the mandatory labeling of GM foods should be interpreted as distorting international trade and thus should be considered inconsistent with the international trade regime. In this chapter, the importance of choosing the US and the EU will be described using a comparative approach. In particular, this thesis scrutinizes and compares the domestic regulatory system of both states regarding restrictions in labeling GM foods. This chapter explicitly illustrates two different stances adopted by the opponents regarding the mandatory labeling of GM foods: the US is inclined to represent producers' interests, whereas the EU tends to focus on consumers' interests. These two perspectives are so tightly intertwined with each jurisdiction's socio-economic factors that they permeate discussions and trade negotiations in the forum of the WTO.

In Chapter 3, we seek a solution for handling the mandatory labeling of GM foods by treating it as though it is a non-tariff barrier to trade issue. This chapter contends that the WTO has the capability of solving the mandatory labeling of GM foods and that such trade frictions should not be solved purely through bilateral negotiations between conflicting states. To assert this point, this chapter first investigates why bringing the GM foods dispute to the forum of the WTO is considered meaningful, by focusing on the meaning of the multilateral approach enshrined in the Preamble of the WTO Agreement. This thesis holds that the WTO, an international economic organization, can contribute to settle trade confrontations concerning the mandatory labeling of GM foods by taking advantage of its Committees and Dispute Settlement Body.

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[8] Grace Skogstad & Andrew Fenton Cooper, eds., *Agricultural Trade: Domestic Pressures and International Tensions* (Halifax: The Institute for Research on Public Policy, 1990) at 16 [*Agricultural Trade*].

In the same chapter, we examine legal instruments under the WTO Agreement.[9] To be precise, this thesis holds that the Agreement on Technical Barriers to Trade (TBT Agreement) is the most relevant instrument to solve the mandatory labeling of GM foods issue.[10] Past jurisprudence of the Dispute Settlement Body are also introduced. This thesis maintains that the mandatory labeling of GM foods for the purpose of consumers' right to information concerning the foods they eat can be justified as a legitimate objective under Article 2.2 of the TBT Agreement. The WTO has the capability of converging the consumers' right to information rationale with trade interests. However, this thesis asserts that the kernel of the problem lies in the threshold level that each Member adopts. In particular, several WTO Members have already adopted mandatory labeling of GM foods regulations, each with different thresholds, ranging from 0.9% to 5%. A uniform threshold needs to be found.

In light of this concern, this thesis contends that both negotiations at the TBT Committee and the dispute settlement mechanism of the WTO can help to solve this issue. With regard to negotiations, the TBT Committee has been and still is the appropriate forum for such negotiations. If at some point, a standard were successfully established by the international standardization body, the Panels and the Appellate Body would need to incorporate it. In this case, it would be necessary for the international standardization body to allow all WTO Members to become members. For the Panel and the Appellate Body to reach their decisions, the incorporation of the standard established by existing international institutions would be important in terms of enriching legitimacy. For instance, incorporation could be made to the Codex Alimentarius Commission (CAC), the institution established jointly by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO). The CAC has been discussing GM labeling standards and the incorporation would in effect reflect the CAC's objective in the findings of the Panel and the Appellate Body. Thus, incorporation of standards by other international standardization bodies in the decisions would enrich

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[9] *Final Act Embodying the Result of the Uruguay Round of Multilateral Trade Negotiations, Marrakesh, 15 April 1994, Agreement Establishing the World Trade Organization*, reprinted in 33 I.L.M. 1144 [*WTO Agreement*].

[10] WTO Agreement ann. 1A, *Agreement on Technical Barriers to Trade*, 15 April 1994, online: World Trade Organization<http://www.wto.org/english/docs_e/legal_e/legal_e.htm> (date accessed: 23 April 2003)[*TBT Agreement*].

the legitimacy. This would also help to curb criticisms that the WTO is a self-contained institution with its own agenda. Enhanced legitimacy may have a positive influence in terms of a compliance mechanism. By taking advantage of both the TBT Committee and the dispute settlement mechanism, the WTO can embrace the challenge of converging trade liberalization interests and protection of consumers' right to information regarding the foods they eat. This is the endeavor that the WTO has to confront in this modern biotechnology era.

CHAPTER 1

GLOBALIZATION AND BIOTECHNOLOGY:

IMPACTS ON INTERNATIONAL AGRICULTURAL TRADE

A. Globalization and Its Effects on the International Agricultural Trade Negotiations

Defining globalization is difficult, as it is a multifaceted concept. Many commentators have particularly remarked on its economic dimension. According to Professor Stilwell, "in its basic form, globalization involves the breakdown of the impediments to economic interaction arising from distance and/or regulations imposed by nation states (impeding the movement of goods, labour, or capital across national boundaries, for example)".[11] Former Governor of the Bank of Canada Gordon Thiessen has stated that globalization is the "growing integration and interdependence of national economies".[12] For his part, US Federal Reserve Chairman Alan Greenspan has expressed the opinion that "globalization as generally understood involves the increasing interaction of the world's peoples through their national economic systems. Of necessity, these economic systems are reasonably compatible and, in at least some important respects, market oriented".[13] With the demise of the Cold War, the focus has shifted to a market-oriented economy on a global scale. Globalization gives impetus to the expansion of market-oriented free trade.

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[11] Frank Stilwell, *Political Economy: The Contest of Economic Ideas* (Oxford: Oxford University Press, 2002) at 19.

[12] Gordon Thiessen, "Globalized Financial Markets and Monetary Policy" (Notes from Remarks presented to La Conference de Montreal, 27 May 1998), online: Bank of Canada <http://www.bankofcanada.ca/en/speeches/sp98-3.htm> (date accessed: 31 August 2003).

[13] Alan Greenspan, "Globalization" (Remarks presented to the Institute for International Economics, 24 October 2001), online: Board of Governors of the Federal Reserve System <http://www.federalreserve.gov/boarddocs/speeches/2001/20011024/default.htm (date accessed: 7 April 2003). John K. Gamble, Emily A. Allen & Nicole L. Dirling, "International Law and Globalization: Allies, Antagonists or Irreverence?" (2003) 30 Syracuse J. Int'l L. & Com. 1. For a practical perspective on globalization, see *G8 Communiqué Okinawa 2000*, para. 2, online: Ministry of Foreign Affairs of Japan, *infra* note 101 (date accessed: 20 April 2003). For an analysis of the G8's handling of globalization issues, Nicolas Bayne, "Managing Globalisation and the New Economy: The Contribution of the G8 Summit" in John J. Kirton & George M. von Furstenburg, eds., *New Directions in Global Economic Governance: Managing Globalisation in the Twenty-First Century* (Aldershot: Ashgate, 2001) at 23.

1. Fundamental Theoretical Basis for Trade Liberalization

The theory justifying trade liberalization can be traced back to Adam Smith's *An Inquiry into the Natures and Cause of the Wealth of Nations.*[14] In that 1776 treatise, Smith condemned mercantilism, stating that nations export in order to import goods.[15] Moreover, he also argued that a state should purchase a product from another state if the latter state could produce it at a lower cost.[16] However, his theory left a question unanswered: If state A were capable of producing both products more cheaply than state B, could it be concluded that there would be no merits for state A to be involved in trade? Stated differently, if state A possessed an absolute advantage for both products, would that mean that state A would not enjoy benefits deriving from trade and thus, should stay an autarkic society?[17]

In attempting to answer this question, the rationale behind the liberalization of trade was refined by David Ricardo in his 1817 treatise *Principle of Political Economy and Taxation.* The refined version of the justification for trade was based on the principle of comparative advantage.[18] This principle states that "each country will benefit if it specializes in the production and export of those goods that can produce at *relatively* low cost (in which it is relatively more efficient than other countries)".[19] The essence of this principle is that it emphasizes the concept of relativity.[20] The emphasis on the division of labor applies in the same way as in *Wealth of Nations.*[21] In addition, in

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[14] Adam Smith, *An Inquiry into the Nature and Cause of the Wealth of Nations*, ed. by Kathryn Sutherland (original text from 1776) (Oxford: Oxford University Press, 1993).

[15] Harry Landreth, *History of Economic Theory: Scope, Method and Content* (Boston: Houghton Miffflin Company, 1976) at 44.

[16] Smith described it as follows: "It is the maxim of every prudent master of a family, never to attempt to make at home what it will cost him more to make thank to buy. [...] What is prudence in the conduct of every private family, can scarce be folly in that of a great kingdom. If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry, employed in a way in which we have some advantage." Smith, *supra* note 14 at 292-93.

[17] Trebilcock & Howse, *supra* note 7 at 3.

[18] John H. Jackson, *The World Trading System* (Cambridge, Ma: The MIT Press, 1997) at 14 [Jackson, *Trading System*].

[19] Paul A. Samuelson &William D. Nordhaus, *Microeconomics*, 15th ed. (New York: McGraw- Hill, 1995) at 397 [emphasis added].

[20] Roger LeRoy Miller & Raymond P.H. Fishe, *Microeconomics: Price Theory in Practice* (New York: HarperCollins College Publishers, 1995) at 11.

[21] Stilwell, *supra* note 11 at 79. For the division of labor, Smith, *supra* note 14 at 11.

Ricardo's refined theory, the concept of specialization is explicitly included.[22] In other words, allocating labor into the area of production in which the state is specializing is necessary so as to achieve production efficiency.[23] In sum, having incorporated the concept of relativity, the theory of comparative advantage is significant because it successfully exemplifies that states will mutually profit from trade, even when state A has an absolute advantage in both products.

2. Practical Aspects of Trade Liberalization: Constructing an International Economic Regime

a. Endeavors to Establish an International Economic Regime

The impetus to establish an international economic regime originated from an endeavor to prevent armed conflict.[24] Between World War I and World War II, states were suffering from an economic downturn. To avoid further economic depression, states adopted protective measures for imported goods. Especially among them was the establishment of the Smoot Hawley Tariff Act of 1930 by the US, which ignited a tariff war.[25] Following the enactment of this Act, President Roosevelt took initiatives to pass the Reciprocal Trade Agreements Act, which focused on nurturing economic relations on a bilateral basis.[26]

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[22] Samuelson &. Nordhaus, *supra* note 19 at 5. Efficiency is described as the absence of waste, "or using the economy's resources as effectively as possible to satisfy people's needs and desire." The notion of efficiency is important because it is the fundamental basis of economics. In other words, efficiency is required because our demand for goods must be satisfied within the scarcity of resources.

[23] Ricardo has remarked: "Under the system of perfectly free commerce, each country naturally devotes its capital and labour to such employments as are most beneficial to each. This pursuit of individual advantage is admirably connected with the universal good of whole." David Ricardo, *The Principle of Political Economy and Taxation*, ed. by Michael P. Fogarty (London: J.M. Dent & Sons, 1965) at 80.

[24] Jackson explains how international trade has contributed to the avoidance of armed conflict. John H. Jackson, *The World Trade Organization: Constitution and Jurisprudence* (London: The Royal Institute of International Affairs, 1998) at 13 [Jackson, *Constitution*]. John H. Jackson, *The Jurisprudence of GATT and the WTO: Insights on Treaty Law and Economic Relations* (Cambridge: Cambridge Press, 2000) at 21 [Jackson, *Economic Relations*].

[25] Jackson, *Constitution*, *supra* note 24 at 15. For an examination of the background regarding the enactment of the Smoot Hawley Tariff Act, Barry Eichengreen, "The Political Economy of the Smoot-Hawley Tariff" in Jeffery A. Frieden & David A. Lake, eds., *International Political Economy: Perspectives on Global Power and Wealth*, 4th ed. (Boston: Bedford/St. Martin's, 2000).

[26] Jackson notes that between 1934 and 1945, the United States concluded thirty-two bilateral reciprocal trade agreements and that this "foreshadowed" the establishment of the GATT. Jackson, *Constitution*, *ibid.* at 35. Grace Skogstad, "Canada: Conflicting Domestic Interest in the MTN" in *Agricultural Trade*, *supra* note 8 at 30 argues that the Reciprocal Trade Agreements Act of 1934 had such a significant impact that the GATT took its cue from it. But Stephen D. Krasner, "State Power and the Structure of International Trade" in Jeffry A. Frieden, *International Political Economy: Perspectives on Global*

Having undergone the acidulous experience of World War II, there were endeavors to achieve international economic order. The embodiment of this need was found under the Bretton Woods Conference held in 1944.[27] At this Conference, two charters were established, one for the International Monetary Fund (IMF) and one for the International Bank for Reconstruction and Development (also known as the World Bank). Following that success, four conferences were convened so as to launch the International Trade Organization (ITO). The largest portion of the Charter for the ITO was drafted by the time of the Geneva Conference.[28] However, at the fourth conference in Havana, it became clear that the Havana Charter for establishing the ITO would not be enacted, as some states opposed it on the ground that the Charter would restrict sovereignty. As a result, the Havana Charter for establishing the ITO never came into force as a whole. Rather, it was decided that the parts of the Charter pertaining to tariff concessions would be taken out and given "provisional" force.[29] Thus, under the Protocol of Provisional Application in 1 January 1948,[30] the General Agreement on Tariffs and Trade (GATT) entered into force.

Although the GATT promoted trade liberalization, as stipulated therein, and states followed it accordingly, the fragile structure deriving from its provisional character strongly reflected its implementation. For instance, the GATT was not an international organization. As a result, members of the GATT were called "Contracting Parties". The Contracting Parties were able to exert political and diplomatic pressure on trade disputes.[31] Decisions reached by the dispute settlement system were

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Power and Wealth (New York: St. Martins Press, 1987) at 34 argues that the achievement of this Act was negated since the negotiable tariff rate level was set so high from the beginning that the average reduction of 44% did not change anything much. In this regard, Trebilcock & Howse, *supra* note 7 at 21 note that the commencement of World War II had become the priority rather than concentrating on bilateral economic negotiations.

[27] Jackson, *Constitution*, *ibid.* at 36.

[28] Jackson, *Economic Relations*, *supra* note 24 at 22. The Geneva Conference took place from 10 April 1947 to 30 October 1947.

[29] Jackson, *Trading System*, *supra* note 18 at 37. According to Professor Jackson, the preparation for the ITO Charter consisted of three parts: (1) structuring the framework of the international trade; (2) negotiating for tariff reductions in the multilateral sphere; and (3) clarifying obligations that were deemed necessary in order to promote tariff reductions. The latter two remained part of the GATT system.

[30] Trebilcock & Howse, *supra* note 7 at 21.

[31] The 'Regime Management Model', which originated from international relations, asserts that in order for a stable, credible dispute settlement system to exist, an international organization needs to establish a dispute settlement system with a rule-based approach because "diplomatic, power-based solutions to disputes are unlikely to generate the normative benchmarks". *Ibid.* at 51.

often not adopted because a party to the particular dispute voted against its adoption. Evidently, the voting system was based on the consensus of the Contracting Parties, and as a result, there were many ways in which political power could influence the GATT system.[32] This vulnerability stemmed from the ad hoc character of its establishment.

Despite the insufficiencies deriving from its ad hoc character, the GATT responded to practical needs, such as serving as a meaningful forum in which to negotiate economic relations.[33] In this forum, Contracting Parties collaborated to try to reduce trade distorting measures.[34] The notable negotiations were the Rounds of multilateral trade negotiations. Out of eight Rounds of multilateral trade negotiations under the GATT,[35] the first five focused on tariff reductions.[36] Since the tariffs for industrialized goods had been reduced by the fifth Round of multilateral trade negotiations, the sixth Round, the so-called Kennedy Round, started to include the elimination of non-tariff barriers on the negotiation table.[37] The Tokyo Round, which was the seventh Round of multilateral trade negotiations, was significant, as a large portion of time was spent reducing non-tariff barriers. By 1979, the so-called "Codes" had been established to further strengthen the liberalization of trade.[38] However, these Codes, which were independent, did not comprise part of the GATT. Moreover, it was up to the

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[32] For an explanation of how the diplomatic, power-oriented approach influenced the implementation of the GATT, see Ernst-Ulrich Petermann, "Constitutionalism and International Organization" (1997) 17 Nw. J. Int'l L. & Bus. 398.

[33] In J.C. Castel, Armand de Mestral, & William C. Graham, *The Canadian Law and Practice of International Trade with Particular Emphasis on the Export and Import of Goods and Services* (Toronto: Edmond Montgomery, 1991) at 17, the analysis of GATT characterizations is illustrated as "(1) the negotiation and setting of tariffs; (2) a code of rules governing international trade between contracting parties; (3) a forum for negotiating and resolving international trade disputes; and (4) an international institution which exists to facilitate the discussion and making of the rules governing international trade between the contracting parties."

[34] Michael R. Reed, *International Trade in Agricultural Products* (Upper Saddle River: Prentice Hall, 2001) at 37. According to Professor Reed's analysis, trade barriers are mainly divided into two categories, tariff measures and non-tariff measures. States employ these measures for three reasons: (1) to sustain the governmental budget; (2) to protect national security issues; and (3) to protect domestic producers from global competition.

[35] Jackson, *Trading System*, *supra* note 18 at 74. The eight rounds of multilateral trade negotiations are: Geneva (1947); Annecy (1949); Torquay (1950); Geneva (1956); Dillion (Geneva: 1960-61); Kennedy (Geneva 1962-1967); Tokyo (1973-79); and Uruguay (1986-94).

[36] *Ibid.* at 73.

[37] *Ibid.* at 74.

[38] These Codes were in the field of anti-dumping, subsidies, customs administration, customs valuation, import licensing, technical standards, and government procurement. Castel, de Mestral, & Graham, *supra* note 33 at 17; Jeffrey S. Thomas & Michael A. Meyer, *The New Rules of Global Trade: A Guide to the World Trade Organization* (Scarborough: Carswell, 1997).

Contracting Parties to be the signatories of these Codes. This gave GATT Contracting Parties the opportunity to forum shop, *i.e.,* pick only those instruments that served their interests.[39]

b. The Establishment of the World Trade Organization

The Uruguay Round (UR), the eighth after the establishment of Round negotiations, was held from 1986 to 1994. The UR was a milestone in the international economic order because it culminated in launching the WTO after a long period of negotiations. The WTO was formed under the Marrakesh Agreement Establishing the World Trade Organization. Currently, the WTO has 146 Members, including two customs territories, 30 observer governments, and seven international observers to the General Council.[40]

The WTO system is founded on non-discrimination, which contributes to the promotion of trade liberalization.[41] The non-discrimination obligation is composed of two principles: (1) the Most Favored Nation (MFN) principle; and (2) the National Treatment principle. The MFN principle is stipulated in Article I of the GATT.[42] This Article explains that "with respect to customs duties or charges of any kind imposed by any country on any other member country, any advantage, favour, privilege, or immunity granted by such country to any product originating in any other country shall be accorded immediately and unconditionally to a like product originating in the territories of all other Members".[43] This principle aims to treat like products from different Members equally at the border of the importing state. For its part, the National Treatment principle requires importing states to prohibit discrimination against domestic like products once they have cleared customs in the importing state. This principle is enshrined in Article III of the GATT.[44]

Other than including new fields such as Intellectual Property Rights and Investment, the

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[39] Frieder Roessler & Chi Carmody, "The World Trade Organization" in Armand de Mestral, ed., *Law & Practice of International Law* (Montreal: McGill, 2002) at 20.
[40] WTO, online: WTO <http://www.wto.org> (date accessed: 1 September 2003).
[41] Roessler & Carmody, *supra* note 39 at19.
[42] *WTO Agreement*, Ann.1A, *General Agreement on Tariffs and Trade1994*, *supra* note 9 at 1154, art.1 [*GATT 1994*].
[43] Trebilcock & Howse, *supra* note 17 at 27.
[44] *GATT 1994*, *supra* note 42, art. III.

improvements of the WTO from the GATT system can be encapsulated by the expression "rule-oriented".[45] The establishment of the WTO as an international economic organization brought the international trade regime toward a rule-oriented approach, which in effect did a lot to increase its transparency.[46] As a result, the ways of resorting to a power-oriented approach under the GATT system were reduced.[47] This rule-oriented approach is especially reflected through the WTO dispute settlement body based upon the Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU). According to Professor Shell, in investigating the WTO dispute settlement system, four major improvements can be identified. First, any dispute arising from covered agreements can be brought before the Dispute Settlement Body.[48] This stems from the fact that the WTO Agreement has adopted a single undertakings approach, meaning that signatories are unable to pick and choose which agreements will apply, as they did under the GATT system.[49] Second, a detailed timetable has been set for the dispute settlement procedures and the reports are substantially binding.[50] For instance, regarding the latter, the adoption of the Panel report "shall be adopted at a DSB meeting unless a party to the dispute formally notifies the DSB of its decision to appeal or the DSB decides by *consensus not to adopt the report*".[51] This is referred to as the negative consensus rule. Third, based upon Article 17 of the DSU, Members that are parties to the dispute can appeal their case from the Panel to the Appellate Body.[52] The Appellate Body, which consists of seven persons with an expertise in law who are unaffiliated with any government, reviews the legal interpretations of the Panel. This differs from

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[45] Professor Jackson elaborates the two main benefits of a rule-oriented approach: (1) predictability and (2) reducing risks so as to be able to plan a strategy for the long term. However, he elucidates that the "rule oriented approach" should be differentiated from the "rule of law" and a "rule-based system". The latter two are less flexible than the former. Jackson, *Constitution, supra* note 24 at 61.

[46] Jackson, *Constitution, supra* note 24 at 125.

[47] *Ibid.*

[48] The Dispute Settlement Body has "the authority to establish panels, adopt panel and Appellate Body reports, maintain surveillance of implementation of rulings and recommendations, and authorize suspension of concessions and other obligation under the covered agreements." *WTO Agreement* Ann.2,*Understanding of Rules and Procedures Governing the Settlement of Disputes, supra* note 9 at 1226, art. 2 [*DSU*].

[49] G. Richard Shell, "Trade Legalism and International Relations Theory: An Analysis of the World Trade Organization" (1995) Duke L.J. 829 at 848.

[50] *Ibid.*

[51] *DSU, supra* note 48, art. 16.

[52] Shell, *supra* note 49; *DSU, ibid.*, art. 17.

the GATT system, where no such appeal procedure existed. Finally, the WTO dispute settlement mechanism offers compliance measures.[53] These improvements strengthened the international economic regime, making it more rule-oriented than power-oriented. Although there is no doctrine of *stare decisis* in the WTO dispute settlement, past cases are often cited as persuasive.

In short, the liberalization of trade is progressing slowly under the WTO. Intensified economic relations call for a greater role for and expectations of the WTO as an international economic organization. Having noticed this, Renato Ruggiero, a former Director-General for the WTO, has mentioned that "the WTO now finds itself at the center of a new and much more complex debate about how to manage global economic interdependence".[54]

3. Agriculture as an Exceptional Sector for Trade Liberalization

a. The Chronology of Agriculture Negotiations

We have seen from both a theoretical and a practical standpoint how free trade benefits states. From an economic point of view, there are those who believe that such benefits should be enjoyed by every sector. However, in reality, there are still a few sectors that maintain some protective trade measures. Agriculture is a salient example. And as there are always exceptions to the rule, agriculture has been treated as one such exception within the international trade regime.[55]

The major achievement in terms of agricultural negotiations can be traced back to the UR. Reportedly, the challenge of the UR was to solve "the nearly insuperable problem of finishing the unfinished business of past negotiations, most of all agriculture".[56] The UR has indeed moved forward in constructing a framework for discipline regarding agriculture. For instance, the tariffication of non-tariff barriers was agreed upon by members. Tariffication is described as "the process by which

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[53] Shell, *ibid* at 851.
[54] Renato Ruggiero, "Reflection from Seattle" in Jeffrey J. Schott, ed., *The WTO After Seattle* (Washington, D.C.: Institute for International Economics, 2000) at XV.
[55] Stefan Tangermann, "Agriculture: New Wine in New Bottles?" in Klause Gunter Deutsch & Bernard Speyer, eds., *The World Trade Organization Millennium Round: Free Trade in the Twenty-First Century* (London: Routledge, 2001) at 199.
[56] Sylvia Ostry, "The WTO and International Governance"in *ibid.* at 285.

non-tariff import barriers are converted into their tariff equivalents".[57] The import measures targeted for conversion into tariffs include "quantitative import restrictions, variable import levies, minimum import prices, discretionary import licensing, non-tariff measures maintained through state-trading enterprises, voluntary export restraints, and similar border measures".[58] Tariffication is espoused by the WTO regime because it is more transparent than non-tariff barriers, since it is applied to all states through the MFN principle. Moreover, compared with quotas, tariffication enables exporting states to export by increasing competitiveness through lowering the cost. This would be impossible under a quota system as the number is fixed and thus, improvements cannot contribute to increasing exports.[59]

However, it is important to note that there were trade-offs by Members to achieve this step forward. After this drastic step was taken, some states expressed concern that this could "have the effect of attracting the inflow of unduly low-priced products or simply a surge in imports in a manner disruptive of domestic production of competing goods".[60] To reflect the concerns of these Members, a special safeguard provision was included in the Agreement on Agriculture.[61]

In addition to tariffication, the achievement of the agricultural negotiations can be credited to a commitment to reduce tariffs.[62] Furthermore, the Committee on Agriculture was established to handle market access, domestic support, and export subsidies.[63]

Despite the negotiated achievements of the UR, some critics have argued that protection for agricultural products remains extremely high.[64] For instance, Professor Jackson has pointed out that tariff standards for some agricultural products as high as three digits.[65] In addition, export subsidies

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[57] Melaku Geboye Desta, *The Law of International Trade in Agriculture Products: From GATT 1947 to the WTO Agreement on Agriculture* (The Hague: Kluwer Law International, 2002) at 67.

[58] *Ibid.* at 68; WTO *Agreement, Agreement on Agriculture*, online: WTO <http://www.wto.org/english/docs_e/legal_e/legal_e.htm> (date accessed 1 October 2003) art. 4(2), note 1.

[59] Desta, *ibid.* at 67.

[60] *Ibid.* at 86.

[61] *Ibid*; *Agreement on Agriculture*, *supra* note 58, art. 5.

[62] Desta, *ibid.* at 65.

[63] Konstantinos Adamantopoulos, ed., *An Anatomy of the World Trade Organization* (London: Kluwer Law International, 1997) at 9.

[64] Tangermann, *supra* note 55 at 201.

[65] Jackson, *Trading System*, *supra* note 18 at 315; Jeffrey J. Schott, "The WTO after Seattle" in *supra* note 54 at 11.

have been implemented, especially between the US and the EU, the most influential states.[66] Furthermore, the multifunctionality of agriculture has been eagerly asserted by some Members as constituting part of "non-trade" values. [67] Multifunctionality is the notion used by agriculture-importing states, such as the EU and Japan. Its context includes but is not limited to factors like food security, landscape preservation, rural employment, and environmental protection, which show that agriculture is more than just an economic activity.[68]

The challenges associated with agricultural negotiations are reflected in the Doha Developing Agenda, which was issued at the Fourth Ministerial Conference at Doha, Qatar. This Agenda addressed agriculture within it contents. Paragraph 13 includes a commitment to further negotiations regarding improving market access, reducing all forms of export subsidies, and substantially reducing trade-distorting domestic support.[69] In promoting this Agenda, consideration for non-trade concerns, or the multifunctionality of agriculture, is referred to as well.

As has been indicated above, the process of gaining a consensus in agricultural negotiations is a Herculean task. Assessments of agricultural negotiations have been kept completely separate from those related to industrial products. One of the main differences between negotiations related to agriculture and those related to industrial products is evident in past negotiations. In precise terms, with regard to the latter case, "each major participant was both an exporter and an importer, and therefore had a more or less balanced interest in a multilateral reduction of trade barriers".[70] On the contrary, regarding negotiations related to agriculture products, "there was a large degree of polarization into exporting and importing countries".[71]

Such polarization is still present in negotiations. In principle, the polarization of groups

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[66] Jackson, *Trading System*, *ibid.* at 316.
[67] Tangermann, *supra* note 55 at 201.
[68] Raj Bhala, *International Trade Law Handbook*, 2d ed. (New York: Lexis Publishing, 2001) at 67.
[69] *Doha Development Agenda*, *infra* note 402 at para. 13.
[70] Ernest H. Preeg, *Traders and Diplomats: An Analysis of the Kennedy Round of Negotiation under the General Agreement on Tariffs and Trade* (Washington, D.C.: Brookings Institution, 1970) at 144.
[71] Professor Preeg explains that EFTA (excluding Denmark) and Japan are categorized as agriculture-importing states, while Argentina, Australia, Canada, Denmark, New Zealand, and the United States are categorized as agriculture-exporting states. *Ibid.* at 146.

involved with the agricultural negotiations has its basis on whether they belong to an agriculture-exporting state or importing state. On one side of the spectrum, the Cairns Group has been known for its gatherings of agriculture-exporting states.[72] This Group consists of 18 states sharing the same interest in liberalizing agricultural markets.[73] The US, despite being a major agriculture-exporting state, does not belong to the Cairns Group. However, the US remains steadfast in its goal to liberalize trade in agriculture. On the other side of the spectrum, South Korea and Japan share an interest in the agricultural negotiations from an agriculture-importing state perspective. In this respect, the EU and Japan have been collaborating.[74] In particular, the EU and Japan have emphasized the notion of the multifunctionality of agriculture. The developing states have a variety of different interests, making it difficult to group them as one.

b. General Trends of Agricultural Trade

According to Professor Reed, total world trade in agriculture was $43 billion in 1966.[75] It took only three decades to reach ten-fold: In 1996, the total reached $464 billion, the result of increases in both price and volume.[76] Despite the world agricultural trade stalemate that existed between 1980 and 1987, agricultural trade increased.[77]

c. Agricultural Trade by Sector

The most popular GM agricultural crops are maize, rapeseed, and soybean. Thus, it is vital to know which states export and import these crops. Crops are important for a complete understanding of the GM food labeling issue, as they may be an ingredient in GM foods and thus, may be part of the

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[72] Professor McMichael enumerates the states included in the Cairns Group as follows: Argentina, Australia, Brazil, Canada, Columbia, Fiji, Hungary, Indonesia, Malaysia, New Zealand, the Philippines, Thailand, and Uruguay. Philip McMichael, ed., *The Global Restructuring of Agro-Food Systems* (Ithaca: Cornell University Press, 1994) at 3.
[73] P. Lynn Kennedy & Won W. Koo, eds., *Agricultural Trade Policies in the Millennium* (New York: Food Products Press, 2002) at 129.
[74] Desta, *supra* note 57 at 65.
[75] Reed, *supra* note 34 at 5.
[76] *Ibid.*
[77] *Ibid.*

object being labeled. The figures below are presented for the purpose of illustrating the explicit economic interests and potential market outlook of the major states involved in the GM foods trade friction. The US and the EU (15 countries) are the main pillars of the figures, since the trade disputes between these two entities will be investigated in Chapter 2. As will been seen below, Canada has been added to those figures related to rapeseed because the country is the world's largest exporter and because it filed complaint about the GM foods dispute presented to the WTO.[78]

(i) Soybean

Presented by the Ministry of Agriculture, Forestry, and Fisheries of Japan,[79]and based on FAO statistics,[80] Figure 1 shows soybean production in metric tons (Mt) and in area harvested in hectares (HA), for the years 2000 and 2001.

Soybean	2000		2001	
	Area harvested (HA)	Production (Mt)	Area harvested (HA)	Production (Mt)
World	74,388,924	161,415,615	76,749,222	176,746,001
US	29,302,790	75,055,288	29,532,250	78,671,472
EU (15)	350,979	1,147,866	375,915	1,249,537

(Figure 1) Sources: the Ministry of Agriculture, Forestry and Fisheries of Japan, FAOSTAT

Figure 1 is significant in that it illustrates the extreme volume of US production and harvests of soybean. As can be seen, the US produced 78,671,472 Mt in 2001. This tremendously exceeded Brazil's production of 37,907,300 Mt,[81] which is the second largest soybean producing state. Evidently, the US holds an interest in agricultural trade. The export and import statistics of soybean will be introduced below in Figures 2 and 3.

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[78] WTO, *European Communities-Measures Affecting the Approval and Marketing of Biotech Products: Request for the Establishment of a Panel by Canada*, WTO Doc. WT/DS292/17 (2003). However, it must be noted that the current case concerns the *de facto* moratorium on the approval of GM foods, not the labeling itself. For more on the *de facto* moratorium, see Chapter 2, below.

[79]Ministry of Agriculture, Forestry and Fisheries of Japan, online: MAFF http://www.maff.go.jp/kaigai/gaikyo/index.htm (date accessed: 24 August 2003). The statistics presented are for 1998-99. The figure was updated by the author from FAO statistics.

[80] Food and Agriculture Organization of the United Nations, online: FAOSTAT: Agriculture Data <http://apps.fao.org/page/collection?subset=agriculture> (date accessed: 25 August 2003) [*FAOSTAT*].

[81] *Ibid.*

According to the US Trade Representative (USTR), 45% of the production of soybean is carried out through biotechnology.[82] Reportedly, in 2001 two-thirds of the acreage planted in the US was herbicide-tolerant soybeans.[83] Among them, the notable type is Roundup Ready®,[84] which is more tolerant of herbicides than are conventional soybeans.

Figure 2 illustrates the export quantity and value of soybean. Quantity is measured by metric ton (Mt) and the unit of value is US $1000. It is clear from this Figure that the US exports more than $5 billon worth of soybeans. Exports by the US of soybeans have been on the rise; FAO statistics indicate that in 1990, 25,867,780 Mt were exported.[85]

Soybean (EX)	2000		2001	
	Quantity (Mt)	Value (US $1000)	Quantity (Mt)	Value (US $1000)
World	47,382,729	9,197,922	57,007,496	10,396,010
US	27,192,220	5,312,704	28,933,830	5,451,073
EU (15)	1,158,854	249,811	1,589,951	340,670

Figure 2: Sources: the Ministry of Agriculture, Forestry and Fisheries of Japan, FAOSTAT

Figure 3 illustrates the import value and quantity of soybean. The unit used here is the same as in Figure 2. This Figure is significant in that it illustrates that the EU can be considered a potential market for soybean from the perspective of soybean-exporting states, the most notable among them being the US. Thus, the move by the EU as well as the other soybean-importing states concerning the passing of regulation regarding agriculture through biotechnology would damage the economic interests of the US.

Soybean (IM)	2000		2001	
	Quantity (Mt)	Value (US $1000)	Quantity (Mt)	Value (US $1000)
world	48,587,649	10,573,126	57,271,232	11,794,253
US	132,025	36,915	112,128	34,320
EU (15)	16,116,339	3,346,136	19,964,284	3,968,196

[82] United States Trade Representative, "Biotechnology: Biotech Products Can Spur Agricultural Productivity", online: USTR <http://www.ustr.gov/new/biotech-productivity.htm> (date accessed: 24 August 2003).
[83] Philip G Pardey, ed., *The Future of Food* (Washington, D.C.: International Food Policy Research Institute, 2001) at 159[*Future of Food*].
[84] *Ibid.*
[85] *FAOSTAT*, *supra* note 80.

Figure 3: Sources: the Ministry of Agriculture, Forestry and Fisheries of Japan, FAOSTAT

(ii) Maize

With regard to maize, Figure 4 shows the harvested area in HA and the production in units of Mt for the years 2000 and 2001. Obviously, the US has vital economic interests in the maize trade, as was also seen in the case of soybeans. According to FAO statistics for 2001, the US is the largest producer of maize. It produces twice as much as China, which produced 114,253,995 Mt in 2001.[86]

Maize	2000		2001	
	Area harvested (HA)	Production (Mt)	Area harvested (HA)	Production (Mt)
World	138,242,003	592,296,712	139,094,716	614,467,280
US	29,316,000	251,854,000	27,845,910	241,484,864
EU (15)	4,227,575	38,720,915	4,530,815	40,697,594

Figure 4: Sources: the Ministry of Agriculture, Forestry and Fisheries of Japan, FAOSTAT

According to USTR statistics, 11% of maize worldwide is produced using biotechnology.[87] In the US, 34% of maize is produced though biotechnology,[88] the most notable type being Bt corn,[89] which has the efficacy of insecticide included in its genes.[90]

Figure 5 illustrates exports of maize. Statistics show that 58% of the quantity of maize exported worldwide originates in the US. Between 2000 and 2001, while the total Mt of world export quantity declined, the US quantity rose by 27,028 Mt.

Maize (EX)	2000		2001	
	Quantity (Mt)	Value (US $1000)	Quantity (Mt)	Value (US $1000)
World	82,124,134	8,760,792	78,909,558	8,880,115
US	47,943,762	4,682,565	47,970,790	4,764,985
EU (15)	9,065,548	1,424,786	8,388,479	1,333,869

Figure 5: Sources: the Ministry of Agriculture, Forestry and Fisheries of Japan, FAOSTAT

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[86] *Ibid.*

[87] United States Trade Representative, "Biotechnology: Biotech Products Can Spur Agricultural Productivity", online: USTR, *supra* note 82 (date accessed: 24 August 2003).

[88] *Ibid.*

[89] Food and Agriculture Organization of the United Nations, "Biotechnology in Food and Agriculture", online: FAO <http://fao.org/biotech/index_glossary.asp?/lang=en> (date accessed: 1 September 2003).

[90] EC, *Economic Impacts of Genetically Modified Crops on the Agri-food Sector*, online: The European Union <http://europa.eu.int/comm/agriculture/publi/gmo/full/ch/htm#> (date accessed: 1 September 2003).

Figure 6 shows imports of maize for 2000 and 2001. According to the statistics, the EU market is so large that its absence would seriously hurt the maize industry of maize-exporting states.

Maize (IM)	2000		2001	
	Quantity (Mt)	Value (US $1000)	Quantity (Mt)	Value (US $1000)
World	81,895,574	10,570,044	82,078,522	10,361,542
US	293,230	174,318	210,042	145,729
EU (15)	10,253,756	1,620,048	10,251,805	1,552,740

Figure 6: Sources: the Ministry of Agriculture, Forestry and Fisheries of Japan, FAOSTAT

(iii) Rapeseed

As for rapeseed or canola, Figure 7 shows the harvested area in HA and production in Mt. The percentage for Canadian production of rapeseed was approximately 19% in 2000 and 17% in 2001. Canadian production has obviously grown, as FAO statistics for 1990 indicate that harvested area was 3,266,000 Mt.[91]

RAPESEED	2000		2001	
	Area harvested (HA)	Production (Mt)	Area harvested (HA)	Production (Mt)
World	25,834,169	39,606,592	22,643,614	35,865,592
US	607,810	909,030	590,070	908,350
EU (15)	2,999,619	8,962,002	2,995,203	8,871,294
Canada	4,859,200	7,205,300	3,765,000	4,926,300

Figure 7: Sources: the Ministry of Agriculture, Forestry and Fisheries of Japan, FAOSTAT

Figure 8 illustrates exports of rapeseed for 2000 and 2001. According to FAO statistics, Canada is the largest producing state, having recorded sales of more than $800 million in 2001. Evidently, it becomes crucial for Canada also when other rapeseed-importing states pass legislation that includes protective import measures for rapeseed, thereby distorting trade.

[91] *FAOSTAT*, *supra* note 80.

RAPESEED (EX)	2000		2001	
	Quantity (Mt)	Value (US$ 1000)	Quantity (Mt)	Value (US$ 1000)
World	9,753,878	1,879,885	9,125,905	1,883,390
US	198,784	48,145	248,794	59,979
EU (15)	2,993,585	557,590	2,375,289	495,693
Canada	3,873,411	774,490	3,963,105	825,335

Figure 8: Sources: the Ministry of Agriculture, Forestry and Fisheries of Japan, FAOSTAT

As for the import of rapeseed, it is clear from Figure 9 that the EU imports the largest quantity of rapeseed. This amount exceeded the second largest importer, China, by 27,067 Mt in 2000.[92]

RAPESEED (IM)	2000		2001	
	Quantity (Mt)	Value ($US 1000)	Quantity (Mt)	Value (US$ 1000)
World	10,611,805	2,283,069	9,328,794	2,063,288
US	249,648	54,233	243,292	55,740
EU (15)	2,996,081	555,184	3,351,234	695,758
Canada	167,069	41,467	237,352	53,519

Figure 9: Sources: the Ministry of Agriculture, Forestry and Fisheries of Japan, FAOSTAT

4. Summary: The Liberalization of Trade and Agriculture as an Exception

The contributions of Adam Smith and David Ricardo in theorizing the liberalization of trade were significant in that they provided a fundamental basis on which to promote the liberalization of trade. In practice, the WTO took after the GATT by promoting international trade. At the same time, its framework has been strengthened by its becoming an established international organization. The WTO emphasizes a rule-orientated procedure, which is in contrast to GATT system where diplomacy and power-politics exerted a large influence.

However, due to its delicate nature, the agricultural sector has always remained an exceptional case in the international trade forum. Even under the WTO framework, the liberalization of this sector is at a stalemate, confirming that the agricultural sector itself is already a highly

[92] *Ibid.*

controversial field. This tendency is likely to continue, as agriculture-exporting states are focusing on foreign markets.[93] Globalization has extended its hands to one of the most sensitive markets, *i.e.*, agriculture. In the shoes of agriculture-importing states, this is a threat as the underlying non-trade value would be undermined. WTO Members invoking non-tariff measures for agricultural products rely on the concept of the multifunctionality of agriculture. However, from a trade perspective, considering non-trade values as multifunctionality is a challenge that Members are eager to take on. Put differently, attention has been focusing on finding out to what extent the WTO should take into account non-trade values, without being an environmental health agency. As we will see later, the dispute over the labeling of GM foods is an example of this type of issue. Interestingly, the debate will be fueled by adding biotechnology, which is as controversial an issue as agriculture.

B. The Development of Biotechnology and Food Safety in the International Community

1. Biotechnology and Food Safety as International Concerns

As we have seen above, the liberalization of agricultural trade is a highly contentious issue and a compromise is difficult to reach. The intertwined and complicated interests of states regarding agricultural liberalization become even more contentious when new issues enter into the equation. The most relevant example is biotechnology.

Biotechnology has been defined both in broad and in narrow terms. Defined broadly, biotechnology is "any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use".[94] This definition, contained in the Convention on Biological Diversity,[95] can include "conventional techniques, such as selective breeding", which were the subject of scientific experiments long before molecular

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[93] George E.C. York, "Global Foods, Local Tastes and Biotechnology: The New Legal Architecture of International Agriculture Trade" (2001) 7 Colum. J. Eur. L. 423.

[94] Food and Agriculture Organization of the United Nations, Biotechnology in Food and Agriculture, *s.v.* "biotechnology". Online: FAO, http://www.fao.org/biotech/index_glossary.asp?lang=en (date accessed: 1 September 2003).

[95] *Convention on Biological Diversity*, online: Secretariat of the Convention on Biodiversity <http://www.biodiv.org/convention/articles.asp?lg=0&a=cbd_02> , art. 2. (date accessed: 28 October 2003).

technologies were invented.[96] According to the narrower definition used by the FAO, biotechnology is "a range of different molecular technologies such as gene manipulation and gene transfer, DNA typing and cloning of plants and animals".[97] It is also used to describe "modern biotechnology" or "genetic engineering".[98] The US uses the terminology "bioengineered" to explicitly exclude the notion of traditional breeding techniques. Specifically, the narrower definition focuses on the rDNA technique, where the capability of transferring one genetic material to any organism, regardless of the species, is possessed. The rDNA technology suits breeders, as it transfers desired characteristics from any species without the necessity for time-consuming, traditional breeding techniques that might take several generations.[99]

Concerns deriving from applying biotechnology to food have been expressed at the international level. One reason for this is that "differences among national food safety regulations can be readily deployed as non-tariff barriers to trade, triggering international conflicts over food safety requirements".[100] The realization among states is that the acceleration of globalization brings not only the flow of goods, services, and people, but also food as well.

Having reflected on this trend, several G8 Communiqués acknowledge this issue. For example, Paragraph 11 of the G8 Communiqué Köln 1999 states: "Because trade is increasingly global, the consequences of developments in biotechnology must be dealt with at the national and international levels in all the appropriate fora. We are committed to a science-based, rules-based

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[96] Jeffrey K. Francer, "Frankenstein Food or Flavor Savers?: Regulating Agricultural Biotechnology in the United States and European Union" (2000) 7 Va. J. Soc. Pol'y & L. 257 at 262.

[97] *Food and Agricultural Organization of the United Nations*, *supra* note 94.

[98] According to Anderson and Cohen, there are four differences between traditional breeding and genetic engineering. First, conventional breeding is usually applied within a single species, whereas genetic engineering is applied "across species boundaries." Second, the entity that takes initiatives in the development of genetic engineering is often part of the private sector, whereas conventional breeding is often taken on by the public sector. Third, genetic engineering is intricately related with patents, whereas conventional breeding is not, since this field is mostly conducted in public sector. Fourth, conventional breeding is mostly adapted among the developing states, whereas genetic engineering is adapted among developed states. Per Pinstrup-Andersen & Marc J. Cohen, "Rich and Poor Country Perspective on Biotechnology" in Pardey, *supra* note 83 at 31-34.

[99] US General Accounting Office, *Concerns Over Biotechnology Challenge U.S. Agriculture Exports*, GAO 01-727 (June 2001) at 5.

[100] York, *supra* note 93 at 425.

approach to addressing these issues."[101]

To further investigate this issue, the OECD was invited under Paragraph 43 to issue a report on the implications of biotechnology and food safety. The following year, Paragraph 57 of the G8 Communiqué Okinawa 2000 affirmed its commitment to continue to work on the issue of biotechnology and food safety.[102]

2. The Organization for Economic Co-operation and Development (OECD)

The OECD, which consists of 30 Member states,[103] has dealt with biotechnology since the 1980s. During this period, the OECD confronted issues in the context of biotechnology that included "regulatory harmonization, the safety of novel food and feeds, public education, national biotechnology regulations, industrial compliance and precautionary principle".[104]

Based on this experience, the OECD accepted the invitation of the G8 to issue a report and did so accordingly.[105] The report entitled *Genetically Modified Foods: Widening the Debate on Health and Safety* concluded that despite concerns about the safety of GM foods, people, mostly in North America and China, are eating them without adverse side effects and that long term concerns have yet to be clarified, since genetic engineering techniques have only been around for a short time.[106]

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[101] Ministry of Foreign Affairs of Japan, online: MOFA <http://www.mofa.go.jp/policy/economy/summit/1999/communique.html> (date accessed: 20 April 2003).

[102] Paragraph 55 of the G8 Communiqué Okinawa 2000 states:

> Maintenance of effective national food safety systems and public confidence in them assumes critical importance in public policy. We are committed to continued efforts to make systems responsive to the growing public awareness of food safety issues, the potential risks associated with food, the accelerating pace of developments in biotechnology, and the increasing cross-border movements of food and agriculture products.

Ministry of Foreign Affairs of Japan, online: MOFA <http://mofa.go.jp/economy/summit/2000/documents/comminique.html> (date accessed: 20 April 2003). The following year, G8 Communiqué Genova 2001 referred to food safety and biotechnology in Paragraphs 30-31. Online: The Ministry of Foreign Affairs of Japan <http://mofa.go.jp/economy/summit/2001/comminique.html> (date accessed: 20 April 2003).

[103] As of 2 September 2003.

[104] York, *supra* note 93 at 463.

[105] OECD, Directorate for Science, Technology and Industry, *Genetically Modified Foods: Widening the Debate on Health and Safety* (Paris: OECD, 2000). Also available at online: OECD http://www.oecd.org/dataoecd/34/30/2097312.pdf (date accessed: 2 September 2003).

[106] OECD, *ibid.* at 8.

Some opponents argue that while the OECD has abundant experience in discussing biotechnology and in blending the resulting conclusions into international policy, this institution remains "primarily a political organization".[107] In addition, considering its limited membership and its strong political character, the OECD's task of establishing a purely scientific standard recommendation without being influenced by political considerations is "virtually impossible".[108]

3. The Codex Alimentarius Commission (CAC)

The CAC was founded in 1962. One of its objectives is "protecting the health of consumers and ensuring fair practice in the food trade".[109] This institution is facilitated jointly by the Food and Agriculture Organization and the World Health Organization. CAC membership is open to states that are members of the United Nations. Alimentarius means food code, and the CAC is "the body responsible for compiling the standards, codes of practice, guideline and recommendation that constitute Codex Alimentarius".[110] The Codex Committee on Food Labeling handles the labeling of GM foods.

4. Summary: Biotechnology and Food Safety as International Concerns

The wave of globalization has brought integrated economic relations, and food is no exception. For this reason, the food system is said to have "gone global".[111] Simultaneously, foods deriving from biotechnology have caught the attention of the international community due to their novelty and uncertainty over their safety. There are many international institutions that have brought the issue of biotechnology to the international forum, and some have attempted to harmonize their

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[107] David L. Devernoe, "Substantial Equivalance: A Valid International Sanitary and Phytosanitary Risk Assessment Objective for Genetically Modified Foods" (2000) 51 Case W. Res. 275.
[108] *Ibid.*
[109] Statutes of the Codex Alimentarius Commission, online: Codex Alimentarius Commission <http://www.fao.org/docrep/w9114e/W9114e04.htm#TopofPage> (date accessed: 2 September 2003), art. 1(a) [*Codex Statutes*].
[110] *Ibid.*
[111] Thimothy Josling, "Agriculture and the Next WTO Round" in Jeffrey Schott, ed., *supra* note 54 at 93.

domestic regulations. However, the management and collaboration of food safety in the international sphere remains a patchwork. This is a serious concern since dispersed management and coordination of regulation becomes an impediment to food trade.

C. GM Foods: Debate on the Definition and Characteristics of GM Foods

Due to uncertainty about the effects that biotechnology might impose on human health through the food system, there has been legislation enacted throughout the world to restrict the trade of GM foods.[112] The invoking grounds vary from human health and safety concerns to consumers' right to information about the foods they eat. It is important to note that relations among these concerns are not exclusive.[113]

Traditionally, states did not have to take into account the necessity to harmonize their regulations. All of this was a sovereign matter. However, the wave of globalization has ensured that no state can remain insulated. When various practices concerning regulations are exposed under international vigilance, it ultimately becomes the essence of impediments to market access, or, in other words, distortions to international trade. This also applies to the regulation of GM foods. The scope of the definition is of crucial importance.

1. Definition Debate Concerning "Genetically Modified Foods": What are They?

The complexity in defining what constitutes GM foods is that since states adopt diverse regulations based on their social, economic, and cultural backgrounds, the definition also reflects these diverse backgrounds.[114]

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[112] According to the Organic Consumers Association, Australia, EU, Hungary, New Zealand, South Korea, Switzerland, and Japan have labeling legislation concerning GM foods. It also reports that Brazil, Chile, Indonesia, Malaysia, Saudi Arabia, and Russia are in process of developing labeling legislation for GM foods. Online: Organic Consumers Association <http://organicconsumersassociation.org/gelink.html#world> (date accessed: 28 October 2003).

[113] For instance, the EU Regulation addresses both consumers' interests and food safety. See EC, *COM (2001) 425 final* [2001], *infra* note 317.

[114] Richard Gray, "The Economics of Herbicide-Tolerant Wheat and Bifurcation of World Markets" in Pardey, *supra* note 83 at 186-88; Richard A. Jefferson, "Transcending Transgenics - Are There 'Babies in the Bathwater' or is That a Dorsal Fin?" in *ibid.* at 77. This takes note of the abuse in defining the term "transgenics".

In particular, some controversy has stemmed from whether to include non-transgenesis in the concept of genetic modification.[115] For instance, in Canada there was a heated debate with regard to defining genetically modified organisms. The regulation was initially defined as "an organism that exhibits characteristics that were not previously observed in that organism, regardless of the method used to obtain the new characteristics".[116] This is considered to be a broader term of genetic modification as it includes organisms produced by "provoking *mutagenesis* chemically, that is, without transferring genes from one species to another".[117] A report presented by the Standing Committee of Agriculture and Agri-food has acknowledged that this broad terminology is popular among environmentalists and consumers alike, although the "transfer of genetic material from one species to another" is the reason why they are hesitant about GM products to begin with.[118]

The EU has defined the genetically modified organism in Article 2 of Directive 2001/18/EC as "an organism, with the exception of human beings, in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination",[119] with technology of mutagenesis being exempt under Article 3. The definition of the EU is relatively focused on modern biotechnology, which includes transgenics.[120]

The complexity increased when the Cartagena Protocol on Biosafety to the Convention on Biological Diversity (the Protocol) came into force on 11 September 2003. The Protocol aims to preserve biosafety by means of regulating transboundary movements of "living modified organism (LMO)".[121] Pursuant to Article 3(g) of the Protocol, the definition of an LMO is "any living organism

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[115] Transgenesis is defined as "[t]he introduction of a gene or genes into animal or plant cells, which leads to the transmission of the gene (transgene) to successive generation." FAO, *supra* note 94.

[116] Canada, Parliament, Standing Committee on Agriculture and Agri-food, *Labeling of Genetically Modified Food and Its Impact on Farmers* (Chair Charles Hubbard, Ottawa, June 2002) <http://parl.gc.ca/InfoComDoc/37/1/AGRI/Studies/Reports/agrirp23/7/-for-e.htm> (date accessed: 7 June 2003) [*Labeling*].

[117] *Ibid.* [emphasis added]. Gray, *supra* note 114 at 187 categorizes genetic modification from a scientific perspective, stating that "mutagenesis is not considered as GM by the E.U. at this point".

[118] *Labeling, ibid.*

[119] Directive 2001/18/EC, *infra* note 307 [2001/18/EC].

[120] EC, "Food Safety: From the Farm to the Fork", online: The European Union <http://europa.eu.int/comm/dgs/health_consumer/library/press/press298_en.pdf> (date accessed: 1 September 2003).

[121] *Cartagena Protocol on Biosafety to the Convention on Biological Diversity*, art. 1 states:

> In accordance with the precautionary approach contained in Principle 15 of the Rio Declaration on

that possesses a novel combination of genetic material obtained through the use of modern technology".[122] This definition was controversial because the Protocol presented a new dimension of regulation on biotechnology, and its implications on trade through the introduction of the notion of LMOs.

In sum, in this thesis GM foods will be defined as "foods and food ingredients consisting of or containing genetically modified organisms or produced from such organisms" to elucidate the labeling issue presented in the next chapter.[123] Regarding the definition of genetically modified organism, this thesis adopts the meaning that refers to it as transgenesis.

2. Debate on the Characteristics of GM Foods

a. Merits

There are several merits deriving from GM foods. First, genetically modified crops are engineered so that they grow efficiently.[124] Some GM crops are engineered so as to internalize herbicides and insecticides. For instance, Bacillus thuringiensis (Bt) crops are crops that have been altered to contain genes that have the same effect as insecticides.[125] Thus, by planting Bt crops, farmers can eliminate the cost of purchasing insecticides.[126] This is also reported to be the environmentally friendly choice, since the dispersal of a wide range of insecticides can be prevented. This reduces farmers' exposure to insecticides, which has long been cited as a source of serious health

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> Environment and Development, the objective of this Protocol is to contribute to ensuring an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements.

Online, Secretariat of the Convention of Biological Diversity <http://biodiv.org/biosafety/articles.asp?lg=0&a=bsp-01> (date accessed: 2 September 2003)

[122] *Cartagena Protocol on Biosafety*, *ibid.*, art. 3(g). According to Article 3(h) of the Protocol, a living organism is defined as "any biological entity capable of transferring or replicating genetic material, including sterile organisms, viruses and viroids."

[123] "Food produced *from*" and "food produced *with*" is differentiated. For details, see Chapters 2 and 3, below.

[124] York, *supra* note 93 at 429.

[125] Bt crops include corn, cotton, potatoes, and soybeans. Michele C. Marra, "Agricultural Biotechnology: A Critical Review of the Impact Evidence to Date" in *Future of Food*, *supra* note 83 at 160.

[126] *Ibid.*

concerns.[127] Second, crops engineered to be resistant to extreme weather enable drought areas to grow efficiently.[128] As a result, GM crops may be a possible solution to chronic food shortages.[129] Simultaneously, in this context, GM crops may provide solutions to an overpopulated world.[130] Third, GM foods can be engineered in a way that adds nutritional content compared to that of conventional foods. For example, *Golden*Rice™ has been developed to include abundant beta carotene. Moreover, some GM foods are manipulated so as to delay ripening.[131] For instance, the Flavr-Savr™ tomato, which was the first commercialized transgenetic crop, does not spoil as quickly as conventional tomatoes.[132]

b. Concerns

In contrast to the merit of GM foods, there are voices that express concern about the safety of such foods. First, since genetic modification is still in its developmental stage, the long term effects on human health remain unanswered. In particular, it is possible that GM foods may cause inadvertent allergies deriving from the interrelationships of genes, but no one knows for sure, as this field has yet to be explored completely.[133] Such uncertainty is the main source of concern for consumers. According to Professors Spetsidis and Schamal, consumers are suspicious of the technologies used to produce food.[134]

Consumers are also concerned about the possibility of inadvertent mixing of approved and

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[127] For more on the argument that planting GM crops would save farmers' from having to buy special safety clothing, *ibid.* at 163.
[128] York, *supra* note 93 at 430.
[129] *Ibid.* at 431.
[130] Pinstrup & Cohen, *supra* note 98 at 37.
[131] N.M. Spetsidis & G. Schamel, "A Consumer-based Approach towards New Product Development" in Vittorio Santaniello, Robert E. Evenson & David Zilberman, *Market Development for Genetically Modified Foods* (New York: CABI, 2002).
[132] FAO, *supra* note 94; Marra, *supra* note 125 at 155. The Flavr-Savr™ tomato was commercialized in 1994.
[133] York, *supra* note 93 at 433.
[134] Consumers' negative perceptions of GM foods stem from "three levels". First, the "technology level" includes the fear over the abstract term "technology". Second, the "application level" includes the fear over the abuse of the application of genetic modification to various fields, such as medicine, agriculture, food, and the environment. The climate of hesitation changes depending on which fields the technique has been applied to. Third, "product level" includes fear over final GM products, which tend to be recognized as "unnatural". Annelies Verdurme *et al.*, *supra* note131 at 42.

unapproved foods. This indicates the risk when a GM crop that has been prohibited for human consumption but has been approved as animal feed ends up on the dinner table without anyone even noticing. This is less of a hypothetical possibility with Starlink®.[135] This GM maize could be "mixed with other maize either on the farm or in grain elevators".[136]

Moreover, two issues regarding long term ecological damage have been raised by environmentalists. The first concern relates to the increase in what are being referred to as "super-pests",[137] which are "insects, weeds and bacteria which adapt to, or cross-breed with, transgenic crops, thereby becoming resistant to traditional herbicides, pesticides, etc".[138] The concern derives from the rate at which they adapt. The second concern relates to the loss of biodiversity. In particular, there are potential risks concerning the "elimination of non-GM indigenous agricultural and natural species caused either by outbreeding and cross-pollination with GMOs".[139]

3. GM Foods as a Novel Agenda in the WTO Forum

Recent WTO dispute decisions have shown that trade liberalization cannot be fully accomplished if other values such as health and environmental concerns are ignored.[140] Evidently, restrictions regarding GM foods were not on the trade negotiation table from the beginning. As the development of biotechnology and globalization accelerated, restrictions imposed on GM foods

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[135] Pinstrup & Cohen, *supra* note 98 at 29.

[136] *Ibid.*; Michael R. Taylor & Jody S. Tick, "The StarLink Case: Issues for the Future", available from the Pew Initiative on Food and Biotechnology, online: The Pew Initiative on Food and Biotechnology <http://pewagbiotech.org/resources/issuebriefs/starlink/starlink.pdf> (date accessed: 20 October 2003). This website includes a case study of the StarLink mixture on the food supply system.

[137] York, *supra* note 93 at 433.

[138] *Ibid.*

[139] *Ibid.*

[140] Many cases concerning environmental and health concerns have been brought to the dispute settlement mechanism of the WTO. For instance, the *Beef Hormones* case dealt with a health issue and the *Shrimp/Turtle* case with an environment issue. Former Director-General Renato Ruggiero states that "The *Shrimp/Turtle* Appeal is extremely important because it clarifies one essential issue in the debate between the trade community and the environmental community- that there are no political, economic, or legal obstacles to the harmonious development of both environmental objectives and free trade objectives." Renato Ruggiero, "A Global System for the Next Fifty Years" (the Royal Institute of International Affairs at Chatham House, London, 30 October 1998). The relevant part in the Preamble of the WTO Agreement states "the trade and economic endeavor should be conducted… in accordance with the objective of sustainable development, seeking both to protect and preserve the environment". Online: WTO <http://www.wto.org/english/news_e/sprr_e/chat_e.htm > (date accessed: 10 April 2003).

started to surface in the context of non-tariff trade barriers. The underlying concern with respect to imposing restrictions on the flow of GM foods is that they include non-trade considerations, such as food safety and the consumers' right to information, considerations with which the WTO is unfamiliar. In other words, on the one hand, imposing regulations on the flow of GM foods has the trade distorting effects of non-tariff trade barriers because such actions distinguish between traditionally grown agricultural products and GM products; however, on the other hand, imposing regulations on the flow of GM foods is also considered to be necessary in some states in order to protect consumers' health and their right to information regarding the foods they eat. Due to the complexity that GM foods bring to the trade sphere, the *OECD Observer* has commented that "it is vitally important to ask whether the aims of regulation are to protect public safety, to respond to public concerns, or to maintain public confidence in the safety of foods on sale".[141] Food labeling regulation is so complex because there are many interests intertwined in this issue, such as trade, consumers' right to information, and environmental protection. The spillover effect towards different spheres is unavoidable when a regulation is enacted on one front.[142] This mirrors the reality that regulating GM foods is a delicate issue.

As a result of the complex and multifaceted aspects of GM foods, there may be many applicable instruments to regulate GM foods. In particular, one needs to clarify the justification behind the mandatory labeling of GM foods. This is important because the applicable instruments differ in accordance with the reasoning.[143] To investigate the issue, one needs to examine in detail how domestic instruments are invoked. Thus, the next chapter will investigate the US and EU framework for restricting the GM foods labeling scheme.

D. Conclusion for Chapter 1

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[141] Mark Cantley & Yoshinobu Miyamura, "GM food, Regulation and Consumer Trust" in *OECD Observer*, No. 216 (March 1999) at 22.

[142] The OECD Observer, *ibid.* For instance, the mutual effects of the Cartagena Protocol on Biosafety to the Convention on Biological Diversity and the WTO Agreements are now under discussion.

[143] For further discussion, see Chapter 3, below.

This chapter was structured so as to gain an understanding of the background regarding the labeling of GM foods. In particular, the first chapter provided an overview of agricultural trade in order to underline the relevant issues underlying GM foods. The definition of GM foods includes not only the product itself but also its ingredients. The first section of this chapter briefly reviewed the negotiations on agricultural trade under the auspices of the GATT/WTO regime. The purpose of this section was to illustrate how agriculture is deemed an exceptional case for free trade as agriculture includes the notion of multifunctionality, which means that agriculture is more than goods, embodying non-trade values such as food security and the preservation of food culture. Since exporting states have come to depend on foreign markets more than ever, it has become a major concern for these states to invoke non-tariff measures based on multifunctionality. In examining the true meaning of an economic interest, this thesis included statistical data disclosed by the FAO.

The second section reviewed the biotechnology issue, which makes trade in agricultural products even more complex. The difficulty commences in defining biotechnology. The impact of biotechnology on food has been felt as far up as the international level. This thesis introduced the G8 Summit Communiqué, as well as the OECD and the CAC, to illustrate recent achievements regarding the food safety issue. However, more collaboration needs to take place among institutions so as to eliminate the possibility of definitional differences becoming the next trade obstacle.

Finally, the third section examined the definition and characteristics of GM foods. By examining the definition applied within a state, one can deduce how GM foods are perceived within that state. Merits and concerns deriving from GM foods can indicate the scale of the controversy, as the merits embodied in GM foods can highlight possibilities for confronting issues such as food shortages and malnutrition in less-developed countries, while concerns include negative health effect in the long term and potential damage by GM crops to the ecosystem.[144]

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[144] York, *supra* note 93 at 435.

CHAPTER 2

GENETICALLY MODIFIED FOODS:

PERSPECTIVES FROM THE US AND THE EU

A. Comparative Approach: Why a Comparison between the US and the EU is Important

In order to explore the controversial labeling of GM foods issue, this thesis will concentrate on two opposing positions, that of the US and that of the EU. Comparing laws between different jurisdictions is fruitful since it contrasts different perspectives concerning the same issue. Moreover, the benefit of comparative law is that it reflects the essence of law. In this context, Professor Kamba has remarked on the meaning of law from a comparative approach: "Law is about people, their conduct and relations in society. Its practice, administration, and improvement, therefore, call for a wide and deep knowledge of human nature and an understanding of modern society of life."[145] Furthermore, Professor Kamba has analyzed the importance of comparing law as follows: "[Comparing law] promotes understanding of each other's outlook, each other's point of view and respect for differences."[146] In carrying out its comparison, this thesis will consider socio-economic factors, as "there is no doubt that there is a significant relation between legal development and socio-economic changes".[147]

Focusing on the US and the EU in terms of trade friction is important in several respects. First, from an economic point of view, both these countries are influential economic actors in the international community. For instance, aggregate GDP for these two countries amounts to 57% of the total GDP of the world.[148] Thus, their activities have a large impact on the international economic

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[145] W. J. Kamba, "Comparative Law: A Theoretical Framework" (1974) 23 I.C.L.Q 485.
[146] *Ibid.* at 505.
[147] *Ibid* at 513.
[148] This data is based on the World Bank's "World Development Indication 2002 (CD-ROM version)" under Nominal GDP. According to this data, the world GDP amounts to $30,872.2 billion (USD). The GDP of the United States accounts for 31.9%, which totals $9, 848 billion (USD). The GDP of the EU (15) accounts for 25.4%, which totals $7,841.5 billion (USD). Ministry of Public Management, Home Affairs, Posts and Telecommunications of Japan, Statistic Bureau online:

regime. Second, from functional point of view, both have highly developed biotechnology sectors. Finally, from a judicial point of view, the US and the EU have already addressed the GM foods issue under Article 4 of the DSU. When that consultation ended in failure, the US requested the establishment of a Panel as part of the WTO dispute settlement.[149] While this consultation was related to the lifting of the *de facto* moratorium regarding the approval system for GM foods, the question of when the US will bring the labeling of GM foods issue to the WTO is surely not far off into the future. Various remarks made by the US seem to indicate that the country is concerned about what approach will be taken by the EU in this regard. For instance, as we will examine in Chapter 3, the US has submitted comments to the TBT Committee regarding the proposal made by the EU about the mandatory labeling of GM foods. The US position on the topic has been conveyed as follows:

> The European Union's practice may lead other countries to block trade by imposing similar needlessly burdensome labeling, traceability and documentation requirements, and thus could prompt a host of new, non-tariff barriers just when we are trying to stimulate global trade. [...] If and when these regulations are adopted, we will examine them in light of the European Union's World Trade Organization obligations.[150]

B. The United States

1. An Overview

The regulatory framework, as well as American jurisprudence, exemplify that introducing the consumers' right to information — or consumers' right to know, as it is more commonly termed in the US —, is insufficient as a rationale for requiring the mandatory labeling of GM foods.[151] In addition, GM foods are not categorized as *sui generis*, *i.e.*, they are not given a distinct class in terms of a

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MPMHAPT<http://www.stats.go.jp/data/sekai/ap.htm> (date accessed: 3 October 2003).

[149] *DSU*, *supra* note 48, art. 6. However, EC is not the only party in the WTO which supports the labeling system of GMOs.: see *supra* note 99, which notes that Australia, China, South Korea, Japan Mexico, New Zealand, and Saudi Arabia also support the labeling of GM foods.

[150] US Department of State, "European Parliament Legislation on Biotech Food", online: DoS <http://www.state.gov/r/pa/prs/ps/2003/22236.htm> (date accessed: 27 August 2003).

[151] In the US, arguments refer to the consumers' right to know. Thus, this section will follow suit, but the meaning should be taken as the consumers' right to information about the foods they consume. See *infra* note 188.

classification. The US has acknowledged that GM foods should be regulated in the same manner as foods derived from traditional breeding processes, provided there are no scientific data pronouncing that GM foods are deleterious to human health. The threshold for foods resulting from biotechnology is "whether the final product produced is safe".[152] Some commentators refer to this as "product school",[153] in contrast to "process school", which focuses on the method used to arrive at the end product. The US, a biotech food exporting state, has a keen interest in foreign measures that will have a negative impact on US exports of GM foods, and by extension, this position leads to promoting the abolishment of mandatory labeling. The US views the mandatory labeling measure as a distortion to international trade. The US position is strongly founded on domestic socio-economic conditions. The US has rationalized that once a food has been proven safe by the competent authority, governmental intervention should be minimal. In addition, the US is of the view that governmental authority should not further hinder the market promotions of GM foods by means of a mandating labeling scheme. These were the result of debates conducted during the 1990s. This outcome of the debate opened the way for GM foods producers to enjoy the benefits of biotechnology, overriding the consumers' right to know.

2. A Socio-Economic Evaluation: The Pendulum is Swinging Toward Producers' Interests

a. Credibility toward the Application of Technology to Agriculture

Despite an awareness of oversimplification, technological innovations and the role of technology have influenced lifestyles in the US. Technology, including biotechnology, has been widely credited, especially among producers, as contributing to an increase in productivity, provided an "adequacy of regulatory mechanism" exists.[154] This holds true for GM crops, since the application of biotechnology has curtailed pecuniary burdens and has brought benefits such as the increase of

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[152] York, *supra* note 93 at 435.
[153] *Ibid.*
[154] Neil D. Hamilton, "Legal Issues Shaping Society's Acceptance of Biotechnology and Genetically Modified Organism" (2001) 6 Drake J. Agric. L. 82 ["Legal Issues"].

nutritional value without the need for time-consuming traditional cross-breeding procedures.[155] Added to this, Professor Hamilton notes that "American agriculture is historically technologically oriented and has been successful relying on this approach",[156] and that "the history of American agriculture is a study in increased productivity through the adoption of new technology".[157] Accordingly, the benefits of both the application of technology and the liberalization of the agricultural market will, in consequence, help the US to achieve further economic prosperity.

b. Biotechnology in the Food Industry

From an economic perspective, despite its enjoyment of industrial autonomy, the biotechnology food industry could be regulated to some degree so as to contribute to the promotion of food safety. However, the industry has expressed the viewpoint that labeling is not the sole way to achieve this end. It is concerned that mandatory labeling will inflict additional costs on the industry, and that its competitiveness will be stripped away.[158] In the US, the industry has a relatively strong voice concerning the commercialization of GM foods due to the fact that the industry contributes to the development of GM technology and its application to food. In particular, the US maintains an advantage in food biotechnology because historically, the private sector initiated its development through the patent system.[159] For instance, the US was the first to commercialize GM foods, marketing tomatoes whose ripening were delayed due to genetic modification. Since this innovation by the private sector, the biotechnology food industry has become a $4-billion market in the US and is still growing.[160] Under this circumstance, a mandatory labeling scheme for GM foods would stymie the evolving industry due to the additional costs. Thus, although the biotechnology food industry has

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[155] *Ibid.*
[156] *Ibid.*
[157] Neil D. Hamilton, "Agriculture without Farmers?: Is Industrialization Restructuring American Food Productivity and Threatening the Future of Sustainable Agriculture?" (1994) 14 N. Ill. Univ. L. Rev.613 at 624.
[158] According to York, the adoption of labeling scheme will increase costs by 10-30%. York, *supra* note 93 at 441.
[159] Hamilton, "Legal Issues", *supra* note 154 at 88.
[160] Elizabeth Becker, "U.S. Delays Suing Europe over Ban on Modified Food" *The New York Times* (5 February 2003) (Lexis).

shown its willingness to cooperate with the government in order to avoid the possibility of being held civilly liable for the commercialization of GM foods, the tradition of industrial autonomy is deep rooted.[161]

3. Pivotal Regulating Authorities: An Overview

In order to respond to the rapid the development of GM foods,[162] a comprehensive regulatory regime was first delineated in the Coordinated Framework for Regulation of Biotechnology in 1986.[163] With the framework as its basis, in the US three main regulatory authorities are responsible for regulating foods resulting from biotechnology. First, the Food, and Drug Administration (FDA) has a mandate under the Federal Food, Drug, and Cosmetic Act (FFDCA) to ensure food safety so as to protect public health. This covers food in general, including foods deriving from genetic modification, as the FDA is responsible for protecting public health through its food inspections.[164]

Second, pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act,[165] the Environmental Protection Agency (EPA) has the mandate of approving pesticides.[166] The EPA, under the FFDCA, reviews tolerance of pesticide residues. Thus, GM foods that have been altered to contain pesticidal characteristics such as Bt corn will be investigated by the EPA. Furthermore, when "intergeneric organisms" are manufactured,[167] notice must be sent to the EPA pursuant to the Toxic Substances Control Act.[168]

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[161] Kim Brooks, "History, Change and Policy: Factors Leading to Current Opposition to Food Biotechnology" (2000) 5 Geo. Public Pol'y Rev 153 at 162.

[162] For the terminology, see Chapter 1, above. The United States uses the term "bioengineered" food because it believes that the term "genetically modified" is inaccurate. Even under traditional breeding methods, foods are genetically modified. This thesis uses the term "GM foods" but limits its scope to novel techniques.

[163] 51 Fed Reg 23,302 (26 June 1986);York, *supra* note 93 at 436.

[164] Kelly A. Leggio, "Limitation on the Consumer's Right to Know: Settling the Debate over Labeling of Genetically Modified Foods in the United States" (2001) 38 San Diego L. Rev. 893 at 918.

[165] 7 U.S.C. 135 *et seq.*

[166] 40 C.F.R. c. I, part I.1.1.

[167] Intergeneric organisms are "formed by combining genetic material from microorganisms in different taxonomic genera".

[168] 15 U.S.C. §2603.

Third, pursuant to the Federal Plant Protection Act of 2000,[169] the US Department of Agriculture (USDA) ensures the safe growth of US agriculture through the Animal and Plant Health Inspection Service (APHIS).[170] In this regard, one of the missions of the APHIS is to prevent the spread of pests and diseases. Applicants who wish to grow genetically engineered plants must first go though APHIS testing to be granted permission. Once permission has been given, the circumvented plant is awarded "determination of non-regulated status". With this determination, the scrutinized plant may be commercialized without any additional regulation within the jurisdiction of APHIS.

The common denominator of these three bodies is that each regulatory authority applies already existing instruments to regulate GM foods rather than treating such foods as *sui generis*. Thus, the regulatory regime does not discriminate between GM foods and their conventional counterparts regarding what techniques were used to breed them. In this regard, GM foods enjoy a status equal to that of foods resulting from traditional breeding methods, *i.e.*, not involving the recombinant DNA method. Underlying this acknowledgement is that once scientific testing has proven that such foods are safe for human consumption, a positive response to their commercialization will be given. Since this thesis focuses on the labeling of GM foods, the following section will concentrate on how labeling is implemented in the US. The investigation will focus on the FDA since it is the relevant authority concerning food labeling.

4. Labeling Scheme: The Food and Drug Administration (FDA)

Generally, the FDA has adopted a labeling system as one means to ensure food safety. Section 403 of the FFDAC stipulates that a component is considered misbranded when "labeling is false or misleading in any particular".[171] A list of those aspects considered misleading can be found in Section 201(n). The Section provides two different instances under which the labeling of a product can be considered misleading. The first instance is determined by a "representations made or

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[169] 7 U.S.C. §7701-7772.
[170] *Ibid.*, § 3121.
[171] 21 U.S.C. §343A(a).

suggested by statement, word, design, device, or any combination".[172] In this case, the misleading labeling is informative. In contrast, the second instance is determined by "fail[ing] to reveal fact material in light of such representations or material with respect to consequences which may result from the use of the article..." and might be said to be deceptive.[173] Although the FDA indicates that few debates have focused on the meaning of "material" throughout legislative history, the FDA understands its meaning to be "information of the attributes of the food itself" deriving from its practice.[174] This being the case, the FDA imposes specific labeling requirements when a lack of material information may:

> 1) pose special health or environmental risks (e.g., warning statement on protein products used in very low calorie diets);
> 2) mislead the consumer in light of other statement made on the label (e.g., requirement for quantitative nutrient information when certain nutrient content claims are made about a product); or
> 3) in cases where a consumer may assume that a food, because of its similarity to another food, has nutritional, organoleptic, or functional characteristics of the food it resembles when in fact it does not (e.g., reduced fat margarine not suitable for frying).[175]

This standard applies to all foods, including GM foods, since the position of the FDA is to treat GM foods as equal to their conventional counterparts. In particular, the application of this standard to the labeling of GM foods would be required when: (1) a "common name or usual name no longer adequately describes the new food" due to a significant outcome brought about by genetic modification; (2) a nutritional feature differs significantly from that of its conventional counterpart, and (3) an allergen, a protein that causes allergies, has recently been added as a result of the genetic modification and its presence must be revealed.[176] Pursuant to Section 304 of the FFDCA, the FDA

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[172] *Ibid.* §321(n).
[173] *Ibid.*
[174] FDA, "Guidance for Industry: Voluntary Labeling Indicating Whether Foods Have or Have Not Been Developed Using Bioengineering", online: FDA <http://www.cfscan.fda.gov/~dms/biolabgu.html> (date accessed: 11 September 2003) ["Voluntary Labeling"].
[175] *Ibid.*
[176] *Ibid.*

has the authority to seize foods that do not satisfy its standard.[177]

The position of the FDA on the handling of GM foods is further elucidated in the *Statement of Policy: Foods Derived From New Plant Varieties.*[178] This 1992 policy clarifies that "foods, such as fruits, vegetables, grains, and their byproducts, derived from plant varieties developed by the new methods of genetic modification are regulated *within the existing framework* of the act [FFDCA]".[179] The policy states that the substance of GM foods will be presumed "Generally Recognized As Safe (GRAS)" since "the agency is not aware of any information", which shows that the food is harmful to human consumption as a result of the genetic modification that has taken place during the process.[180] However, if the food products deriving from genetic modification have been altered in a way that does not satisfy GRAS requirements, they will be regulated as "food additives" under Section 409 of the FFDCA.[181] Interestingly, the policy states that "in most cases, the substances expected to become components of food as a result of genetic modification of a plant will be the same as or substantially similar to substances commonly found in food, such as proteins, fats and oils and carbohydrates",[182] indicating that in most cases, GRAS status will be conferred. In addition, under this policy, the industry can decide whether GM foods can be "commercially distributed", and it can consult with the FDA prior the release of GM foods into the market.

Since the establishment of the 1992 policy, the FDA has reported that there have been many comments expressing concern about the long term uncertainty of GM foods.[183] However, according to the FDA, there is no evidence to suggest that GM foods currently being distributed commercially are harmful to human health.[184]

In 2001, the FDA issued a draft guidance entitled *Voluntary Labeling Indicating Whether*

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[177] 21 USC §334.
[178] 57 Fed. Reg. 22984 (1992) [*1992 Policy*].
[179] *Ibid.* at 22984 [emphasis added].
[180] *Ibid.* at 22991.
[181] *Ibid.* at 22985.
[182] *Ibid.* at 22985.
[183] "Voluntary Labeling", *supra* note 174
[184] *Ibid.*

Foods Have or Have Not Been Developed Using Bioengineering. Confirming its previous position, the FDA noted that mandatory labeling is not appropriate. Instead, it established guidelines for a voluntary labeling scheme. The purpose of the draft guidelines is to provide manufacturers with information should they prefer to label voluntarily. Detailed explanations regarding voluntary labeling, including examples, are included in the guidelines. For instance, since foods consist of many ingredients, the guidelines note that it is preferable to be precise in describing the particular ingredient that was genetically modified. By doing this, the consumer would know that not every ingredient was from a GM crop. Moreover, the guidelines encourage manufacturers to add the reason for the GM crops, such as "Some of our growers plant tomato seeds that were developed through biotechnology to increase crop yield".[185] Furthermore, the guidelines take note of statements on the label aimed at emphasizing that foods have been traditionally bred (*e.g.*, when the label says "organic"). The guidelines also indicate that illustrations could be misleading if they were to indicate that the "labeled food is superior (*e.g.*, safer or of higher quality) to foods that are not so labeled".[186]

In January 2001, the FDA issued a proposal entitled *Premarket Notice Concerning Bioengineered Food*, which states that the purpose of the Notice is to "ensure that it [the FDA] has the appropriate amount of information about bioengineered foods to help to ensure that all market entry decisions by the industry are made consistently and in full compliance with the law".[187] According to the *Premarket Notice*, the motivation for establishing the proposal stemmed from the rapid evolvement of rDNA technology. As the FDA notes in the proposal, the industry usually gives notification regardless of the optional nature of notification. However, since the application of rDNA technology to food had broadened, the FDA decided that the time had come to consider a new framework for collecting information on GM foods. The FDA has acknowledged that it would be better for it to make its notification mandatory than to depend on the industry's voluntary submission, if it is to respond as the regulatory authority during this biotechnology phase. It was this circumstance

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[185] *Ibid.*
[186] *Ibid.*
[187] US, *Premarket Notice Concerning Bioengineered Foods*, 66 Fed. Reg. 4706 (2001).

that led the FDA to consider constructing a framework that could respond accurately to issues related to GM foods.

The *Premarket Notice* proposes that notification be codified, making it mandatory for the industry to submit information and data to the FDA 120 days prior to the commercial distribution of any GM food. In reaffirming its position that labeling is voluntary, it has acknowledged that it is necessary to strengthen the procedure of GM foods prior to their commercial distribution. Strengthening the process in advance of commercialization by requiring the submission of information and data concerning GM foods will enable the FDA to secure the accuracy of its decision making.

5. Cases Concerning the Labeling of GM Foods

Judicial decisions rendered in the US suggest that the consumers' right to know is not enough to justify imposing mandatory labeling on producers. The decisions confirm that the position of the FDA supporting voluntary labeling is appropriate, since it has been scientifically proven as safe, and that mandatory labeling interferes too much with the promotion of GM foods.

a. *International Dairy Foods Association v. Amestoy*

In this case,[188] the plaintiff, the dairy manufacturers, argued that mandatory labeling is a constitutional violation. Specifically, the plaintiff contended that the State of Vermont had violated the plaintiff's right *not* to speak by requiring mandatory labeling for a recombinant Bovine Somatotropin (rBST) so as to protect the consumers' right to know. The rBST is a protein that works to augment milk production. After hearing the case, the court held that the State of Vermont had violated the manufacturers' constitutional right not to speak. The court confirmed this by first noting that the right not to speak is entrenched in both political and commercial speech. With regard to determining the permissibility of governmental restrictions on commercial speech, the court referred to the four-tiered

[188] *International Dairy Foods Association v. Amestoy*, 92 F.3d 67 (2d Cir. 1996) at 71.

test that had been introduced in the *Central Hudson Gas & Elec. Corp v. Public Service Commission* in 1980. The court asserted that any regulation that imposes a restriction on commercial speech must be justified by testing that (1) the expression concerns lawful activity and is not misleading; (2) the government's interest is substantial, (3) the labeling law directly serves the asserted interest, and (4) the labeling law is no more extensive than necessary. In applying the test, the court found that the State of Vermont did not satisfy the conditions, declaring that "Vermont does not claim that health or safety concerns prompted the passage of the Vermont Labeling Law, but instead defends the statute on the basis of strong consumer interest and the 'public's right to know'[...]."[189] Interestingly, the court held that "[a]lthough the Court is sympathetic to the Vermont consumers who wish to know which products may derive from rBST-treated herds, their desire is insufficient to permit the State of Vermont to compel the dairy manufacturers to speak against their will."[190] It is interesting to note that there are many states that failed to enact a mandatory labeling law, California, Minnesota, Maine, and New Hampshire being among them.[191]

b. *Alliance for Bio-Integrity v. Shalala*

In this case,[192] the plaintiff challenged the FDA's 1992 policy, which states that the FDA presumes GM foods to be "Generally Recognized As Safe (GRAS)" unless provided with scientific data that disproves this assumption. The plaintiff argued from various grounds, aiming to invalidate this policy so that the labeling of GM foods would be embraced.

First, considering the enormous impact of the 1992 policy, the plaintiff argued that the policy is far-fetched from the perspective of being a policy. Particularly, the plaintiff contended that the interpretation of GM foods as "Generally Recognized As Safe (GRAS)" by the FDA was considered as binding in practical terms and that the FDA authority of implementing discretionary power to

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[189] *Ibid.* at 73.
[190] *Ibid.* at 74.
[191] Leggio, *supra* note164 at 932.
[192] *Alliance for Bio-Integrity et al, v. Donna Shalala et al.*, 116 F. Supp. 2d 166 (Lexis).

overturn the status of GRAS had been totally taken away. Due to the binding nature of the 1992 policy, the plaintiff argued that the establishment of this policy should have gone through a notice and comment procedure under the Administrative Procedural Act.[193] This Act stipulates that the notice and comment procedure is necessary when establishing rights or obligations. Moreover, the plaintiff argued that this binding effect is "arbitrary and capricious",[194] since the1992 policy had not gone through the appropriate procedure stipulated in the Act when the policy was established. In contrast, the defendant, the FDA, asserted that the 1992 policy was explicitly within the scope of a policy, whereby the purpose for establishing the document was to "set its own agenda" and thus discretionary power would in certain case still be valid in deciding whether to overturn the assumption that GM foods were GRAS. The court held that since the 1992 policy declares its status as a policy, and uses simple language, this document retains no binding effects.[195] In addition, in the case of deciding whether genetically modified material constitute GRAS, the court noted that "the Statement does not declare that such material will be considered as GRAS; rather it announces that such material is *presumed* to be GRAS".[196] This clarified that "this presumption of safety is rebuttable",[197] meaning that implementing discretionary power is valid.

Second, from an environmental ground, the plaintiff argued that the policy is invalid since it was never put through the "Environmental Impact Statement (EIS) or Environmental Assessment (EA)" procedure articulated in the National Environmental Protection Act (NEPA).[198] The NEPA requires an EIS or EA on "major Federal actions significantly affecting the quality of the human environment".[199] In contrast, the defendant argued that the 1992 policy does not fit under the interpretation of a "major Federal action" and thus, the NEPA does not apply to the 1992 policy. The

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[193] 5 U.S.C. §553.
[194] *Alliance for Bio-Integrity, supra* note 192 at 170.
[195] *Ibid.* at 172. In order to determine the scope of policy, the court referred to the criteria given by *American Business Association v. United States*, 627 F.2d 525 (D.C. Circuit 1980): "Policy statements (1) must not impose any new rights or obligations, and (2) must genuinely leave the agency and its decision-makers free to exercise discretion."
[196] *Alliance for Bio-Integrity, ibid.* at 170.
[197] *Ibid.* at 172.
[198] 42 U.S.C. §4321.
[199] *Alliance for Bio-Integrity, supra* note 192 at 174.

court upheld the defendant's claim by stating that the interpretation of the 1992 policy by the FDA of not being a "major Federal action" and that the FDA could sustain wide discretionary power unless it was done in an arbitrary and capricious way. The court went further, holding that the 1992 policy does not fit under the NEPA since the FDA "has neither made a final determination that any particular food will be allowed into the environment, nor taken any particular regulatory action that could affect the environment".[200]

Third, the plaintiff claimed that the 1992 policy had impinged the plaintiff's right to the free exercise of religion pursuant to the Religious Freedom Restoration Act by not making the labeling of GM foods compulsory framework.[201] In contrast, the defendant asserted that the plaintiff must provide evidence that the defendant had "substantially burdened Plaintiff's religion" since "the government refuses to conduct its own affairs in a ways that comport with the religious belief of particular citizens".[202] The court rejected the plaintiff's argument, stating that although it "recognizes the potential inconvenience" for the plaintiff in GM foods not being labeled, the plaintiff had not shown that it had been substantially burdened.[203]

In conclusion, the plaintiff's attempts to invalidate the 1992 policy by referring to various procedural issues were all rejected by the court.

6. Summary: The US Position on GM Foods

Reflecting the tradition of technology-oriented farming methods, GM foods are supported most notably by producers in the US. GM foods are "more easily recognized by farmers" because

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[200] *Ibid.* at 174.

[201] *Ibid.* at 180. See also 42 U.S.C. §2000bb-§2000bb-4. The Religious Freedom Restoration Act was enacted to "restore the compelling interest test" of the Establishment Clause of the First Amendment of US Constitution. Criteria are articulated in 21 U.S.C. §2000bb-1:

> (a) government shall not substantially burden a person's exercise of religion even if the burden result from a rule of general applicability except as provided in subsection (b) of this section.
> (b) government may substantially burden a person's exercise of religion only if it demonstrates that application of the burden of the person
> (1) is in furtherance of a compelling governmental interest; and
> (2) is the least restrictive means of furthering that compelling governmental interest.

[202] *Alliance for Bio-Integrity, ibid.*

[203] *Ibid.* at 181.

they "see first hand the increased product yields GM foods may offer".[204]

With regard to the labeling of GM foods, US legal development is subject to existing regulatory instruments. If GM foods were to test safe, it would confer opportunities on producers of GM foods to enlarge market share at both the domestic and international levels. After being proven safe, it would be considered inappropriate for the government to intervene and to hinder the promotion of market enlargement. The judicial decision in the US has confirmed the position of the FDA not to coerce labeling by referring to the producers' right not to speak. The current trend within the US is that the pendulum seems to be swinging toward producers' interests. In other words, US cases have demonstrated that introducing the consumers' right to know as a legal argument for mandatory labeling is insufficient. Moreover, as with conventionally bred foods, mandatory labeling is required only under certain circumstances, such circumstances being when the product contains harmful substances.

As mentioned previously, this tendency to reject mandatory labeling is also reflected at the state level.[205] The court rendered a decision that the consumers' right to know is not a valid enough reason to uphold the mandatory labeling law enacted in the State of Vermont. Interestingly, there have been many failures at the state level to enact such a mandatory law, as "states will not likely be able to identify a valid state interest to protect".[206] Thus, the court is left with no choice but to confirm the FDA's position and to reject the plaintiff's when the plaintiff's argument is based on the consumers' right to know. In sum, the consumers' right to know is not a satisfactory reason to require mandatory labeling in the US. In this regard, the consumers' right to know is limited in scope.

This does not mean, however, that the US is ignorant of consumers' concerns. Labeling can be categorized as either mandatory or voluntary. In order to address as much as possible consumers'

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[204] Leggio, *supra* note 164 at 944.

[205] The Pew Initiative on Food and Biotechnology, "Labeling GM Foods", online: The Pew Initiative on Food and Biotechnology < http://pewagbiotech.org/resources/factsheets/legislation/topic.php?TopicID=3> (dated accessed: 20 October 2003). The Pew Initiatives on Food and Biotechnology reports that during 2001 to 2002, 25 pieces of state legislation were introduced regarding the labeling of GM foods. However, none were adopted.

[206] Leggio, *supra* note 164 at 934.

concerns and their desire to have foods labeled, the FDA has promoted a voluntary labeling system. This option is gaining support, especially from producers of GM foods. Moreover, regarding the embodiment of the consumers' interest in knowing the ingredients in such foods, some commentators suggest that labeling is not the sole way to achieve this aim.[207] There are a variety of alternatives that have the same effect as labeling. For instance, launching "task forces or committees to study GM technologies" are possible alternatives.[208]

C. The European Union

1. An Overview

The rationale for regulations concerning GM foods in the EU is based on the precautionary principle. The precautionary principle generally holds that "uncertainties [...] should be acknowledged and taken into account when determining whether to proceed and what controls are needed".[209] This principle has been brought up in the context of environmental protection since the 1980s.[210] The precautionary principle is of significance for the EU not only in respect of the environment but also in respect of food safety, due to the fact that the EU has had incidents involving Bovine Spongiform Encephalopathy (BSE, commonly known as Mad Cow Disease), and dioxin contaminated chicken.

2. A Socio-Economic Evaluation: The Pendulum is Swinging Toward Consumers' Right to Information: Protecting Consumers from Food Contamination

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[207] *Ibid.* at 946.
[208] *Ibid.*
[209] Patricia Birnie & Alan Boyle, *International Law and the Environment*, 2nd ed. (Oxford: Oxford University Press, 2002) at 117.
[210] Philip Sands, *Principles of International Environmental Law: Frameworks, Standards and Implementation* (Manchester: Manchester University Press, 1995) at 208; Commission of the European Communities, *Communication from the Commission on the Precautionary Principle*, COM (2001) 11. According to the EU, the first forum to recognize the precautionary principle was in the United Nation General Assembly in 1982, when the World Charter for Nature was adopted. In addition, the significant evolvement of this principle was the Rio Conference on the Environment and Development in 1992. Principle 15 of the Declaration is articulated as: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost effective measures to prevent environmental degradation".

In contrast to the US position, the EU promotes restricting the flow of foods derived from genetic modification. The EU has focused on its accomplishment of protecting consumers' interests. In particular, the EU aims to protect both consumers' health and the environment.[211] The foundation for this perspective stems from consumers' deeply rooted hesitancy over GM foods. Some commentators believe that Europe's hesitancy view regarding GM foods is rooted in part in its culinary tradition.[212] In particular, it has been evaluated that Europeans prefer naturalness in foods to foods manipulated by genetic modification.[213] In addition, since some EU Member States have enough food, it is plausible that the EU is capable of finding other conventional foods, stripping away the necessity to depend on importing GM foods.[214] While other EU states do not yet have such self-sufficiency, it has been reported that the Common Agricultural Policy (CAP) has been contributing to the gradual increase in the food self-sufficiency rate.[215]

However, the most influential factor contributing to the EU position is the concern that GM foods may not be safe. The pendulum is swinging towards the consumers' right to information because the EU has experienced two major food contaminations, *i.e.,* the BSE incident and dioxin contaminated chicken crisis. Based on these experiences, Europeans are sensitive about the food safety issue.[216]

a. The BSE Incident

The BSE incident has "deeply shaken consumer confidence in the safety of the food they buy

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[211] EU, "Food Safety: from the Farm to the Fork" online: the European Union <http://europa.eu.int/comm/food/fs/gmo/gmo_legi_authorise_en.html> (date accessed: 14 April 2003) ["Food Safety"].

[212] Heather Berit Freeman, "Trade Epidemic: The Impact of the Mad Cow Crisis on EU-U.S. Relations" (2002) 25 B.C. Int'l & Comp. L. Rev. 343; York, *supra* note 93 at 445.

[213] York, *supra* note 93 at 445.

[214] Ministry of Agriculture, Forestry and Fishery of Japan, online: MAFF <www.kanbou.maff.go.jp/www/anpo/fbs/3-5-2.xls> (date accessed: 10 September 2003) [available in Japanese]. For instance, food self-sufficiency percentage of grain (including corn) for human consumption in 2000 was 130% for France, and 114% for Germany.

[215] *Common Agricultural Policy, infra* note 240.

[216] See "Food Fights" *The Economist [U.S. Edition]* (13 June 1998) 79 (Lexis) ["Food Fights"].

and eat".[217] The first case of BSE was detected in the United Kingdom (UK) in 1986.[218] BSE is a disease that causes neurological malfunction in cattle, concentrated upon the brain and spinal cord.[219] Cattle become infected with the disease when given feed that includes contaminated remnants from the rendering.[220] Rendering is the method of recycling animal carcasses into feed so that the herd will grow faster. In this case, rendering was done so as to the increase milk production; inadvertently, contaminated cattle carcasses were included.[221] By 2001, total reported cases in the UK numbered 179,804.[222] The total in the EU, excluding the UK cases, amounted to 1,738 cases. All told, the number was 181,542 in the EU.[223]

In 1996, the UK government discovered that there were close links between BSE and variant Creutzfeldt Jakob Disease (vCJD).[224] It has been announced that vCJD is likely to be contracted when BSE-contaminated food is consumed. vCJD is a disease that causes the degeneration of neurological functions in humans.[225] vCJD is distinct from classic CJD in that the former is most likely to affect people as young as twenty, whereas the classic type is typically seen in people in their sixties.[226] According to UK Department of Health statistics, the death toll from vCJD has been on the rise in the UK. Measured at 33 in 1990, the number of cases increased to 81 in 2000,[227] and in 2002, total deaths from vCJD had jumped to 94.

The severe damage caused by BSE has also had a tremendous impact on the economy.

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[217] Renate Künast, (Federal Minister of Consumer Protection, Food and Agriculture, Germany) *The OECD Observer* No. 233 (August 2002), 17.

[218] Freeman, *supra* note 212 at 345. For a detailed chronology, see UK Department for Environment Food and Rural Affairs, *BSE: Chronology of Events (as of 2002)*, online: DEFRA<http://www.defra.gov.uk/animalh/bse/chronol.pdf> (date accessed : 15 September 2003).

[219] WHO, *Understanding the BSE Threat*, WHO/CDS/CSR/EPH/2006 (2006) at 3 [*BSE Threat*].

[220] *Ibid.* at 7.

[221] *Ibid.* at 5-6.

[222] EU, Court of Auditors, *Special Report No.14/2000: Follow up to Special Report No.19/98 on BSE, together with the Commission's Replies*, 2001/C 324/01 (2001) at 7 [*Special Report*].

[223] *Ibid.*

[224] Jean C. Buzby, *Effect of Food Safety Perceptions on Food Demand and Global Trade*, Economic Research Service, online: USDA <http://www.ers.usda.gov/publications/wrs011/wrs011i.pdf>; WHO, *The Revision of the Surveillance Case Definition for Variant Creutzfeldt-Jakob Disease (vCJD). Report of a WHO Consultation Edinburgh, United Kingdom, 17 May 2001*, WHO/CDS/EPH/2001/5 (2001) [*Revision*].

[225] WHO, *Revision, ibid.*

[226] *BSE Threat, supra* note 219 at 5

[227] UK Department of Health online: <http://doh.gov.uk/cjd/stats/sept03.htm> (date accessed: 15 September 2003).

According to the statistics of the Economic Research Service (ERS) of the USDA, beef sales plummeted 40% in 1996, when the relationship between BSE and vCJD was announced.[228] Household consumption of beef products also fell 26%.[229] Economic losses have been calculated as being between £740-£980 million (US $1.07-$1.4 billion).[230] With regard to market share, the ERS has anticipated a 4.5 % drop, considering the enormous impact of the incident.[231]

b. Chicken Contaminated with Dioxins

Another incident that shook the consciousness of Europeans towards food safety occurred in Belgium. In 1999, it became clear that chickens were contaminated with dioxins. Dioxins are "persistent organic pollutants that accumulate in body tissue and pose cancer and other human health risks – in general, the higher the food chain, the greater the accumulation".[232] As the chicken feed was contaminated with dioxins, the contamination was passed down to the chickens that ate the feed, and as a result, chickens and eggs meant for human consumption were also contaminated. In May 1999, five months after the dioxin contamination was discovered, the incident was made public.[233] Concern spread quickly around the globe. The situation worsened when it became clear that other products were also contaminated, a repercussion of the first contamination.[234] Even though the origin of the contamination in this case was identified and no deaths resulted directly from this contamination, this incident led to further consumer distrust regarding the food safety regime of the EU.[235]

In June 1999, the Council of Europe issued a report concerning dioxin contamination and food safety.[236] The Council of Europe, which has as one of its responsibilities to assure the protection

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[228] USDA Economic Research Service, "Dissecting the Challenge of Mad Cow & Foot – and – Mouth Disease" in *Agricultural Outlook* (August 2001), 4.
[229] *Ibid.*
[230] *Ibid.*
[231] *Ibid.*
[232] Buzby, *supra* note 224 at 61 (taken from the WHO).
[233] *Ibid.* at 61.
[234] *Ibid.*
[235] *Ibid.* at 63.
[236] Council of Europe, Committee on Agriculture and Rural Development, *Dioxin Crisis and Food Safety*, Parliamentary Assembly, Doc. 8453 (22 June 1999) [*Dioxin Crisis*].

of human rights in Europe,[237] has stated that food safety crises undermine the right to health. In the report, the Parliamentary Assembly (the Assembly) noted that the cause of the incident was due to a lack of constructive regulatory regimes at both the national and European levels.[238] The Assembly affirmed that food crises such as BSE and dioxins "have major economic and financial consequences" and that it was concerned with the lack of co-ordination among related authorities.[239]

In addition, with regard to the quality of food, the Assembly noted that the contribution of the Common Agricultural Policy has lifted European agriculture into "industrial and production oriented form" and that the agri-food business has helped to reduce the cost of food products.[240] However, the report argued that this system has "often worked to the advantage of the biggest producers" and that simultaneously, consumers' desire for "better quality food products" has been prominent since then.[241] The report by the Assembly concluded that extolling quality in food should be promoted and that negating food safety jeopardizes, as a result, the right to human health.

c. White Paper on Food Safety

Reflecting the severe situation that exists in terms of losing the trust of the public, the European Commission released its White Paper on the Food Safety in 2000.[242] The White Paper states that it will establish the European Food Authority so as to strengthen the food safety regime of

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[237] *Statute of the Council of Europe*, ETS Nos. 1/6/7/8/11 (ETS 1 Statute of the Council of Europe, 5.v.1949), art. 3.
[238] *Dioxin Crisis*, *supra* note 236 at II.6.42.
[239] *Ibid.* at II.3.25, 1.22.
[240] EC, Treaties Establishing the European Community, 2 October [1997], 1997 O.J.C.340/173; 37 I.L.M. 56 at 84 (1998), art. 33 (ex. art. 39) EC stipulates:

1. The objectives of the common agricultural policy shall be:
(a) to increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilisation of the factors of production, in particular labour;
(b) thus to ensure a fair standard of living for the agricultural community, in particular by increasing the individual earnings of persons engaged in agriculture;
(c) to stabilise markets;
(d) to assure the availability of supplies;
(e) to ensure that supplies reach consumers at reasonable prices.
[...]

[241] *Dioxin Crisis*, *supra* note 236 at II.4.27-30.
[242] Commission of the European Communities, *White Paper on Food Safety*, COM(1999)719 final (2000) [*White Paper*].

the EU and also to recover public confidence in the food supply system.[243] The Paper emphasizes the protection of consumers' interests by explaining that "[c]onsumers have the right to expect information on food quality and constituents that is helpful and clearly presented, so that informed choices can be made."[244]

In addition, the White Paper argues that in order for an effective food safety regime to exist, a "comprehensive, integrated approach" must be enshrined in the framework so as to achieve "more coherent, effected and dynamic food policy".[245] Thus, this indicates a justification for stricter regulations, suggesting that the establishment of additional legal instruments will be considered necessary if the current regime does not offer satisfactory protection.

Also the labeling issue is addressed in the White Paper under the categorization of consumer information.[246] The White Paper, acknowledging an awareness of the implications that a labeling system has on international trade, states that labeling helps to provide consumers with information regarding the composition of food as well as information regarding "health or ethical reasons".[247] This helps to promote the consumers' position.

d. Communication from the Commission on the Precautionary Principle

In addition to the White Paper, the Commission adopted the *Communication from the Commission on the Precautionary Principle.*[248] The objectives of the Communication include clarifying and building a common understanding regarding the application of the precautionary principle so that it will not constitute a protectionist measure that distorts trade.[249] According to the Communication, the precautionary principle has been applied chiefly in the context of the

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[243] *Ibid* at 7(1.7). The European Food Safety Authority was established under EC, Title of the Regulation *Premarket Notice Concerning Bioengineered Foods*, [2002] O.J. L. 31 at 1. The missions of the Food Safety Authority are stipulated in Article 22.
[244] *WhitePaper*, *ibid.* at 4.
[245] *Ibid.* at 8(2.8), 8(2.11).
[246] *Ibid.* at 31(7.99).
[247] *Ibid.* at 32(7.100).
[248] EU, *Communication from the Commission on the Precautionary Principle*, COM(2000) 1 [*Precautionary Principle*].
[249] *Ibid.* at 9.

environmental field in the EU. However, the Communication emphasizes that the interpretation and application of the precautionary principle should not be limited to addressing environmental issues. The Communication states that the application of the precautionary principle "should be taken into consideration in the fields of environmental protection and human, animal and plant health".[250] This necessity to adopt the Communication derives from food safety problems, such as BSE and dioxin contaminated chickens. The Communication notes that in applying the precautionary principle, "[m]easures [...] must not be disproportionate to the desired level of protection and must not aim at zero risk, something which rarely exists."[251] In addition, it also notes that the application should not be discriminatory and that consistency is required.[252] Furthermore, the Communication affirms that the measures invoked pursuant to the precautionary principle should be based on an "examination of the benefits and costs of action and lack of action".[253] Despite the temporary nature of the applicability of the precautionary principle, "the measures [...] shall be maintained as long as the scientific data remain incomplete, imprecise or inconclusive and as long as the risk is considered too high to be imposed on society [of the EU]".[254]

3. Regulatory Framework of the EU

Pursuant to Article 7 of the Treaty of European Community, the primary institutions are the European Parliament (the Parliament), the Council, the European Commission (the Commission), the European Court of Justice (ECJ), and the Court of Auditors. Among them, the institutions that are capable of participating in legislative procedures are the Commission, the Council, and the Parliament.[255]

The mandate of the Commission is to "ensure the proper functioning and development of the

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[250] *Ibid.* at 10.
[251] *Ibid.* at 18.
[252] *Ibid.* at 19.
[253] *Ibid.* at 20.
[254] *Ibid.* at 21.
[255] P.S.R.F. Mathijsen, *A Guide to European Union Law*, 7th ed. (London: Sweet & Maxwell, 1999) at 25.

common market".[256] With regard to legislative procedures, the Commission has a major role, most importantly, the power to initiate legislation.[257] The Commission is referred to as "motor of integration",[258] since its task is to promote the general interests of the Community as a whole.[259]

Pursuant to Article 203 (ex. Article 146), the Council "shall consist of a representative of each Member State at ministerial level, authorised to commit the government of that Member States". The Council has the power to vote on any legislative initiatives taken by the Commission.[260] The Council may amend a proposal, provided that it is done by a unanimous vote.[261]

The Parliament consists of "representatives of the peoples of the States brought together in Community".[262] Having gone through several amendments, the Parliament currently enjoys enhanced power with regard to legislative procedures. Historically, the Parliament was a consultative body, having limited power with regard to legislative procedure. However, currently the Parliament, by acting on its majority, is entitled to request the submission of a proposal on any matter that it deems necessary for the appropriate implementation of the Treaty of the European Community.[263] In addition, as one of the legislative procedures, the Parliament shares the role with the Council of approving texts pursuant to Article 251 (ex. 189b); these are known as "co-decision procedures".[264] For instance, any text having gone through this procedure would include "the Parliament" as part of the subject of the legislation,[265] such as "Regulation (EC) No. 178/2002 of the European Parliament

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[256] EC, *supra* note 240, art. 211 (ex. Art. 155).
[257] *Ibid.*, art. 211 (ex. Art. 155), third recital reads: "have its own power of decision and participate in the shaping of measures taken by the Council and by the European Parliament in the manner provided for in this Treaty".
[258] Paul Craig & Gráinne De Búrca, *EU Law: Text, Cases, and Materials*, 3d ed. (Oxford: Oxford University Press, 2003) at 113.
[259] Members of the Commission "shall neither seek nor take instruction from any government or from any other body" in performing the duties. See EC, *supra* note 240, art. 213 (ex. art. 157).
[260] However, pursuant to Article 208, the Council may "request the Commission to undertake any studies the Council considers desirable for the attainment of the common objectives, and to submit to it any appropriate proposal." See *ibid.*, art. 208 (ex. Art.152).
[261] EC, *supra* note 240, art. 250 (ex. art. 189(a)).
[262] *Ibid.*, art. 189 (ex. art. 137).
[263] *Ibid.*, art. 192 (ex. art. 138(b)).
[264] Craig, *supra* note 258 at 144.
[265] Mathijsen, *supra* note 255 at 69.

and of the Council [...]".[266]

Pursuant to Article 249 (ex. Article 189) of the Treaty of the EC, there are four categories of regulatory framework in terms of EC legislation: (1) Regulations; (2) Directives; (3) Decisions; and (4) Recommendations and Opinions. Since the GM foods-related regulations that will be introduced below concern both regulations and directives, these two types will be briefly elaborated upon now.

Regulations are "entirely and directly applicable in all Member States".[267] Regulations impose strong effects on all Member States in terms of compliance because the States must modify their national laws if the details therein differ from those stipulated in the regulations.[268] Direct applicability streamlines the necessity to transform transnational law into domestic law, a procedure that is usually required for international law to be in effect in individual states. The national legislatures of Member States are prohibited from enacting legislation that will block them.[269] Regulations must be issued in the Official Journal.[270]

In contrast to regulations, directives bind Member States in terms of results.[271] Directives provide Member States with the discretion to select the means to achieve their goals. This flexibility plays a significant role because, since Member States have different legal systems, not all issues can be adapted to fit into regulations. Reflecting this nature, directives are especially appropriate where a law can be harmonized by Member States as opposed to unified, or where "complex legal change" needs to be introduced.[272] Directives serve to initiate a smooth transformation.[273]

4. Legislative Initiatives Concerning GM Foods

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[266] EC, *Regulation (EC) of No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety*,[2002] O.J.L.31/1.
[267] EC, *supra* note 240, art. 249.
[268] Craig, *supra* note 258 at 113.
[269] *Ibid.* at 114.
[270] *Ibid.* at 112-13.
[271] EC , *supra* note 240, art. 249.
[272] Craig, *supra* note 258 at 115
[273] *Ibid.*

The hesitancy over GM foods permeating throughout EU has been strongly reflected in its legislative history. EU legislation with regard to restrictions on GM foods has been introduced since the 1990s.[274] Having established these restrictions, the EU has been refining them both in terms of approval and the labeling scheme. Below, a description of GM foods regulations will be presented in chronological order.

The first regulatory instrument to establish a framework for GM foods was enacted in April 1990 under Council Directive 90/220/EEC.[275] Now repealed and strengthened in a different regulation, the objective of Directive 90/220/EEC was to protect human health and the environment in two instances, the first being when conducting the deliberate release of genetically modified organisms (GMOs) into the environment,[276] and the second being "when placing on the market products containing, or consisting of, genetically modified organisms intended for subsequent deliberate release into the environment".[277] To ensure these purposes, Council Directive 90/220/EEC required that Member States adjust procedures concerning the deliberate release into the environment of GMOs.[278]

In particular, Council Directive 90/220/EEC established detailed notification and approval procedures. The notification procedure was divided into two categories: (1) research and development of GMOs; and (2) marketing of GMOs. Generally, the relation between these two categories was that prior to the commercialization of GM foods, some research and development must have been conducted and the producer must have received written consent from the competent authority proving that they had passed a risk analysis test.[279] Regarding the commercial release of a GMO,

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[274] EU, "Food Safety", *supra* note 211.

[275] EC, *Council Directive 90/220/EEC of 23 April 1990 on the deliberate release into the environment of genetically modified organisms*, [1990] O.J. L. 117/15 at 16 [*90/220/EEC*].

[276] According to *ibid.*, art. 2(3), deliberate release is defined as "any intentional introduction into the environment of a GMO or a combination of GMOs without provisions for containment such as physical barriers or a combination of physical barriers together with chemical and/or biological barriers used to limit their contact with the general population and the environment".

[277] *Ibid.*, art. 1.

[278] *Ibid.*, art. 4. According to Article 2(2) of 90/220/EEC, genetically modified organism is defined as "an organism in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination".

[279] *Ibid.*, art. 10. The written consent from research and development is stipulated in Article 6.4 of the 90/220/EEC as: "The notifier may proceed with the release only when he has received the written consent of the competent authority, and in

manufacturers or importers that intend to place "on the market products containing, or consisting of GMOs" to the Member State must submit a notification in advance of such conduct to the competent authority of that Member State.[280] Though they may use the same GMO, each new product with a different use "shall be notified separately".[281]

After acknowledging receipt, the competent authority "forward[s] the dossier with a favorable opinion to the Commission",[282] indicating that it satisfies the compliance requirements set out in Directive 90/220/EEC. If not, the dossier for premarket notification may be rejected on the basis that the "proposed release does not fulfill the conditions of this Directive [90/220/EEC]".[283]

The Commission must forward the dossier "immediately" following the acknowledgement of receipt. If the Member State does not raise any objections, the competent authority of the Member State that forwarded the dossier to the Commission will issue a written consent regarding the commercialization of the GM foods to the notifier.[284] Conversely, if a Member State objects to the dossier, the Commission "shall take a decision".[285] However, even when the notification has been completed accordingly, the competent authority, pursuant to Article 16 of the Directive 90/220/EEC, "may provisionally restrict the use and/or sale of that product on it territory",[286] provided that the product imposes a risk to human health or the environment. This "safety clause" has been invoked by Austria, Luxembourg, France, Greece, Germany, and United Kingdom in the past.[287]

Under Directive 90/220/EEC, the labeling requirement was stipulated in rather generic terms, stating that notification sent to the competent authority of a Member State should include "a proposal for labeling".[288] As is embodied in the nature of directives, this led each Member State to draft its

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conformity with any conditions required in this consent". However, if the written consent under above mentioned Article has not been retained, the notifier is required to go through risk analysis in the same context. *Ibid.*, art. 10.1.

[280] *Ibid.*, arts. 10-11.

[281] *Ibid.*, art. 11.4.

[282] *Ibid.*, art. 12.2(a).

[283] *Ibid.*, art. 12.2(b).

[284] *Ibid.*, art. 13.2.

[285] *Ibid.*, art. 13.3. It is the duty of the objecting Member State to state the reason for the objection.

[286] *Ibid.*, art. 16.1.

[287] EU, Question and Answers on the Regulation of GMOs in the EU, Memo/02/160 REV (1 July 2003) at 4.

[288] *90/220/EEC*, *supra* note 275, art. 11.1.

own legislation concerning how labeling should be articulated.[289] The differences among each Member State's provision regarding labeling became an issue to be worked out, as it could trigger trade friction within the EU.[290] Thus, clarifying the labeling requirement under Directive 90/220/EEC into concrete terms became a crucial issue.[291]

On 27 January 1997, the European Parliament and the Council adopted Regulation 258/97 concerning novel foods and novel food ingredients.[292] The phrase "novel foods and food ingredients" refers to "food and food ingredients which have not hitherto been used for human consumption to a significant degree within the Community".[293] The Regulation categorizes these in detail. Accordingly, the Regulation exempted GM soy and GM maize, which had already been given consent to be placed on the market prior to the adoption of Regulation 258/97.[294]

The notification procedure is, by and large, similar to that of Directive 90/220/EEC. However, Regulation 258/97 includes a trade-off between the inclusion of the strengthened labeling requirement and the derogation provision that applies to certain novel foods.

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[289] Francer, *supra* note 96 at 287.

[290] *Ibid.* at 286.

[291] *Ibid.* at 282.

[292] *Regulation (EC) No. 258/97 of the European Parliament and of the Council of 27 January 1997 concerning novel foods and novel ingredients*, [1997] O.J. L. 043/1 [*Regulation 258/97*].

[293] The categorization of novel food and foods ingredients are:

> (a) foods and food ingredients containing or consisting of genetically modified organisms within the meaning of Directive 90/220/EEC;
> (b) foods and food ingredients produced from, but not containing, genetically modified organisms;
> (c) foods and food ingredients with a new or intentionally modified primary molecular structure;
> (d) foods and food ingredients consisting of or isolated from micro-organism, fungi or algae;
> (e) foods and food ingredients consisting of or isolated from plants and food ingredients isolated from animals, except for foods and food ingredients obtained by traditional propagating or breeding practices and having a history of safe food use;
> (f) foods and food ingredients to which has been applied a production process not currently used, where that process gives rise to significant changes in the composition or structure of the foods or food ingredients which affect their nutritional value, metabolism or level of undesirable substances.

Ibid., art. 1.

[294] EC, *Council Regulation (EC) No. 1139/98 of 26 May 1998 concerning the compulsory indication of the labelling of certain foodstuffs produced from genetically modified organisms of particulars other than those provided for in Directive 79/112/EEC*, [1998] O.J. L 159/4 [*Regulation 1139/98*]. Consent to place GM soybean on the market is provided under EC, *Commission Decision 96/281 EC of 3 April 1996 concerning the placing on the market of genetically modified soya beans (Glycine max. L.) with increased tolerance to the herbicide glyposate, pursuant to Council Directive 90/220/EEC*, [1996] O.J. L. 107/10. With regard to GM maize, consent is granted under EC, *Commission Decision 97/98/EC of 23 January 1997 concerning the placing on the market of genetically modified maiza (Zea mays L.) with the combined modification for insecticidal properties conferred by the Bt-endotoxin gene and increased tolerance to the herbicide glufosinate ammonium pursuant to Concil Directive90/220/EEC*, [1997] O.J. L. 31/69.

With regard to the labeling provision, Article 8 of the Regulation 258/97 requires mandatory labeling for novel foodstuffs. The purpose of the labeling provision is to ensure that consumers are informed of "any characteristic or food property such as composition, nutritional value or nutritional effects, intended use of the food, which renders a novel food or food ingredient no longer equivalent to an existing food or food ingredient".[295] The wording is articulated using the expression "such as" to indicate that the scope is only illustrative and that it can thus be extended beyond the mentioned cases. The novel food or food ingredient is deemed not to be equivalent "if scientific assessment, based upon an appropriate analysis of existing data, can demonstrate that the characteristics assessed are different in comparison with a conventional food or food ingredient, having regard to the accepted limits of natural variations for such characteristics".[296]

Labeling requirements for novel foods or food ingredients also require that consumers be informed when such foods or ingredients include material that does not exist in their conventional counterparts and that "may have implications for the health of certain section of the population".[297] Furthermore, the same Article refers to ethical concerns, explicitly stating that if the presence of the material in the novel foods or food ingredients raises ethical concerns, it must be labeled so as to inform consumers of that fact.[298] For instance, some people might be concerned when learning that the gene from certain fish that encodes protein for resistance to cold is sometimes inserted into tomatoes so as to increase productivity in cold weather.[299]

In response to strengthening the labeling requirement under Article 8, this Regulation simultaneously includes a provision that provides a simplified procedure for novel foods that are "substantially equivalent to existing food or food ingredients".[300] In particular, pursuant to Article 3.4, foods or food ingredients are deemed to be substantially equivalent if "their composition, nutritional

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[295] *Regulation 258/97*, *supra* note 292, art. 8.1(a).
[296] *Ibid.*
[297] *Ibid.*, art. 8.1(b).
[298] *Ibid.*, art. 8.1(c).
[299] *1992 Policy*, *supra* note 178 at 22986. See also "Food Fights", *supra* note 216.
[300] The substantial equivalence test originated with the OECD in 1986.

value, metabolism, intended use and the level of undesirable substances contained therein" are deemed to be similar to their conventional counterparts,[301] based on scientific evidence and recognition by the competent authority of the Member State. As a result, a streamlined version of the approval procedure may be applied, pursuant to Article 5 of Regulation 258/97, to novel foods or food ingredients that are substantially equivalent.

Interestingly, even though the approval procedure for premarketing has been simplified for certain GM foods, the labeling requirement will, indeed, remain valid and applies in the same manner for substantially equivalent novel foods and food ingredients.[302] This suggests that even though foods or food ingredients are considered to be "substantially equivalent" based purely on scientific factors, the labeling requirement is a different issue, since labeling aims to inform consumers about the characteristics of food, which is broader in scope than the standard imposed for substantial equivalence. In other words, the scope of labeling not only covers safety concerns, but also extends to ethical issues.

Since Regulation 258/97 excluded GM maize and GM soy from the labeling requirement, due to the fact that they were approved prior to the adoption of the Regulation, the enactment of a new Regulation was deemed necessary so as to prevent GM maize and GM soy being from exempt from the labeling requirements. Accordingly, Regulation 1139/98 was adopted,[303] which repeals its forerunner, Commission Regulation 1813/97. Regulation 1139/98 states that "it is necessary to ensure that the final consumer is informed of any characteristic or food property, such as composition, nutritional value or nutritional effects or the intended use of the food, which renders a food or food ingredient no longer equivalent to an existing food or food ingredient [...]".[304] Moreover, Regulation 1139/98 requires mandatory labeling in a unified manner, stating that the "same principles should apply to foods and food ingredients consisting of or derived from GMOs which were placed on the

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[301] *Regulation 258/97*, *supra* note 292, art. 3.4.
[302] *Ibid.*, art. 5.
[303] *Regulation 1139/98*, *supra* note 294.
[304] *Ibid.*, preamble, ninth recital.

market before the entry into force of Regulation (EC) No.258/97 pursuant to a consent given under Directive 90/220/EEC [...]".[305] Furthermore, Regulation 1139/98 dictates that GM maize and GM soy "not equivalent" to their conventional counterparts are subject to the labeling requirements. Regulation 1139/98 explicitly articulates how the wording should appear on the label. For instance, if the foods are composed of several ingredients, the label must state "produced from genetically modified maize" or "produced from genetically modified soy".[306]

Directive 2001/18/EC,[307] repealing Directive 90/220/EEC, has strengthened the context of its forerunner. Even though some of the wording has remained the same, such as the necessity to protect human health and the environment, Directive 2001/18/EC goes further, explicitly describing the precautionary principle. In particular, reflecting the repercussions of the socio-economic situation resulting from the food contamination incidents, it articulates that "the precautionary principle has been taken into account in the drafting of this Directive and must be taken into account when implementing it".[308] As for the definition concerning "placing on the market", Directive 2001/18/EC elucidates that "[p]lacing on the market also covers imports. Products containing and/or consisting of GMOs covered by this Directive cannot be imported into the Community if they do not comply with its provisions."[309] The labeling requirement has been strengthened as well. In particular, Article 21 of the Directive 2001/18/EC requires Member States to ensure labeling is provided for "all stages of the placing on the market".[310]

It should be noted that Directive 2001/18/EC gained attention not only because of its strictness, but also because it was expected to be the impetus to lift the *de facto* moratorium established by several EU Member States in October 1998. Interestingly, the *de facto* moratorium is based on political initiatives rather than legal provisions. For instance, it has been said that the *de facto*

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[305] *Ibid.*, sixth recital.
[306] *Ibid.*, art. 2.3(a).
[307] EC, *Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC,* [2001] O.J. L.106/1.
[308] *Ibid.*, preamble, eighth recital.
[309] *Ibid.*, eleventh recital.
[310] *Ibid.*, art. 21(1).

moratorium materialized in June 1999, when Ministers from Denmark, France, Germany, Italy, and Luxembourg issued a joint statement to suspend approval of new GM foods provided that the EU would enact labeling and traceability regulation.[311] In addition, Austria, Belgium, Finland, Germany, the Netherlands, and Sweden required that the precautionary principle be included in the establishment of an authorization framework.

Despite expectations, the adoption of Directive 2001/18/EC did not lead to the withdrawal of the *de facto* moratorium on GM foods. Member States strongly urged that a regulation on labeling and traceability be established first, before lifting the *de facto* moratorium.[312]

Reflecting the hesitancy of Member States, the Council has adopted two proposals concerning GM foods, both of which address the labeling issue. Under the first proposal, which has been formalized into the *Common position adopted by the Council on 17 March 2003 with a view to the adoption of a Regulation of the European Parliament and of the Council concerning the traceability and labeling of genetically modified organisms and the traceability of food and feed products produced from genetically modified organisms and amending Directive 2001/18/EC*,[313] the phrase "This product contains genetically modified organisms" will appear on the label.[314] The scope regarding food is set for "products consisting of, or containing GMOs" and "food produced from GMOs".[315] The threshold for derogating from the labeling of GMOs will be a proportion "no higher than 0.9%".[316] The *Proposal for Regulation of the European Parliament and of the Council on*

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[311] Canada, Department of Foreign Affairs and International Trade, online: Department of Foreign Affairs and International Trade, online DFAIT-MAECI<http://www.dfait-maeci.gc.ca/tna-nac/disp/chrono-en.asp> (date accessed: 10 September 2003).
[312] *Ibid.*
[313] *Common Position adopted by the Council on 17 March 2003 with a view to the adoption of a Regulation of the European Parliament and of the Council concerning the traceability and labelling of genetically modified organisms and the traceability of food and feed products produced from genetically modified organisms and amending Directive 2001/18/EC*, [2003] 2001/0180 (COD) (now in effect as *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 the traceability of food and feed products produced from genetically modified organisms and amending Directive 2001/18/EC*, O.J. L. 268/24) [*2001/0180 (COD)*].
[314] *Ibid.*, art. 4.6.
[315] *Ibid.*, art. 2.1.
[316] *Ibid.*, art. 7.

genetically modified food and feed (COM (2001) 425 final),[317] the second proposal, ensures the labeling of "all food produced from GMOs *irrespective* of whether there is DNA or protein in the final product".[318]

Interestingly, the EU distinguishes between foods "produced from" and foods "produced with". The standard for differentiation, according to the EU, is "whether or not material derived from the genetically modified source material is present in the food".[319] Specifically, any food product produced from a GMO implies that "a proportion of the end product, whether it is the food [...] or one of its ingredients, has been derived from the original genetically modified material".[320] In contrast, food products "produced with" a GMO are described as "produced with the assistance of a genetically modified organism, but no material derived from the genetically modified organism is present in the end product".[321] For example, "cheese produced with a genetically modified enzyme that does not remain in the final product and products obtained from animals fed with genetically modified feed or treated with genetically modified medicinal products would be subject neither to the authorisation requirements, nor to the labeling requirements".[322]

5. The Case Concerning GM Foods in the EU: *Monsanto Italia SpA and Others v. Presidenza del Consiglio dei Ministri*

In this case,[323] the Court of Justice of the European Communities rendered a judgment concerning GM maize on 9 September 2003, stating that Monsanto could commercialize its products so long as Italy did not prove scientifically that the products in question were a threat to human health.

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[317] *Proposal for a Regulation on Genetically Modified Food and Feed* [2001], COM (2001) 425 Final, which has taken effect as EC, *Regulation (EC) No 1829/2003 of the European Parliament and of the Council of 22 September 2003 on genetically modified food and feed*, [2003] O.J. L. 268/1 [*COM (2001)*]. To avoid confusion, this thesis will refer to these as COM (2001) 425 Final, because discussions concerning the TBT Committee in Chapter 3 are based on this proposal.

[318] *COM (2001), ibid.*, Explanatory Memorandum 5. See also "European Legislative Framework is Now in Place", Press Release, DN:IP/03/1056 (22 July 2003).

[319] *2001/0180 (COD), supra* note 313.

[320] *COM (2001), supra* note 317, Explanatory Memorandum 3.

[321] *Ibid.*

[322] *Ibid.*, seventeenth recital.

[323] *Monsanto Italia SpA and Others v. Presidenza del Consiglio dei Ministri*, C-236/01, [2003] The European Court of Justice online: ECJ <http://www.curia.eu.int> (date accessed: 23 September 2003).

This case is about the approval of GM maize; however, the ECJ took it a step further, scrutinizing the concept of substantial equivalence, which will likely have an impact on the labeling scheme in the future.

In this case, Italy's temporary measures regarding the suspension of certain GM maize under a Decree adopted 4 August 2000 became the kernel of the controversy.[324] The Decree suspended approval of ingredients deriving from GM Maize Bt-11, MON 809, and MON 810 based on the rationale of the precautionary measure.[325] It was controversial as the competent authorities in France and the UK had already deemed these GM maize as being "substantially equivalent" to conventional ones, pursuant to Regulation 258/97.[326] The status of substantial equivalence would be subject to the simplified version of the approval procedure. Moreover, the consents of France and the UK were already in force prior to the establishment of the 1998 moratorium.

In contrast to the positions of the UK and France, the Italian authority sent letters to the Commission that stated that it is improper to proceed with GM maize Bt-11, MON 809, and MON 810 using the simplified procedure system, as the Italian scientific community had raised some objections. The Government of Italy argued that these GM maize were not "substantially equivalent".[327] In addition, in 2000 the Government of Italy stated that since human health concerns still needed to be clarified, the simplified procedure should be "no longer used for transgenic foods because of the ambiguity of the concept of substantial equivalence".[328]

After hearing the case, the ECJ stated that despite the importance of the concept of substantial equivalence, the definition was not provided in Regulation 258/97 and thus, it would have to review the concept.[329] In so doing, ECJ stated that the purpose of Regulation 258/97 is to "protect public

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[324] *Decree of the President of the Council of Ministers of 4 August 2000 on the precautionary suspension of the trade in and use of certain transgenic products within national territory under Article 12 of Regulation No. 258/97*, GURI No. 184 (2000) at 9.
[325] *Monsanto Italia SpA and Others, supra* note 323 at para.16.
[326] *Ibid.* at para.17.
[327] *Ibid.* at paras.18-23.
[328] *Ibid.* at para. 26.
[329] *Ibid.* at para. 73.

health" and "ensure the function of the internal market in novel foods".[330] ECJ reiterated that the concept of substantial equivalence "should be placed in the context of the work carried out by the international scientific institutions" and should also "be placed in the context of the process of risk analysis as commonly defined at international and Community level".[331] In this regard, the risk should not be "hypothetical" and that launching a suspension on GM foods should have "detailed grounds and not reasons of a general nature".[332] In the same vein, it noted that the safeguard measure taken by a Member State would be verified at the Community level as well. After a thorough review, the ECJ presented its interpretation as follows:

> the mere presence in novel foods of residues of transgenic protein at certain levels does not preclude those foods from being considered substantially equivalent to existing foods and, consequently, use of the simplified procedure for placing those novel foods on the market. *However, that is not the case where the existence of a risk of potentially dangerous effects on human health can be identified on the basis of the scientific knowledge available at the time of the initial assessment.* It is for the national court to determine whether that condition is satisfied.[333]

Interestingly, after ECJ rendered this decision, both Monsanto and the Government of Italy claimed victory, Monsanto due to its belief that Italy could not possibly prove its products were harmful. Its confidence stemmed from the practice around the world whereby "products have been reviewed by authorities not just in the EU, but around the world, in the US, Canada and Japan".[334] In contrast, according to Reuters, Italian Environmental Minister Altero Matteoli claimed victory over this case at a press conference, as he believed that Italy possessed the right to impose restrictions on GM maize under certain conditions.[335]

6. Summary: The EU Position on GM Foods

As we have seen above, the EU was hit hard by food safety crises such as the BSE and dioxin

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[330] *Ibid.* at paras. 73-74.
[331] *Ibid.* at paras. 75, 78.
[332] *Ibid.* at paras. 106, 109.
[333] *Ibid.* at para. 84.
[334] Robin Pomeroy, "Both Sides Claim Win in Monsanto vs. Italy GMO Case", Reuters UK, 9 September 2003, online: <http://www.reuters.co.uk/newsArticle.jhtml?type=topNews&storyID=3412016> (date accessed: 20 September 2003).
[335] *Ibid.*

contaminated chicken incidents. These crises have exerted a negative influence on the economy. To avoid such situations from ever happening again, the EU has become vigilant with regard to its food safety regime. It has adopted the precautionary principle not only to protect the environment, but also to protect consumers' health. This EU practice illustrates that the application of the precautionary principle has been extended from its original purpose of environmental protection to address human health and food safety issues.

The labeling requirement has become stricter than ever before, as it now applies to all foods produced from genetic modification. There are no indications that the requirements will be relaxed. The repercussions accruing from the enactment of the labeling regulation remain, since there was a *de facto* moratorium launched based on political initiative without referring to legal provisions. Interestingly, the approval and labeling of the GM foods issues are closely intertwined in the EU. The decision of the ECJ signifies the delicacy of the GM foods regulatory regime as a whole.

D. Conclusion for Chapter 2

This chapter examined the domestic regulatory framework pertaining to GM foods, particularly in terms of labeling in the US and the EU. As is evident from the comparative analysis undertaken, the US and the EU view the same issue quite differently, primarily for socio-economic reasons.

The US is handling the labeling of GM foods in the same manner as it is handling the labeling of other conventional foods. The US has not categorized GM foods into a special class, reasoning that there is no need to do so given that safety has been ensured through scientific testing and proper procedures. Fortunately, the US has not experienced any food contamination cases of the magnitude of those seen in the EU. In addition, the US agricultural system is and has been dependent on the development of technology and the application of biotechnology to increase productivity. From an economic point of view, GM foods increase the competitiveness of US agricultural trade. Since initiatives to improve GM foods have been taken chiefly by the private sector, the government has

imposed the least restrictive regulations possible. This is, in part, the reason why voluntary labeling, rather than mandatory labeling, is promoted in the US. Moreover, the court upheld the FDA position that consumers' interests are not sufficient to require the mandatory labeling of GM foods.

In contrast, the legislative tendency of the EU is to strengthen restrictions on GM foods regarding both approval and labeling. The level of strictness regarding the labeling of GM foods is increasing, as is clear from the labeling regulation adopted on 22 July 2003. Under the EU regulatory regime, the pendulum is swinging toward the protection of consumers' interests, ensuring consumers' choice and safety by considering the long term effects of GM foods. However, it is important to note that within the EU, the climate of recognition toward GM foods differs dramatically, depending on the Member State. Evidently, the GM foods issue has been challenging the EU from within. The judgment rendered by the ECJ envisages the difficulties that will be encountered within the EU concerning the handling of GM foods.

CHAPTER 3

SOLUTIONS TO THE MANDATORY LABELING OF GM FOODS ISSUE UNDER THE WTO

A. An Overview of Chapter 3

This chapter contends that the WTO is capable of taking into account governments' protection of consumers' right to information concerning the foods they eat. The question of why this controversial issue should be brought to the WTO to be resolved needs to be addressed. This can be answered from two different angles. The first clarifies the reason why a multilateral approach is preferred for disputes like the mandatory labeling of GM foods. The second clarifies the reason why the WTO, rather than another international institution, should be chosen as the forum for bringing the mandatory labeling of GM foods issue.

After examining the importance of the WTO as the multilateral forum for bringing negotiations and settling disputes, we will explore relevant WTO instruments. In particular, this chapter points out that it is the implementation level of the threshold that is the cause of the friction, not the establishment of the objective. For example, there are states that already require the mandatory labeling of GM foods. Specifically, the EU has established its threshold level at 0.9%, whereas Japan has established its threshold level at 5%. These diverse thresholds to exempt mandatory labeling need to be adjusted. There are two methods to seek a resolution under the WTO framework. First, WTO Members could negotiate this issue before the TBT Committee. Second, in the long term, when an international standard has been established, such as the one of the CAC, the Panel and the Appellate Body could take this standard into account when rendering their decisions.

1. Why Multilateralism?

The main reason why the labeling of GM foods issue should be brought to a multilateral

forum is because this issue is not purely a US-EU bilateral matter. Many states share the same concerns and are keenly observing the potential US-EU trade friction regarding the mandatory labeling of GM foods issue. Canada, for instance, shares the US view because Canada has an economic interest in exporting GM rapeseed.[336] In contrast, Japan shares the EU's concerns, as in 2001 Japan also enacted a law requiring the mandatory labeling of GM foods.[337]

Solving this matter purely at the bilateral level and thereby sacrificing multilateralism should be avoided, since bilateralism has the potential to vitiate fairness and foreseeability by engaging in power-politics. Where a multilateral forum does exist, the negotiations and dispute settlements should be subject to its procedures. One of the advantages of multilateralism is that it brings disputing states to a level playing field by obliging them to follow the same procedures as must be used by every other Member. In this regard, Professor Jackson aptly describes the significance of multilateralism: "Multilateralism is an approach to international trade and other relations that recognizes and values the interaction of a number — often large number — of nation-states. It recognizes the danger of organizing relations with foreign nations on bilateral grounds, dealing with them by one by one."[338]

Multilateralism is of vital importance because, as has been stated by Professor Jackson, it prevents risks stemming from bilateral relations. Bilateralism can be fraught with risks, especially where differences between two states exist in terms of economic power. Although theory tells us that all states are equal, we have seen in reality that economic performance differences have a major impact on state affairs, deriving from bilateral relations. In other words, when the economic performance of two states explicitly differs, it may result in one state being at a disadvantage to the other during negotiations.[339] In this regard, multilateralism is one strategy to manage the risks

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[336] *European Communities-Measures Affecting the Approval and Marketing of Biotech Products: Request for the Establishment of the Panel by Canada*, WTO Doc. WT/DS292/17 (2003).

[337] Japan, *The Law concerning Standardization and Proper Labeling of Agricultural and Forestry Products*, Law No. 50 (1950). See also *Labeling Standard for Genetically Modified Foods*, Notification No. 517 of the Ministry of Agriculture, Forestry and Fisheries of 31 March 2000 (Partially revised on 28 September 2002), online: <http://www.maff.go.jp/soshiki/syokuhin/hinshitu/organic/eng_yuki_gmo.pdf> (date accessed: 1 November 2003) [*Notification No.517*].

[338] Jackson, *Trading System, supra* note 18 at 158.

[339] Rorden Wilkinson, *Multilateralism and the World Trade Organization: The Architecture of Extension of International*

deriving from bilateralism.

Multilateralism is also important because it prevents the implementation of unilateral measures taken by other Members.[340] In terms of international trade, unilateralism brings uncertainty and instability to trade relations. This is especially true when a unilateral economic sanction is at issue. Thus, to maintain transparency in order to achieve long term, durable trade relations, multilateralism is essential.[341]

The WTO Agreement emphasizes the importance of multilateralism in its Preamble and in its dispute settlement system. For instance, the first paragraph of Article 3.2 of the DSU emphasizes that "[t]he dispute settlement system of the WTO is a central element in providing security and predictability to the multilateral trading system".[342] From a procedural point of view, Article 23 of the DSU states in part that: "When members seek the redress of a violation of obligations or other nullification or impairment of benefits under the covered agreement or any impediment to the attainment of any objective of the covered agreements, they shall have recourse to, and abide by the rules and procedures of this Understanding."[343]

2. Why Bring the Mandatory Labeling of GM Foods Issue to the WTO?

In terms of international trade, the labeling of a product may be considered as a non-tariff barrier. States adopting labeling regulations affect the flow of international trade, which is why instruments like the TBT Agreement and the SPS Agreement exist under the WTO framework. As we will see below, the TBT Agreement is closely related to the mandatory labeling of GM foods. The SPS Agreement may also apply to certain measures concerning the mandatory labeling of GM foods.

Trade Regulation (London: Routledge, 2000) at 32.

[340] *Ibid.* Cases regarding unilateral measures have often been brought for WTO dispute settlement, such as the *Section 301* and the *Shrimp/Turtle* cases.

[341] John Gerard Ruggie, *Constructing World Polity: Essays on International Institutions* (London: Routledge, 1998) at 103-30. Professor Ruggie describes the history and the transformation of the concept of multilateralism in the international law sphere.

[342] *DSU*, *supra* note 48, art. 3.2.

[343] *Ibid.*, art. 23.

Before turning to our attention to these Agreements, we will investigate the labeling issue and trade liberalization.

B. The Labeling Issue under the GATT/WTO Regime

The labeling scheme, with its objective of environmental protection, has been the subject of heated debate since the GATT system. This topic has been controversial mainly due to the necessity to coordinate trade liberalization interests and environmental protection interests. The adjustment has been difficult because, while they are both important, it is impossible to assess them using the same yardstick. From an environmental protection perspective, converging with trade would degrade environmental protection. In contrast, from a trade liberalization perspective, an environmental interest would open the way for trade protectionism in terms of employing non-tariff measures.[344] The tension between these two interests has been mirrored in the creation of the term "trade and environment",[345] which shows the challenge of the WTO to converge two different interests. The gulf between these two interests needs to be bridged because trade liberalization "inescapably" affects environmental protection interests.[346] In so doing, both trade liberalization and environmental protection can be sustained for the long term.[347]

1. Trade and Eco-Labeling Schemes

The difficulty pertaining to the reconciliation of trade liberalization and environmental

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[344] Professor Esty analyzes conflicts between trade negotiators and environmentalists into 3 factors: the "clash of cultures" (emphasizing that the trade negotiators focus on closed door negotiation, whereas the environmentalists focus on negotiation in open space), the "clash of paradigms" (emphasizing that the trade negotiators prioritize on economic value, whereas the environmentalists prioritize environmental protection); and the "clash of judgments" (emphasizing that the core assessment standard of the trade negotiators lie on the economic perspective whereas the environmentalists lie on preserving the environment. Daniel Esty, *Greening the GATT: Trade, Environment, and the Future* (Washington, D.C.: Institute For International Economics, 1994) at 36-40.

[345] For the history of the term trade and the environment, see generally, Steve Charnovitz, "Trade and the Environment: The Environment vs. Trade Rules: Defogging the Debate" (1992) 23 Envir. L. 475.

[346] Daniel Esty, "Environment and the Trading System: Picking up the Post-Seattle Pieces" in Jeffrey J. Schott, *The WTO after Seattle*, *supra* note 54 at 245.

[347] Benjamin Simmons, "In Search of Balance: An Analysis of the WTO Shrimp/Turtle Appellate Body Report" (1999) 24 Colum. J. Envir. L. 413.

protection is clear when it comes to environmental labeling requirements. Environmental labeling has been defined as "the use of labels in order to inform consumers that a labelled product is more environmentally friendly relative to other products in the same category".[348] Environmental labeling schemes are considered significant, as they prove that the industry, often perceived as prioritizing only according to its own economic agenda, can contribute to the protection of the environment.[349]

There are three types of environmental labels: (1) multi-issue voluntary labels, (2) single-issue voluntary labels, and (3) single-issue mandatory labels. While the first two are voluntary, the former one, multi-issue voluntary labels, aims to provide "environmental information on the overall environmental quality or characteristics of a product",[350] whereas the latter type, single-issue voluntary labels, aim to provide "one aspect of a product and are usually placed on the product by the manufacturer or retailer".[351] Single-issue mandatory labels, which belong to the third categorization, are compulsory labels required by governments, and their contents usually related to invoking awareness, such as "flammable".[352]

In the context of international trade, the most controversial kind of environmental labeling is eco-labeling, which belongs to the multi-issue voluntary labels categorization.[353] An eco-labeling scheme must be based on a life-cycle assessment, which "considers the environmental impact along the continuum of a product's life from raw materials acquisition to production, use and disposal".[354] Because a life-cycle assessment must take into account all stages of a product, it has been referred to as a "cradle-to-grave analysis".[355] Attorney Charnovitz contends that the three benefits deriving from

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[348] WTO, Committee on Trade and Environment, *Note by the Secretariat: Market Access Impact of Eco-Labelling Requirements*, WTO Doc. WT/CTE/W/79 (1998) at para.. IV, online: WTO <http://docsonline.wto.org/gen_home.asp?language=1&_1> (date accessed: 1 December 2003) [*Market Access*].

[349] Surya P. Subedi, "Balancing International Trade with Environmental Protection: International Legal Aspects of Eco-Labels" (1999) 25 Brook. J. Int'l L. 373 at 374.

[350] *Market Access*, *supra* note 348 at para. IV, note 3.

[351] *Ibid.*

[352] *Ibid.*

[353] *Ibid.* at para. V.

[354] *Ibid.* at para. VI; Gary P. Sampson & W. B. Chambers, *Trade, Environment, and the Millennium*, 2d ed. (Tokyo: United Nations University Press, 2002) at 272.

[355] *Market Access*, *ibid.* at para. VI. See also Arthur E. Appleton, *Environmental Labelling Programmes: International Trade Law Implications* (London: Kluwer Law International, 1997) at 5.

eco-labeling that the government enjoys are: (1) helping consumers to "make informed choices",[356] (2) preserving the transparency of the labeling scheme,[357] and (3) raising awareness of environmental protection via the market.[358] The first eco-labeling scheme, the "Blue Angel Program", was established in 1978 in Germany.[359] The purpose of the Blue Angel Program is to eliminate pollution by industries and to provide information to consumers so that they can make informed choices.[360] Currently twenty-two states have adopted eco-labeling schemes.[361]

a. Discussions at the Preparatory Committee for the Sub-Committee on Trade and Environment

During the transformation of the GATT to the WTO, the Sub-Committee on Trade and Environment discussed the implications of eco-labeling schemes for international trade at great length.[362] During these discussions, a variety of concerns embodied in eco-labeling schemes were voiced.

First, throughout the negotiation history of the Sub-Committee, apprehensions were often expressed that foreign producers, especially those "unfamiliar with the conditions in the importing market",[363] would be the most affected by the eco-labeling scheme of a state. Different eco-label requirements would inflict burdens on foreign producers, because in some cases, they would have to change production methods in order to respond to each requirement. The accruing cost of eco-labeling

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[356] Steve Charnovitz, "A Critical Guide to the WTO's Report on Trade and Environment" (1997) 14 Ariz. J. Int'l & Com. L. 341 at 358 (Lexis).
[357] *Ibid.* at 359.
[358] *Ibid.*
[359] Subedi, *supra* note 349 at 377.
[360] *Ibid.* at 378.
[361] *Ibid.* at 374.
[362] GATT, *Report by the Chairman of the Group on Environmental Measures and International Trade presented to the CONTRACTING PARTIES at their Forty-ninth session*, GATT C.P. L/7402, 49th sess., 40 Supp. B.I.S.D. (1995) 75, para. 56. The eco-labeling scheme implications of trade are regarded as being:

> the practical distinction between voluntary and mandatory measures and their implication for trade; approaches to the setting of criteria and threshold levels in the design of the measures; the scope for standardization or harmonization and mutual recognition; complications that can arise for trade through the setting of requirements in terms of product PPMs rather than product characteristics; and special difficulties and costs that may face small-size foreign suppliers, in particular from developing countries.

[363] Preparatory Committee for the WTO, *Note by the Secretariat: Report of the Meeting Held on 15-16 September 1994*, PC/SCTE/M/3 (1994) at para. CXXII [*Prep Commitee*].

would mean the loss of competitiveness for foreign producers, putting them at a disadvantage. Moreover, eco-labeling schemes could be construed as an impediment to international trade if it were to afford protection to domestic producers.[364]

Second, concerns were expressed that a lack of universal eco-labeling criteria was hindering states from effective collaboration. Canada specifically noted that there was "no common basis" for eco-labeling scheme assessments,[365] and thus, the preference of a standard was totally at the discretion of the invoking state.[366] In this regard, the US submitted a paper to voice its concerns related to the establishment of criteria. In particular, the US raised four questions that should be considered in order to prevent arbitrary practice: "(a) Is there open access to development of criteria? (b) Are all qualifying products allowed to receive label? (c) Are criteria neutral, objective and validly related to environmental protection? (d) On what basis, if any, are the criteria revised?"[367] In this regard, Malaysia expressed its concern that eco-labeling schemes not only are invoked unilaterally "without any reference to multilaterally agreed guidelines or criteria", but also that they contribute to "political and economic expediency".[368] In order to sustain environmental protection as the objective of eco-labeling, two points were emphasized: (1) "full and effective participation of developing countries in the selecting and setting of criteria, particularly for products of export interest to them",[369] and (2) compliance with the ISO to sustain transparency and prevent labeling schemes invoked in "such a way as to cause barriers to trade or to accord imported products less favorable treatment than that accorded to like products of national origin or originating in another country".[370] As indicated by Malaysia, the international standardization body plays an important part in eco-labeling schemes because it provides criteria for implementing the eco-labeling scheme so that the measure will not be

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[364] *Ibid.* at para. CX.
[365] *Ibid.* at para. CXX.
[366] *Ibid.* at para. CXX.
[367] Preparatory Committee for the WTO, Sub-Committee on Trade and Environment, *Note by the Secretariat: Report of the Meeting Held on 23-24 Novermber 1994*, PC/SCTE/W/5 (1994) at I.B.2.
[368] *Prep Committee*, *supra* note 363 at para. CXV.
[369] *Ibid.* at para. CXII.
[370] *Ibid.*

employed in an arbitrary and discriminatory manner.[371] As a result, the International Standardization Organization (ISO) has been attracting attention. Specifically, the ISO 14000 series is renowned for its environmental standards. However, controversy remains as to whether this ISO ecology standard will be adopted as the universal standard because the extent of environmental problems differ at both the regional and state levels.[372]

Third, to the extent of the above, lack of institutional cooperation among international organizations was strongly pointed out. Sweden noted that "many of these problems could only be solved through common efforts and multilateral cooperation" and that the multilateral trading system has the shared responsibility of taking into account this problem.[373] Having mirrored this necessity, the Sub-Committee on Trade and Environment extended observer status to inter-governmental organizations.[374]

Fourth, the applicability of the TBT Agreement had become a crucial issue. Its applicability to eco-labeling was argued before the Sub-Committee because, as we will see later, the TBT Agreement became an integral part of the WTO regime on 1 January 1995. This argument was also brought up because the TBT Agreement regulates measures concerning both mandatory and voluntary labeling. However, the majority opinion of the Sub-Committee regarding eco-labeling was that the TBT Agreement is only applicable to "product characteristics or their related PPMs",[375] and thus the TBT Agreement would not apply to eco-labeling requirements because its PPMs are not related to the product itself, and thus do not directly affect the characteristics of the end product.

Fifth, the necessity of clarifying the roles of the Sub-Committee was inevitable, since it was

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[371] *Ibid.* at para. CXIII.

[372] See Atsuko Okubo, "Environmental Labeling Programs and the GATT/WTO Regime" (1999) 11 Geo. Int'l Envir. L. Rev. 599 at 636.

[373] *Prep Committee*, *supra* note 363 at para. CLXV.

[374] Preparatory Committee for the WTO, *Note by the Secretariat: Report of the Meeting held on 26-27 October 1994*, PC/SCTE/M/4 (1994) at para. 5. Observer status has been extended to the United Nations Conference on Trade and Development (UNCTAD), the World Bank, the International Monetary Fund (IMF), the United Nations Environment Program (UNEP), the Food and Agriculture Organization (FAO), the International Trade Centre (ITC), the United Nations Development Program (UNDP), the Organization for Economic Cooperation and Development (OECD), and the European Free Trade Agreement (EFTA).

[375] *Prep Committee*, *supra* note 363 at para. CVII.

placed as an epicenter of negotiations. In this regard, the initiatives of the Sub-Committee were brought up by Japan, which pointed out that the role of the Sub-Committee should be "(1) to ensure that measures would not become unnecessary obstacles to trade nor be abused by disguised protectionism, and (2) to examine the necessity and effectiveness of each measure for the purpose of environmental protection".[376] The US also emphasized that the Sub-Committee had the potential to be a forum to develop discipline concerning eco-labeling and its trade implications.[377] As we will see later, the same discussion could be applied to the Committee on Trade and Environment (CTE), which took over Sub-Committee's work on 1 January 1995.

Sixth, as pointed out by Professor Appleton, eco-labeling schemes cannot be argued without considering the north-south issue.[378] Specifically, developing countries often expressed concern because they could not meet the criteria set by developed countries, criteria usually set higher than their own standards. In this regard, the representative of Egypt, in addressing at the Sub-Committee on Trade and Environment, stated that the trade implication of eco-labeling scheme toward developing countries could "lead to serious trade problems" and that developing countries should be allow to participate in "multilaterally agreed standardization activities".[379]

Added to this, developing countries were hesitant towards eco-labeling schemes because their criteria were based on Non-Product-Related Processes and Production Methods (NPR-PPMs), deemed a "potential weakness" in terms of competitiveness.[380] The concern permeated among developing countries because focusing on the NPR-PPMs meant that products would be selected "based on factors other than price, including social and moral considerations".[381] In this regard, Egypt emphasized that both technical and financial assistance is essential for developing countries to satisfy the requirements established by developed countries concerning eco-labeling schemes.[382]

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[376] *Ibid.* at para. CLVI.
[377] *Ibid.* at para. CLXII.
[378] Appleton, *supra* note 355 at 19.
[379] *Prep Committee*, *supra* note 363 at para. CVIII.
[380] Appleton, *supra* note 355 at 242.
[381] *Ibid.*
[382] *Prep Committee*, *supra* note 363 at para. CIX.

Finally, it was noted that consumers' reactions to eco-labeling schemes remained controversial. Generally, environmentally conscious consumers supported them. In response, businesses were labeling those products that had been produced in an environmentally friendly manner differently from those that had not been.[383] Eco-labeling had been successful in part because consumers still selected labeled products regardless of whether they were more expensive than those that were not labeled.[384] However, as Professor Appleton had pointed out, the response of the consumer and its preference on the labeling scheme differed on a sector-by-sector basis. For instance, as he illustrated, Scandinavian states show a strong preference for goods from the paper and detergent sectors, but not others. Moreover, the US pointed out in the paper submitted to the Sub-Committee that whether consumers can really acknowledge the purpose of the labeling must be scrutinized more.[385]

b. The WTO Regime and Eco-Labeling

The Committee on Trade and Environment (CTE) was established by the WTO General Council in January 1995. The work of the Sub-Committee on Trade and Environment was passed on to the CTE. The agenda was categorized into eleven items.[386] Eco-labeling was categorized under Item 3(B). The *Report (1996) of the Committee on Trade and Environment* stated that the implications of eco-labeling schemes for international trade are still a major issue, even though most eco-labeling remains voluntary in its legal nature. The complexity of eco-labeling is apparent in Paragraph 60 of the *1996 Report*:

Existing eco-labelling schemes/programmes are overwhelmingly voluntary in nature,

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[383] Appleton, *supra* note 355 at 18.
[384] *Ibid.* at 16.
[385] Preparatory Committee for the World Trade Organization, "Eco-Labeling: Framework and Issues: Submission by the United States", PC/SCTE/W/5 (14 November 1994) at I.B.2(a).
[386] WTO, *Trade and Environment: Decision of 14 April 1994*, MTN/TNC/45(MIN). Attorney Charnovitz succinctly describes the eleven items as follows: "(1) Multilateral environmental agreements; (2) Environmental policies and the trading system, (3a)Environmental taxes and the trading system; (3b) Packaging, labeling, and recycling; (4) Information regarding trade-related environmental measures; (5) Dispute settlement in the WTO and environmental agreements; (6) Market access, trade restrictions, and trade distortions; (7) Domestically prohibited goods; (8)Intellectual property goods, (9) Service; and (10) Involvement of non-governmental organization in the WTO." Charnovitz, *supra* note 356.

> which some consider should relieve concerns that may exist about their potential trade restricting effects. Some others express doubts in that regard, however, saying that if the schemes/programmes are successful they influence consumer behaviour and that in this respect they can affect significantly market access and conditions of competition.[387]

Additional concern was expressed over the fact that different environmental conditions prevail in each WTO Member:

> Overseas suppliers operating under different sets of environmental conditions could find it difficult and costly, especially in developing countries, to adjust their products to meet the criteria required in their export markets, and may even be placed in a situation of having to adopt practices unsuited to their local environmental conditions. They have expressed concern also about the implications of the use of LCA [Life Cycle Assessment] based *inter alia* on non-product-related PPMs, particularly where these are chosen selectively by an eco-labelling authority, for the maintenance of WTO disciplines based on the principle of "like product".[388]

The conclusion of the CTE regarding eco-labeling is explicitly stated in the *1996 Report,* which observes that "[w]ell designed eco-labelling schemes/programmes can be effective instruments of environmental policy to encourage the development of an environmentally-conscious consumer public. [...] The CTE also noted that eco-labelling schemes/programmes have raised, in certain cases, significant concerns about their possible trade effects."[389] In order to maintain the purpose of eco-labeling schemes and to avoid such schemes from being prepared, adopted, and applied so as to afford protection to domestic industry, *the 1996 Report* emphasized the importance of ensuring transparency.[390] Moreover, the *1996 Report* recognized the impact of eco-labeling schemes on developing countries. Thus, the recommendation of the CTE includes collaboration with "other international fora, for instance UNEP [United Nations Environment Program], UNCTAD [United Nations Conference on Trade and Development], OECD [Organization for Economic Co-operation and Development], ITC [International Trade Centre], and ISO [International Standardization

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[387] WTO, Committee on Trade and Environment, *Report (1996) of the Committee on Trade and Environment*, WTO Doc. WT/CTE/W/1 (1996) at para. 60 [*1996 Report*].
[388] *Ibid.* at para. 64.
[389] *Ibid.* at para. 183.
[390] *Ibid.* at paras. 184-86. In this regard, whether eco-labeling is consistent with the TBT Agreement was included in the discussion because the Agreement mentions transparency provision. However, the discussion was split because the TBT Agreement was not prepared to apply to the NPR-PPMs.

Organization]" so as to seek balanced and transparent eco-labeling scheme.[391] Although the CTE Report presented a grandiose vision of eco-labeling schemes in the context of international trade, nothing concrete came from it. For this reason, Attorney Charnovitz commented that the conclusions in the *1996 Report* are abstract and that the Report failed to "address the need to assure that eco-labeling criteria reflect the latest technological developments".[392]

c. Eco-Labeling Discussion after the 1996 Report

Because the *1996 Report* on eco-labeling failed to result in any concrete action, the discussion has continued within the CTE. Two notable reports and a suggestion from academia will be presented below.

(i) "Market Access Impact of Eco-Labeling Requirements" (1998 Report)

In 1998, a report was formulated by the CTE on how studies by other international organizations had reached their conclusions regarding the market access impact of eco-labeling schemes.[393] For instance, the 1998 Report, which presents the conclusions of the Economic and Social Commission for Asia and the Pacific, focused on the cost burden accruing from eco-labeling schemes, noting that "the multifarious eco-labelling schemes were a source of uncertainty and confusion to exporters with implicit increased cost effects".[394] In this regard, the necessity of transparency was emphasized.[395] From the conclusions of the ITC, which also concerned the implications of eco-labeling schemes for developing states, it became evident that some environmental requirements of developed states are employed as an extra-territorial application and that they need to be further investigated.[396] Moreover, the survey conducted by the United Nations

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[391] *Ibid.* at para. 186.
[392] Charnovitz, *supra* note 356 at 360.
[393] *Market Access*, *supra* note 348.
[394] *Ibid.* at para. X.
[395] *Ibid.* at para. XIII.
[396] *Ibid.* at para. XX.

Industrial Development Organization concluded that respondents from many developing states perceive that states may adopt eco-labeling schemes to impede trade.[397] With regard to the OECD position, the Report emphasized the lack of transparency of eco-labeling schemes. For instance, although the OECD noted that eco-labeling schemes are "moderately successful with the individual consumers",[398] concerns still exist that "access to information and participation in criteria development will be more difficult for foreign producers without a domestic presence",[399] suggesting that difficulty still exist in promoting transparency in the criteria making. The OECD indicated that transparency is sometimes difficult to achieve because eco-labeling schemes may include "confidential commercial information".[400] The OECD acknowledged the effects of eco-labeling on developing states by noting that "criteria can discriminate against imports when they reflect exclusively the environmental conditions and preferences of the importing country, and the effects can be particularly acute for developing countries and countries heavily dependent on exports".[401] This 1998 Report is significant in that the WTO is taking into account the work done by other international organizations. Collaborating with other international organizations is one way to deal with two different values, such as trade and environment.

(ii) Doha Ministerial Declaration and Report to the Fifth Ministerial Conference in Cancun

In 2001, the Doha WTO Ministerial Declaration stipulated that the CTE should further study the trade implications of eco-labeling requirements and should submit a recommendation to the Fifth Ministerial Conference.[402] That recommendation, *Report to the 5th Session of the WTO Ministerial Conference in Cancun: Paragraph 32 and 33 of the Doha Ministerial Declaration*,[403] presented in

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[397] *Ibid.* at para. XXIX.
[398] WTO, Committee on Trade and Environment, *Note by the Secretariat: Market Access Impact of Eco-Labelling Requirements*, WTO Doc. WT/CTE/W79/Corr.1 (1998) at para. 34.
[399] *Ibid.* at para. 31.
[400] *Ibid.* at para. 32.
[401] *Ibid.* at para. 36.
[402] WTO, *Doha Ministerial Declaration*, WTO Doc. WT/MIN(01)/DEC/1 (2001) at para . 32.
[403] WTO, Committee on Trade and Environment, *Report to the 5th Session of the WTO Ministerial Conference in Cancun:*

July 2003, reaffirmed some of the issues requiring further discussion, such as lack of transparency, the necessity of building a common understanding, and the implications for developing countries. However, the Report failed to recommend any concrete solutions to these problems. Rather, the Report contributed to sorting out what really are the controversial aspects of eco-labeling schemes.

(iii) Suggestions from Academia

Professor Appleton believes that there are three main ways to launch effective solutions: (1) harmonization, (2) mutual recognition, and (3) transparency.[404] The harmonization of eco-labeling criteria would streamline the diverse requirements and thus would reduce adverse effects on international trade.[405] However, differences occurring from environmental, geographical, and technical conditions impede harmonization. In addition, apprehension has been growing that harmonization would lower environmental standards, which would in effect vitiate the importance and effectiveness of eco-labeling schemes.[406]

Professor Appleton suggests mutual recognition as a viable solution, as it may help to reduce any adverse affects on trade. However, the question still remains unanswered concerning how effective this would be. In other words, Professor Appleton contends that mutual recognition would be effective where there are similar criteria. Thus, in order to employ mutual recognition to solve problems with eco-labeling schemes at the global level, the issue of how to reduce any differences must first be dealt with.

The necessity of ensuring the transparency of eco-labeling schemes has been also argued under the GATT system. In bringing this into practice, Professor Appleton suggests that the timely notification would contribute to the promotion of transparency. However, he cautions that ensuring

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Paragraph 32 and 33 of the Doha Ministerial Declaration, WTO Doc. WT/CTE/8 (2003) at paras. 30-42.

[404] Professor Appleton bases his solution on studies conducted by OECD, UNCTAD, and the WTO/GATT.Appleton, *supra* note 355 at 22.

[405] *Ibid.* at 23.

[406] *Ibid.* at 24.

transparency and participating in criteria making are two totally different matters.[407] In the CTE document, the discussion concerning transparency is focused more on the matter of whether foreign producers can participate in criteria making.

2. Jurisprudence Concerning Eco-Labeling: The *Tuna/Dolphin* I Case

Eco-labeling schemes are a contentious issue because their criteria are based on NPR-PPMs, meaning that the process and production methods themselves do not relate to the final product (*e.g.*, taste).[408] Despite their voluntary nature, NPR-PPMs are sometimes viewed as trade barriers.[409] The *Tuna/Dolphin* I case addressed the issue of whether labeling based on NPR-PPMs was consistent with the GATT system.[410]

This case stemmed from the US regulatory framework for preventing dolphins from being caught inadvertently when harvesting tuna. As part of this dolphin protection framework, the Dolphin Protection Consumer Information Act (DPCIA) stipulated that no tuna product could be sold with a "dolphin safe" or similar label attached to it when the tuna it contained had been caught in a way that was harmful to dolphins.[411] Mexico argued that these provisions violated Article I(1) of the GATT because they specified that they would apply to tuna harvested in the "Eastern Pacific Ocean", which would encompass Mexico.[412]

The Panel noted that the labeling of the tuna product itself as "dolphin safe" does not restrict US market access as tuna products may be sold with or without a "dolphin safe" label attached.[413] In particular, the Panel noted:

> Any advantage which might possibly result from access to this labeling depends on the free choice by consumers to give preference to tuna carrying the "Dolphin safe" label. The labelling provisions therefore did not make the right to sell tuna or tuna

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[407] *Ibid.* at 25.
[408] *Ibid.* at 94.
[409] Subedi, *supra* note 349 at 375.
[410] *United States-Restriction on Imports of Tuna*, Report of the Panel, 30 I.L.M. 1598 (unadopted) [*Tuna/Dolphins*].
[411] *Ibid.* at para. 2.12.
[412] *Ibid.*
[413] *Ibid.* at para. 5.41.

> products, nor access to a government conferred advantage affecting the sale of tuna or tuna products, conditional upon the use of tuna harvesting methods.[414]

The Panel elucidated that the labeling provision applies to "all countries whose vessels fished in this geographical area (Eastern Pacific Ocean) and thus did not distinguish between products originating in Mexico and products originating in other countries".[415] Evidently, the labeling argument in the *Tuna/Dolphin* I case was not based on the National Treatment obligation under Article III of the GATT, but rather on the Most Favored Nations obligation under Article I of the GATT, as geographical conditions were attached to the labeling provision. With regard to labeling, the Panel confirmed that labeling was not prohibited in this case because the labeling itself did not deny market access to the US. In other words, the attachment of the label as "dolphin safe" was voluntary in nature, provided that the tuna products met the conditions of the DPCIA. The voluntary nature of the provisions gave flexibility in deciding whether to label or not.

It must be noted that there have not been any cases concerning eco-labeling since the inauguration of the WTO regime, but as we have seen, negotiation at the CTE, as the integral part of the WTO, has been rigorously activated.

3. Summary: Trade and Eco-Labeling

The implications of adopting eco-labeling schemes for international trade have been controversial in many respects. First, although WTO Members have acknowledged that eco-labeling is one way to protect the environment, there has been no consensus yet as to the appropriate standard for eco-labeling requirements. This discussion has reached a stalemate because although environmental issues have become ubiquitous around the globe, details vary from region to region, and even from state to state. The vague wording in the 1996 Report of the CTE concerning the CTE's position on eco-labeling reflects this reality. Until now, no concrete solution has been adopted by the CTE.

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[414] *Ibid.* at para. 5.42.
[415] *Ibid.* at para. 5.43.

Second, eco-labeling requirements are focused on NPR-PPMs, which concern how the product was processed, but does not affect the end product itself. This places a burden on foreign producers from states not having the same environmental problems, as they must employ a different eco-labeling scheme. In this regard, foreign producers must alter their production methods in order to sell their products. Exporting states adversely affected by the eco-labeling scheme of another state would likely view this as a protectionist measure. Moreover, NPR-PPMs have been the reason why some WTO Members contend that the TBT Agreement cannot apply to eco-labeling schemes. The TBT Agreement applies to product-processing methods that have tangible effect on the end product. Details of the TBT Agreement will be discussed in the next section.

Third, it is likely that the eco-labeling scheme will remain on the trade discussion agenda as long as the standards are adopted behind closed doors. The CTE has often noted in its reports that transparency is crucial when establishing criteria for an eco-labeling scheme. One of the reasons why the CTE is constantly reminding WTO Members of the importance of transparency is so that objectivity in the eco-labeling scheme can be sustained where subjective discretions could so easily permeate.

While discussing eco-labeling schemes at the CTE has been challenging for each WTO Member, it is important to remember why they have participated in discussions at the CTE for so many years. The CTE, as an essential component of the WTO, ensures a multilateral approach to the trading system, which prevents the arbitrary application of unilateral measures. In the long run, it helps to sustain procedural fairness, which is preferable to being forced to adopt a unilateral approach based on power-politics.

C. The Agreement on Technical Barriers to Trade: Can the Mandatory Labeling of GM Foods Be Justified under the Rationale of Consumers' Right to Information about the Foods They Eat?

1. A Brief History of the TBT Agreement

The TBT Agreement is based on the 1979 Standards Code, which was established during the Tokyo Round of multilateral trade negotiations. The necessity to adopt this Code stemmed from two main concerns. First, in the 1960s and 1970s it became clear to GATT Contracting Parties that both standards and technical regulations, adopted to protect domestic industry, were potentially alternative means for imposing tariffs. Depending on tariffs to protect domestic industries was no longer convenient as tariff reductions gradually gained popularity as a result of continuous multilateral negotiations.[416] However, as efforts to reduce tariffs succeeded, a rise in the use of non-tariff measures became apparent.[417] The impact of non-tariff measures, launched as an alternative to tariff barriers, rendered adverse effects on international trade liberalization. This issue became the center of attention during the Tokyo Round of multilateral negotiations.[418]

Second, to the extent of the above, the fact that each state was adopting its own standards and technical regulations resulted in a complexity that became an impediment to international trade and thus, it became necessary to emphasize the importance of harmonization.[419] Historically, a state would impose restrictions based on its sovereign right to regulate its territory. However, it became clear from a practical point of view that these diverse enactments of legislation were hindering global economic interdependence. Accordingly, in order to avoid further complexity and promote efficient economic interrelations, states had to deal with harmonizing their standards and technical regulations, while acknowledging the sovereign issue lying behind this action.[420] This challenge resulted in the Standards Code, as there was a need to find a proper balance between "the interest of free trade and national sovereignty".[421]

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[416] Ivan Bernier, "Product Standards and Non-Tariff Obstacles: The GATT Code on Technical Barriers to Trade" in John Quinn & Philip Slayton, eds., *Non-Tariff Barriers After the Tokyo Round* (Montreal: Institute for Reseach on Public Policy, 1982) at 195.

[417] Non-tariff measures have been defined as "all public regulations and government practices that introduce unequal treatment for domestic and foreign goods of the same or similar production". Nigel Grimwade, *International Trade Policy: A Contemporary Analysis* (London: Routledge, 1996) at 54.

[418] Thomas & Meyer, *supra* note 38 at 186.

[419] Bernier, *ibid.*

[420] *Ibid.* at 196.

[421] John Jackson, William J. Davey & Alan O. Sykes, Jr., *Legal Problems of International Economic Relations: Cases, Materials and Texts*, 3d ed. (St. Paul: West Publishing, 1995) at 541.

Even though the new Standards Code to prevent non-tariff barriers from distorting international trade was established, a number of shortcomings pertaining to its enforcement remained. For instance, only thirty-nine states ratified it.[422] GATT Contracting Parties were not required to do so as it was a side agreement. Obviously, the GATT framework provided a loophole for Contracting Parties to forum shop for the instrument that best suited their interests. In addition, although the Standards Code laid out a general framework, it did not go so far as to formulate an explicit standard dividing what was acceptable and what was not.[423]

As a result of the UR, the Standards Code of the Tokyo Round multilateral negotiations came to be divided into two parts, what is now the TBT Agreement and the SPS Agreement.[424] The division was made based on the scope of coverage.[425] The TBT Agreement covers issues other than sanitary and phtyosanitary measures, which is exclusively the scope of the SPS Agreement. Under the WTO regime, Members must abide by these Agreements, since the WTO framework is based on single undertakings,[426] meaning that states cannot pick the instrument that is best satisfies their needs.[427] Belonging to the DSU procedure has greatly increased enforceability, compared to the GATT system.

2. The Definition and Scope of the TBT Agreement

The TBT Agreement is a crucial part of the WTO framework. The purpose of the WTO Agreement in general is to promote the multilateral trading system. The TBT Agreement, as one of the Uruguay Round Multilateral Agreements on Trade in Goods (Annex 1A to the WTO Agreement), is responsible for promoting multilateral trade associated with technical regulations, standards, and

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[422] Trebilcock & Howse, *supra* note 7 at 141.
[423] *Ibid.*
[424] *Ibid.*
[425] *TBT Agreement*, *supra* note 10, art. 1.5 provides: "The provisions of this agreement do not apply to sanitary and phtosanitary measures as defined in Annex A of the Agreement on the Application of Sanitary and Phytosanitary Measures."
[426] *Ibid.*, art. 14; *WTO Agreement, Ann.1A, Agreement on the Application of Sanitary and Phytosanitary Measures*, online: WTO <http://www.wto.org/english/docs_e/legal_e/legal_e.htm>(date accessed: 1 October 2003)[*SPS Agreement*] art. 11.
[427] Trebilcock & Howse, *supra* note 7 at 142.

conformity assessment procedures. The chief purpose of the TBT Agreement is to "ensure that technical regulations and standards including packaging, marking and labeling requirements, and procedures for assessment of conformity with technical regulations and standards do not create unnecessary obstacles to international trade".[428]

According to the definition articulated in Annex 1 of the TBT Agreement,[429] a "technical regulation" is a "[d]ocument which lays down product characteristics or their related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method."[430]

For its part, a "standard" is a:

> Document approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is not mandatory. It may also include or deal exclusively with terminology, symbols, packaging marking or labelling requirements as they apply to a product, process or production method.[431]

As is evident from comparing these two definitions, technical regulations refer to mandatory measures while standards refer to voluntary measures.[432] This categorization was made so as to impose different types of obligations for each case.[433] In addition to this categorization, conformity assessment procedures are "[a]ny procedure used, directly or indirectly, to determine that relevant requirements in technical regulations or standards are fulfilled".[434] Conformity assessment procedures include "sampling, testing, and inspection; evaluation, verification and assurance of conformity; registration, accreditation and approval as well as their combinations".[435]

The scope of Article 1.3 of the TBT Agreement is vast in that it states "[a]ll products,

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[428] *TBT Agreement*, *supra* note10, fifth recital.
[429] According to *ibid.*, art. 15.5, the "annexes to this Agreement constitute an integral part thereof."
[430] *Ibid.*, ann. 1.1.
[431] *Ibid.*, ann. 1.2.
[432] Thomas & Meyers, *supra* note 38 at 187.
[433] *Ibid.*
[434] *TBT Agreement*, *supra* note 10 ,art. 5.
[435] *Ibid.*, ann. 1.3, explanatory note.

including industrial and agricultural products, shall be subject to the provisions of this Agreement".[436] In addition, the TBT Agreement stipulates that the national treatment and most-favored-nation principles must be applied to like products.[437] Reflecting the fact that historically technical regulations were often enacted so as to protect domestic industry, Article 2.2 in part provides that "technical regulations are not prepared, adopted or applied with a view to or with the effect of creating unnecessary obstacles to international trade".[438] In addition, states enacting measures are required to have a "legitimate objective". What constitutes a legitimate objective is not defined, but Article 2.2 provides some examples, such as "national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment".[439] The important factor is that this is not an exhaustive list; other objectives are possible so long as they are legitimate. However, accomplishing a legitimate objective must not be more trade restrictive than necessary.[440]

In order to endorse harmonization, Article 2.4 of the TBT Agreement articulates that in situations where "technical regulations are required and relevant international standards exist or their completion is imminent",[441] Members are required to "use them, or the relevant parts of them, as a basis for their technical regulations".[442] However, the TBT Agreement does not specify any international standard-establishing body.[443] In addition, exceptions are provided in cases where "such

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[436] *Ibid.*, art. 1.3.

[437] *Ibid.*, art. 2.1 states: "Members shall ensure that technical regulations, products imported from the territory of any Member shall be accorded to treatment no less favorable than that accorded to like products of national origin and to like products originating in any other country."

[438] *Ibid.*, art. 2.2 states:

> Members shall ensure that technical regulations are not prepared, adopted or applied with a view to or with the effect of creating unnecessary obstacles to international trade, For this purpose, technical regulations shall not be more trade-restrictive than necessary to fulfil a legitimate objective, taking account of the risks non-fulfilment would create. Such legitimate objectives are, *inter alia*: national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment. In assessing such risks, relevant elements of consideration are, *inter alia*: available scientific and technical information, related processing technology or intended end-uses of products.

[439] *Ibid.*

[440] *Ibid.*

[441] *Ibid.*, art. 2.4.

[442] *Ibid.*

[443] Compare with *SPS Agreement*, *supra* note 426, art. 3.4, which exemplifies the names of international institutions.

international standards or relevant parts would be an ineffective or inappropriate means for the fulfilment of the legitimate objectives pursued, for instance because of fundamental climatic or geographical factors or fundamental technological problems".[444] Pursuant to Article 2.6 of the TBT Agreement, "Members shall play a full part, within the limits of their resources, in the preparation by appropriate international standardizing bodies of international standards for products for which they either have adopted, or expect to adopt, technical regulations" to promote and take part in harmonizing of standards.[445]

In terms of increasing the level of transparency, the TBT Agreement ensures that foreign products will not receive disadvantageous treatment by addressing conformity assessment procedures.[446] In addition, the TBT Agreement articulates that the Secretariat must be notified when a Member concludes technical regulations, standards, or conformity assessment procedures that "may have a significant effect on trade".[447] Notification contributes to transparency in such a way that each WTO Member becomes aware when such measures commence.

In terms of the hierarchy of application between the GATT 1994 and the TBT Agreement, the latter would be applied to the measure first since it has been designed to deal specifically with such measures.[448]

3. The TBT Committee

Pursuant to Article 13 of the TBT Agreement, the purpose of the TBT Committee is to afford "Members the opportunity of consulting on any matters relating to the operation of this Agreement or the furtherance of its objectives".[449] Each year, the TBT Committee, which is "composed of

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[444] *TBT Agreement*, *supra* note 10, art. 2.4.
[445] *Ibid.*, art. 2.6.
[446] *Ibid.*, arts. 5-8. The procedure is stipulated for central governmental bodies (Article 5), local governmental bodies (Article 6), and non-governmental bodies (Article 8). According to Annex 1.8 of the TBT Agreement, a non-governmental body is defined as a "[b]ody other than a central government body or a local government body, including a non-governmental body which has legal power to enforce a technical regulation."
[447] *Ibid.*, art. 10.7.
[448] *Asbestos Panel Report*, *infra* note 471 at 8.16.
[449] *TBT Agreement*, *supra* note 10 art. 13.1.

representatives from each of the Members",[450] is responsible for reviewing the "implementation and operation" of the TBT Agreement.[451] The TBT Committee receives notification from each Member in this regard.

In general, the TBT Committee has remarked with regard to the labeling requirement that notification must be undertaken when enacting certain kinds of mandatory labeling:

> In conformity with Article 2.9 of the Agreement, Members are obliged to notify all mandatory labelling requirements that are not based substantially on a relevant international standard and that may have a significant effect on the trade of other Members. That obligation is not dependent upon the kind of information which is provided on the label, whether it is in the nature of a technical specification or not.[452]

4. The TBT Committee and the Discussion on the Labeling of GM Foods

The labeling of GM foods issue has been argued in the forum of the TBT Committee. The TBT Committee is important because it clarifies any problems that arise from the mandatory labeling of GM foods. Several arguments regarding the mandatory labeling of GM foods are apparent in TBT Committee documents.

First, one of the major issues accompanying the labeling of GM foods is the uncertainty about its effect on international trade. For example, when the EU notified the TBT Committee about Regulation 1139/98 prior to its final adoption, comments submitted by the US emphasized that this mandatory labeling of GM soybeans and GM maize legislation would "adversely affect international trade and set an unfortunate example for future regulation of food and agricultural products".[453] The US stated that GM foods or food ingredients containing DNA or protein from genetic modification should not directly be equated as "no longer equivalent to an existing food or food ingredient" because

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[450] *Ibid.*

[451] *Ibid.*, art. 15.3.

[452] WTO, *Committee on Technical Barriers to Trade, Note by the Secretariat:Decisions and Recommendations Adopted by the Committee Since 1 January 1995* (2000), WTO Doc. G/TBT/1/REV.7. III.10 (Notification Procedures), online: WTO <http://docsonline.wto.org/gen_home.asp?language=1&_1> (date accessed: 15 October 2003).

[453] WTO, Committee on Technical Barriers to Trade, *European Council Regulation No. 1139/98 Compulsory Indication of the Labeling of Certain Foodstuffs Produced from Genetically Modified Organisms: Submission by the United States* (1998), WTO. Doc. G/TBT/W/94, online: WTO <http://docsonline.wto.org/gen_home.asp?language=1&_1> (date accessed: 13 October 2003).

in order to show that GM foods are different from conventional foods, *significant* differences in "composition, nutritional value or nutritional effects" must exist.[454] In this regard, the US argued that even though a few remnants of DNA or protein derived from genetic modification may remain in the end product, the food can still be regarded as substantially equivalent to conventional foods. This issue boils down to what extent the notion of "substantial equivalence" should be considered and holds portion to the argument concerning the labeling of GM foods.

Second, the mandatory labeling of GM foods is also associated with the usage of the term "GM foods". The problem is whether usage of the term "GM food" contributes to consumer deception. In particular, when the EU submitted its proposal *COM (2001) 425 final* to the Committee, the US commented that the term "genetically modified" is a misconception, since all food is genetically modified, even when produced using traditional breeding methods. The US asserted that limiting the usage of the generic term "genetically modified" to describe the narrower term "modern biotechnology" would only serve to confuse consumers. Having this concern, the US encouraged the EU to accept the term "bioengineered" food.[455] The European Commission commented that it has no objections to using the term "bioengineered" food, provided the term is recognized and understood by the consumers in the EU.[456]

Third, the problem concerning the mandatory labeling of GM foods also stems from the fact that the bases for its justification vary. In other words, the extent to which the scope can be justified is not clear at present. For example, "ethical or religious grounds" in EU Regulation proposal *COM (2001) 425 final* was tabled by the TBT Committee. Several WTO Members expressed concern over the vagueness of the term "ethical or religious grounds". In addition to the vagueness of scope, the

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[454] *Ibid.* at 4.5.

[455] "Bioengineered" food is the term used by the US. For the use of the terminology and a definition, see Chapter 1, above.

[456] WTO, Committee on Sanitary and Phytosanitary Measures/ Committee on Technical Barriers to Trade, *Response from the European Commission to Comments Submitted By WTO Members Under Either or Both G/TBT/N/EEC/6 and G/SPS/N/EEC/149 (Proposal for a Regulation of the European Parliament and of the Council on Genetically Modified Food and Feed – Com(200i) 425 Final)* (2002), WTO Doc. G/TBT/W/179 (G/SPS/GEN/337) at 21. The European Commission, in response to the US comment, emphasized that that the usage of the term "genetically modified" foods has been widely acknowledged in Europe for a long time and this is the term with which consumers are familiar to describe foods derived from modern biotechnology.

enquiry extended to who would be the one to determine the consistency of "ethical or religious grounds". The US expressed concerns about the implication of this vagueness, since the EU is renowned for being a "multi-cultural society".[457] Similarly, Canada noted that "the inclusion of non-science based factors [...] without adequate definitions, is of particular concern to Canada".[458] In response, the European Commission responded that religious and ethical concerns were not new in that they had already been introduced in Regulation (EC) 258/97.[459] The determinant of whether GM foods give rise to religious or ethical concerns "would be for the applicant to indicate, at the time of application, either that the food does not give rise to ethical or religious concerns, or on the contrary, how it is proposed to address through labeling any ethical or religious concerns that may have been identified".[460] This issue exemplifies that GM food labeling issue is more than an economic matter. The challenge is in deciding whether reconciliation of these interests is possible.

Fourth, the labeling of GM foods is also controversial because there is no consensus regarding which foods to label. In this regard, WTO Members asked the EU why GM enzymes, which help to process cheese and wine, are exempt from the scope of labeling, whereas foods "produced from GMOs (including highly refined oils and sugars that have no traces of modified DNA or protein)" are subject to labeling.[461] In explaining this issue, the EU contested that processing-aiding enzymes are subject to *COM (2001) 425 final.* Added to this, the European Commission referred to the fact that it had urged the European Parliament to propose a strengthened version of labeling for enzymes.[462] This issue was continuously raised at the 26th Meeting of the TBT Committee. The proposal regarding the mandatory labeling and traceability of GM foods considered by the EU was in part characterized as having a "discriminatory nature",[463] since it had no scientific basis for

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[457] *Ibid.* at 27.
[458] *Ibid.*
[459] *Ibid.* at 28.
[460] *Ibid.*
[461] *Ibid.* at 22.
[462] *Ibid.*
[463] WTO, Committee on Technical Barriers to Trade, *Minutes of the Meeting Held on 9 October 2001* (2001), WTO Doc.G/TBT/M/25 at para. 5 [*G/TBT/M/25*]

differentiating between "food produced from GMOs" and "food produced with GMOs".[464] The problem of criteria making is still in its developmental stage and no one knows for sure what foods are encompassed by the labeling scheme.

Fifth, the question as to why labeling should be mandatory is at issue, since a wide range of measures exist throughout the world. In particular, at the 26th Meeting of the TBT Committee, the legally binding nature of the labeling system was discussed within the context of the labeling of GM foods. For instance, some WTO Members were aware of the risk that mandatory labeling would be viewed as a misrepresentation, rather than as an informative tool. In this regard, the assertion by the US was that mandating a label would give consumers the impression that GM foods are dangerous, "undermining consumers' confidence".[465] In order to avoid such misrepresentation, Canada suggested to the Committee that a voluntary labeling system might be an "alternative approach" to manage this issue.[466] This provided a hint that less restrictive means exist to handle this issue.

Finally, no consensus has been reached as to what would be the most appropriate criteria for the implementation of a threshold. This type of issue involves, *inter alia,* what terms/wordings should be selected for mandating labeling and what percentage should be set as the threshold for exempting mandatory labeling. Notably, this issue again surfaced at the 27th Meeting of the Committee,[467] where the focus was placed on the penchant of EC legislation to favor the labeling of GM foods. The EC has explained that the objectives of the proposals were to "ensure a high level of protection; [...] and to extend the labelling requirements to facilitate consumer choice and ultimately to ensure social acceptance on the application of bio-technology in agri-food production".[468] However, Argentina argued that the language "containing or coming from GMOs" lacks "impartiality [...] and would *not* provide consumers with the information needed to make purchasing choices in an objective way".[469]

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[464] *Ibid.*
[465] *Ibid.* at para. 6
[466] *Ibid.* at para. 5.
[467] WTO, Committee on Technical Barriers to Trade, *Minutes of the Meeting held on 15 March 2002*, G/TBT/M/26 (6 May 2002) [*G/TBT/M/26*].
[468] *Ibid.* at para. 35.
[469] *Ibid.* at para. 27 [emphasis added].

5. Jurisprudence of the TBT Agreement

In order to explore the mandatory labeling of GM foods issue, we will examine jurisprudence that has dealt with the TBT Agreement. In particular, we will discuss the *Asbestos* case and the *Sardines* case.[470]

a. The *Asbestos* Case

This case provided the definition of technical regulation.[471] In particular, Canada claimed that French Decree No. 96-1133 (the Decree) regarding the ban of Asbestos fibres and products containing Asbestos fibres is a technical regulation.[472] According to the Panel, for a particular technical regulation to be applicable for the purpose of the TBT Agreement, it must relate to "the characteristics of a product or its processes or production methods",[473] and it should set out "the specific characteristics of one or more identifiable products in comparison with general characteristics that may be shared by several unspecified products".[474] The Panel clarified that such products must be identifiable, as opposed to there being a general prohibition. The Panel noted that technical regulations are "measures which define the technical specifications that one or more given products must meet in order to be authorized for marketing in a Member,"[475] whereas general prohibitions are measures covering unspecified, large numbers of products. Thus, general prohibitions do not meet the

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[470] *European Communities-Trade Description of Sardines* (Complaint by Peru) (2002), WTO Doc. WT/DS231/R (Panel Report), online: WTO <http://docsonline.wto.org/gen_home.asp?language=1&_1> (date accessed: 2 October 2003).

[471] *European Communities-Measures Affecting Asbestos and Asbestos-Containing Products* (Complaint by Canada) (2000), WTO Doc. WT/DS135/R (Panel Report), online: WTO <http://docsonline.wto.org/gen_home.asp?language=1&_1> (date accessed: 1 October 2003).

[472] Canada asserted that the measure was inconsistent with the TBT Agreement, in particular, paragraphs "1, 2, 4 and 8 of Article 2" (para. 8.3). In contrast, the EC argued that the TBT Agreement would not apply to the Decree because the prohibition is a general prohibition, which is the purview of Article III(4) of the GATT 1994, not the TBT Agreement. The EC contended that although the Decree violates Article III(4) of the GATT 1994, it should be justified under Article XX(b) of the GATT 1994.

[473] *Asbestos Panel Report*, *supra* note 471 at para. 8.36.

[474] *Ibid.* at para. 8.39.

[475] *Ibid.* at para. 8.43.

conditions under which the TBT Agreement can be applied.[476] In order to clarify this distinction, the Panel mentioned that "[a] general prohibition by nature does not usually involve any technical specifications."[477] Interestingly, the Panel stated that the transitional nature of the regulation would not affect the application of the TBT Agreement.[478] This provides that measures, regardless of their time span, would be tested to determine whether they fit the definition of a technical regulation contained in the Agreement. In short, the Panel concluded that a measure will be regarded as a technical regulation if:

> (a) the measure affects one or more given products;
> (b) the measure specifies the technical characteristics of the product(s) which allow them to be marketed in the Member that took the measure;
> (c) compliance is mandatory.[479]

The Appellate Body, in refining the standards, stated that a technical regulation regulates "characteristics", which are, in essence, the same as "features", "qualities", "attributes", or "other distinguishing marks".[480] The Appellate Body also noted that a technical regulation can be applied to "an *identifiable* product, or group of products".[481] Thus, the Appellate Body expanded the scope of the term to include broader groupings. In this case, the Appellate Body elucidated the definition of technical regulation by mentioning that "the products covered by the measure are *identifiable*: all products must be asbestos free; any products containing asbestos are prohibited".[482]

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[476] *Ibid.* at para. 8.40.
[477] *Ibid.* at para. 8.49.
[478] *Ibid.* at para. 8.65.
[479] *Ibid.* at para. 8.57. The Panel refrained from further reviewing the TBT Agreement since Canada did not make any arguments concerning Article 2 of the Decree, which the Panel considered as a technical regulation. Canada made its claim pertaining to Article 1 of the Decree. The Panel went on to review Article III(4) of the GATT 1994 and concluded that while the Decree was inconsistent with Article III(4) of the GATT 1994, it was justified under Article XX of the GATT 1994.
[480] *European Communities-Measures Affecting Asbestos and Asbestos-Containing Products* (2001), WTO Doc. WT/DS135/AB/R (Appellate Body Report), online: WTO <http://docsonline.wto.org/DDFDocuments/t/WT/DS/135ABR.doc> at para. 68 (date accessed: 1 October 2003).
[481] *Asbestos Appellate Body Report*, *ibid.* at para. 70 [emphasis in original].
[482] *Ibid.* at para. 72. Ignoring Canada's suggestion, the Appellate Body refrained from seeking further applicability of Articles 2.1, 2.2, 2.4, and 2.8 of the TBT Agreement because the Panel had not touched upon these Articles in the TBT Agreement. Therefore, according to the Appellate Body, this lacks the basis for further examination, since Article 17.6 of the DSU stipulates: "[A]n appeal shall be limited to issues of law covered in the panel report and legal interpretations developed by the panel." Since the Panel went on to Article III of the GATT and stated that the Decree was inconsistent with Article III of the GATT 1994, the Appellate Body moved on to review the Panel's findings in the interpretation of Article III of the GATT.

The Appellate Body reversed the Panel's findings, stating that chrysotile asbestos and PCG fibres [replacement products of the chrysotile asbestos: PVA, cellulose, and glass fibres] are "like products." The Appellate Body stated that the

b. The *Sardines* Case

In this case, Peru argued that Council Regulation No. 2136/89 (EC Regulation), enacted in 1989, was inconsistent with the TBT Agreement because the EC limited the use of the term "sardines" exclusively to *sardina pilchardus Walbaum* (*sardina pilchardus*), which are harvested only in waters surrounding the EC. The EC Regulation also prohibited the use of the term "sardines" when used in combination with the country. The *Codex Alimentarius Commission Standard for Canned Sardines and Sardine-Type Products* (Codex Stan 94) allows the use of such combination. Peru, a state that catches *Sardinops sagax*, contended that the EC Regulation is a measure designed to hinder international trade because *sardinops sagax* cannot even be labeled as "Peruvian sardines".[483]

In the *Sardines* case, the retroactive application of the EC measure came to the forefront. The Panel referred to Article 28 of the Vienna Convention on the Law of Treaties to separate "act or fact" from "situation".[484] The Panel noted that in this case, the EC Regulation addresses a "situation which has not ceased to exist after the date of the entry into force of the TBT Agreement but is a continuing situation".[485] Thus, the Agreement was applicable to the EC Regulation because the EC Regulation was construed as a "situation" in this case, not as an "act or fact".

In addition, the Panel pointed out that Codex Stan 94 was a relevant international standard in this case, and thus its contents would be applicable.[486] The Panel emphasized that the CAC was

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Panel did not fully scrutinize the tests to determine "like products". In particular, the Appellate Body stated that "Panels must examine fully the physical properties of products. In particular, panels must examine those physical properties of products that are likely to influence the competitiveness relationship between products in the marketplace." (para.114). As a result, although the Appellate Body reversed the Panel's findings that chrysotile asbestos and PCG fibres are not like products, it upheld the Panel's finding that the Decree was within the scope of Article XX(b) of the GATT 1994.

[483] *Sardinops sagax* is a type of fish that belongs to the same subfamily of the *Clupeinae* family as the *sardina pilchardus*. However, *sardinops sagax* is found "in the Eastern Pacific along the coasts of Peru and Chile" (para. 2.2). It became controversial because *Sardina pilchardus* and *sardina sagax* are similar in that "they live in a coastal pelagic environment, form schools, engage in vertical migration, feed on plankton and have similar breeding seasons" (para. 2.2) and they both are suited for preserved fish products (para. 2.4).

[484] *Sardines Panel Report*, *supra* note 470 at para. 7.56. *Vienna Convention on the Law of Treaties*, 23 May 1969, 1155 U.N.T.S.331 at 339, art. 28 reads: "Unless a different intention appears from the treaty or is otherwise established, its provision do not bind a party in relation any act or fact which took place or *any situations which ceased to exist, before the date of its entry into force* with respect to that party." [emphasis added].

[485] *Ibid.*

[486] *Ibid.* at para. 7.87.

established jointly by two international organizations, the FAO and the WHO, as a premise to exemplify whether the standards established by the CAC would satisfy the relevant international standards. The Panel noted that CAC membership is open to all WTO Members. The implication of this is that the international standards are reviewed in relation to their establishing body. In order to determine whether Codex Stan 94 had been used as the basis for the EC Regulation, the Panel clarified the meaning of the word "basis" by stating that "the principal constituent of anything, the fundamental principle or theory, as of a system of knowledge".[487] In addition, the Panel noted that no inconsistency should arise if Codex Stan 94 had been used as the basis for the EC Regulation. The Panel concluded that Codex Stan 94 could not have been used as the basis for the EC Regulation because the EC Regulation prohibited the labeling that Codex Stan 94 allowed, *i.e.*, "'sardines' combined with the name of a country, name of a geographic area, name of the species or the common name of the species in accordance with the law and custom of the country in which the product is sold".[488] According to the Panel, this contradicted Codex Stan 94. With regard to Articles 2.2 and 2.1, the Panel refrained from reviewing the consistency of the EC's Regulation, by taking into account the principle of judicial economy.[489]

The Appellate Body upheld most of the Panel's findings with regard to the above issues. Furthermore, the Appellate Body examined whether the Panel had erred in interpreting the EC Regulation as a technical regulation according to the definition contained in the TBT Agreement, but in the end confirmed that the measure was indeed a technical regulation.[490] The Appellate Body rejected the EC's assertion that a technical regulation applies only to an identifiable product, *i.e.*, only to preserved *sardine pilchards*.[491] The Appellate Body was not convinced by the EC's argument because it was the EC Regulation prohibition that impeded *sardines sagax* from being labeled as

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[487] *Ibid.* at para. 7.110.
[488] *Ibid.* at para. 7.103.
[489] *Ibid.* at para. 7.121.
[490] *European Communities-Trade Description of Sardines* (2002), WTO Doc. WT/DS231/AB/R (Appellate Body Report), online: WTO <http://docsonline.wto.org/DDFDocuments/t/WT/DS/231ABR.doc> at para. 175 (date accessed: 2 October 2003).
[491] *Sardines Appellate Body Report*, *Ibid.* at para. 182.

preserved sardines in the EC.

Second, with regard to the retroactive application issue, the Appellate Body agreed with the Panel's interpretation. In order to respond to the EC's claim that Article 2.4 could not apply to the maintenance of the measure, the Appellate Body added that no reading from the TBT Agreement suggests such a limited application of Article 2.4. The Appellate Body concluded that Article 2.4 applies to "technical regulations generally and without limitation",[492] meaning it includes not only the preparation and adoption of a measure, but also the maintenance of a measure.[493]

Third, with regard to relevant international standards, the Appellate Body noted that adopted Codex Stan 94 does not have to be adopted by consensus to be considered as a relevant international standard. The Appellate Body confirmed the Panel's interpretation of the Explanatory Note of Annex 1.2 of the TBT Agreement. In particular, the Appellate Body affirmed the Panel's conclusion that an international standard not adopted by a consensus can still "constitute a relevant international standard" because this Agreement covers "documents that are not based on consensus".[494]

Finally, with regard to the interpretation that WTO Members are required to use relevant international standards "as a basis for" technical regulations, the Appellate Body affirmed the Panel's decision to refer to the *Beef Hormones* case, where a similar wording came into play. The Appellate Body mentioned that the Panel was correct in referring to the *Beef Hormones* case, which rendered "[a] thing is said to be commonly 'based on' another thing when the former 'stands' or is 'founded' or 'built' upon or 'is supported by' the latter".[495] Using the *Beef Hormones* case interpretation as a guide, the Appellate Body also affirmed that the Panel was correct in using the ordinary interpretation for "basis", that being "the principal constituent of anything, the fundamental principle or theory, as of a system of knowledge".[496] It added that when "one is the basis for the other", there is a "very strong

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[492] *Ibid.* at para. 205.
[493] *Ibid.*
[494] *Ibid.* at para. 222.
[495] *Ibid.* at para. 242.
[496] *Ibid.* at para. 243.

and very close relationship between two things",[497] and there should be no contradiction between the two.[498]

6. Evaluations of the Mandatory Labeling of GM Foods under the TBT Agreement

a. An Overview

Although disputes associated with the interpretation of the TBT Agreement are still in their nascent stage, this thesis affirms that the mandatory labeling of GM foods is consistent with the TBT Agreement since the Agreement does not prohibit the enactment of technical regulations. The heart of the problem can be traced to (1) whether labeling is based on legitimate objectives and (2) whether the labeling creates unnecessary obstacles to international trade. In order to investigate these matters within the context of the mandatory labeling of GM foods, the evaluation will focus on Article 2 of the TBT Agreement, since it stipulates how WTO Members can establish technical regulations. This thesis holds that labeling on the basis of the consumers' right to information can be justified as a legitimate objective, and that the diverse criteria used to implement the measure is the actual problem. In particular, the problem arises because there is no consensus as to where to draw the line for the threshold for exempting mandatory labeling. As will be discussed later in this chapter, further negotiation, as well as the assistance of an international standardization body will be necessary to solve the problem of the exemption level. Thus, it is crucial to separate the evaluation of legitimacy of the objective from its implementation.

b. The Mandatory Labeling of GM Foods is a Technical Regulation

In order to assert that the mandatory labeling of GM foods is consistent with the TBT Agreement, the question needs to be addressed whether the labeling of GM foods fits under a

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[497] *Ibid.* at para. 245.

[498] *Ibid.* at para. 248. In adopting the notion of judicial economy, the Appellate Body upheld the Panel's decision (para. 315(j)) and thus refrained from concluding its analysis of Articles 2.2.and 2.1 of the TBT Agreement and Article III of the GATT 1994. In conclusion, the Appellate Body upheld the Panel's finding that the EC measure was inconsistent with Article 2.4 of the TBT Agreement (para. 317).

definition of a technical regulation. In this regard, the mandatory labeling of GM foods would constitute a technical regulation because the second paragraph of Annex 1.1 to the TBT Agreement states that "[i]t may also include or deal exclusively with [...] labelling requirements as they apply to a product, process or production method".[499] According to the *Asbestos* case, the labeling of GM foods could also fit under the term "product characteristic" because GM foods can be distinguished from conventional foods as an identifiable group, based on product production methods. In both cases, mandatory labeling would fit under the definition of a technical regulation. Thus, measures mandating the compulsory labeling of GM foods will be subject to TBT Agreement provisions.

c. Article 2.4 and the Mandatory Labeling of GM Foods

Article 2.4 of the TBT Agreement includes several important considerations: what constitutes "relevant international standards"; what it means to have one thing "as a basis for" a technical regulation; and what constitutes an "ineffective and inappropriate means for the fulfillment of the legitimate objective pursued". Because these important elements are included, the Appellate Body in the *Sardines* case noted that Article 2.4 is a "central provision of the TBT Agreement".[500]

First, with regard to the interpretation of whether "relevant international standards" exist, the *Sardines* case indicates that standards established by the CAC will most likely be interpreted as being relevant international standards. Although negotiations to establish standards are still under way, mandatory labeling has been tabled as one option.[501] It is likely that WTO Members will be required to update their GM foods labeling regulations according to those provided by the CAC when such standards are established. In so doing, CAC standards will be used "as a basis for" regulations. With respect to the retroactive application issue, it is probable that since the Appellate Body in the *Sardines*

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[499] *TBT Agreement*, *supra* note 10, ann. 1.1.

[500] *Sardines Appellate Body Report*, *supra* note 490 at para. 208.

[501] Codex Alimentarius Commission, *Report of the Thirty-First Session of the Codex Committee on Food Labelling* [2003], ALINORM03/22A at 8. However, "Proposed draft guidelines for the labeling of foods and food ingredients obtained through certain techniques of genetic modification/ genetic engineering: Labelling provision" has not been adopted yet "due to lack of consensus." (para. 69). See also Denise M. Liez, "A Precautionary Tale: The International Trade Implications of Regulating Genetically Modified Foods in Australia and New Zealand" (2001) 10 Pac. Rim L. & Pol'y 436 (Lexis).

case noted that the measure in force is categorized under "situation" according to the Vienna Convention on the Law of Treaties, retroactive claims would likely be rejected. As the Appellate Body noted, labeling measures based on CAC standards require a "very strong and very close relationship", meaning that contradictions should not arise from this requirement. Interestingly, the CAC will adopt standards subject to the Commission's objectives, which encompasses consumer protection.[502]

An exception may arise when such standards are "an ineffective or inappropriate means for the fulfillment of the legitimate objectives pursued".[503] The Panel in the *Sardines* case touched upon the term "ineffective means" as a "means which does not have the function of accomplishing the legitimate objective pursued".[504] In addition, "inappropriate means" is defined as a "means which is not specifically suitable for the fulfillment of the legitimate objective pursued".[505] The Panel added that "the question of effectiveness bears upon the *results* of the means employed, whereas the question of appropriateness relates more to the *nature* of the means employed".[506] Article 2.4 provides as an example "fundamental climatic or geographical factors or fundamental technological problems".[507] The emphasis on "fundamental" indicates that WTO Members are expected to have a heavy burden of proof.

d. Weighing "Consumers' Tastes and Habits" in the Assessment of Like Product under Article 2.1

With regard to Article 2.1, a strong possibility exists that GM foods may not be considered as "like products" to conventional foods. In this case, the mandatory labeling of GM foods will not violate the national treatment principle of the TBT Agreement. The determination of likeness has been dealt with both under the GATT and the WTO. Although criteria to determine what constitutes a like product has been developed in the context of Article III of the GATT, the same criteria can be applied

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[502] *Codex Statutes*, *supra* note 109, art. 1.
[503] *TBT Agreement*, *supra* note 10, art. 2.4.
[504] *Sardines Panel Report*, *supra* note 470 at para.7.116.
[505] *Ibid.* at para. 7.116.
[506] *Ibid.* at para. 7.116
[507] *TBT Agreement*, *supra* note 10, art. 2.4.

to the TBT Agreement, since the major difference between Article 2.1 of the TBT Agreement and Article III of the GATT is simply the applicable scope.[508] In addition, the wording of Article 2.1 is analogous to that of Article III of the GATT 1994.[509] In considering these factors, it is useful to seek guidance from past jurisprudence concerning Article III of the GATT, as Article XVI(1) of the WTO Agreement also provides: "Except as otherwise provided under this Agreement or the Multilateral Trade Agreements, the WTO shall be guided by the decisions, procedures and customary practices followed by the CONTRACTING PARTIES to GATT 1947 and the bodies established in the framework of GATT 1947".[510]

Any examination of likeness would be conducted under the TBT Agreement because, if one takes hierarchy of application into account, this Agreement applies before the GATT 1994.[511] While the *Asbestos* case was no exception, that case did not examine likeness under the TBT Agreement because the provision in question was declared not to be a technical regulation. Thus, the applicable instrument had to be altered. Measures that do not fit the definition of a technical regulation would be subject to the test under Article III of the GATT 1994. However, in the case of the mandatory labeling of GM foods, it would constitute a technical regulation.

The Appellate Body in the *Asbestos* case noted that like products should be examined on a case- by-case basis, but followed the criteria for likeness by referring to past cases as follows:

> (i) the properties, nature and quality of the products; (ii) the end-uses of the products; (iii) consumers' tastes and habits – more comprehensively termed consumers' perception and behavior – in respect of the products; and (iv) the tariff classification of the products. We [the Appellate Body] note that these four criteria comprise four categories of "characteristics" that the products involved might share: (i) the physical properties of the products; (ii) the extent to which the products are capable of serving the same or similar end-uses; (iii) the extent to which consumers perceive and treat the products as alternative means of performing particular functions in order to satisfy a particular want or demand; and (iv) the international classification of the

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[508] For claims by Peru, *ibid.* at para. 4.118.

[509] Appleton, *supra* note 408 at 96. According to Professor Appleton, the similar wordings suggest that these two Articles were expected to "co-exist" and that there are no conflicts in reading these two Articles in a similar manner. Professor Appleton also introduces the argument of Professor Völker that the inclusion of the national treatment obligation is redundant since the TBT Agreement constitutes an "integral part of the WTO Agreement."

[510] *WTO Agreement*, *supra* note 9, art. XVI(1). See also Okubo, *supra* note 372 at 617.

[511] Appleton, *supra* note 408 at 87.

products for tariff purposes.[512]

In determining consistency with national treatment, one of the major challenges is deciding whether GM foods will be considered as like products to traditionally bred domestic foods. The mandatory labeling of GM foods may constitute a discriminatory measure, especially if GM foods have been deemed as substantially equivalent to conventional domestic foods.[513]

However, it is important to scrutinize the history of how this notion was developed. Substantial equivalence originated within the OECD in order to assess the food safety criteria of GM foods.[514] Thus, the notion of substantial equivalence, which is focused on safety, is just one aspect of the characteristics of GM foods. Even though substantial equivalence will be taken into account as one component in determining likeness, it should not override other criteria and be the sole influence in determining like products. This is important because the mandatory labeling of GM foods addresses much more than just food safety issues.[515] In this regard, the purpose labeling is not only to ensure safety, but also to provide consumers with information regarding the foods they eat.

An examination of "consumer taste and habits" criteria can have a large influence on the determination of like products.[516] With respect to consumers' right to information about the foods they consume, this criterion plays a significant role. As has already been mentioned, the consumers' right to such information would focus not only on production itself, but how the product was processed. In this regard, attention should be paid to the changes that were made between the Standards Code and the TBT Agreement. A comparison of these two texts reveals that the Standards Code, the forerunner of the present TBT Agreement, only mentioned technical regulations as they related to a *product*.[517] However, the TBT Agreement additionally includes the requirements of the

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[512] *Asbestos Appellate Body Report*, *supra* note 480 at para. 101.

[513] See Chapter 2, above, for the origin of the notion of substantially equivalence; Devernoe, *supra* note 107 for an examination of substantial equivalence.

[514] Cantley & Muyamura, *supra* note 141 at 22

[515] Wayne Jones, "Food Safety: Protection or Protectionism?" in *The OECD Observer*, No. 216 (March 1999) at 27.

[516] Arthur E. Appleton, "Genetically Modified Organisms: The Labeling of GMO Products Pursuant to International Trade Rules" (2000) 8 N.Y.U. Envir. L.J. 566 at 576.

[517] Steve Charnovitz, "The Law of Environmental "PPMs" in the WTO: Debunking the Myth of Illegality" (2002) 27 Yale J. Int'l L. 64; *Agreement on Technical Barriers to Trade*, 26th Supp. B.I.S.D. (1980) 8 at 29[*Standards Code*]; ann. 1.1 define technical regulation as:

process and production methods of a product within the scope of a technical regulation. This indicates that for the purview of the TBT Agreement, the process and production methods are significant, highlighting that it is important that products be evaluated according to PPMs. Thus, when examining likeness under the TBT Agreement, the expansion of the definition to include PPMs should be taken into account. In this regard, the mandatory labeling of GM foods issue would be considered more important than that of the eco-labeling issue because the latter labeling is based on the non-product related PPM, whereas GM foods labeling directly relates to the product PPM.

e. Protection of Consumers' Right to Information about What Food They Consume is within the Scope of "Legitimate Objective" under Article 2.2

With regard to Article 2.2 of the TBT Agreement, the issue most likely to ignite a debate is what constitutes a legitimate objective. Challenges lie ahead for the WTO to decide whether the TBT Agreement can include consumers' right to information regarding the foods they consume as a legitimate objective within the scope of Article 2.2. This thesis holds that the consumers' right to information can be justified as a legitimate objective. First, the list of examples supplied in this Article is not exhaustive.[518] There are no limitations as to what should be prohibited as a legitimate objective. Thus, in this case, under the unique characteristic of public international law, states have the sovereign right to enact legislation provided they do not violate either customary law or treaty, or both. Second, the probability that mandatory labeling would lead consumers to believe that GM foods are dangerous and thus would culminate in "consumer deception" remains remote since the purpose of such labeling is disclosure of information. Mandatory labeling would increase the likelihood that consumers would know what is in the foods that they consume. Consumers' right to information about how the product was processed is embodied in the purpose of labeling. Interestingly, in this regard, the mandatory

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> A specification contained in a document which lays down characteristics of a product such as levels of quality, performance, safety or dimensions. It may also include, or deal exclusively with terminology, symbols, testing and testing methods, packaging, marketing or labelling requirements as they apply to a *product*. [emphasis added]

This differs from the *TBT Agreement*, which also includes the *process or production method* of a product. For the text of Annex 1.1 to the *TBT Agreement*, *supra* note 430.

[518] Appleton, *supra* note 516 at 576.

labeling of GM foods would seem not to conflict with the stance of the US, since that country often asserts that it respects consumers' interests.[519] The disclosure of information through the labeling of GM foods would benefit states exporting GM foods since the incessant rejection of labeling would, in the reverse, build suspicion amongst consumers, leading to plummeting sales of GM foods. Thus, the mandatory labeling of GM foods for the purpose of protecting consumers' right to information regarding the foods they consume would have positive connotations for states exporting GM foods in terms of disclosure of information and transparency. Third, the fact that this issue deals directly with commodities that we eat on a daily basis should be taken into account. Thus, the mandatory labeling of GM foods as a legitimate objective should not provoke much of a confrontation between exporters and importers of GM foods.

However, the problem of how this legitimate objective should be implemented arises. Pursuant to Article 2.2 of the TBT Agreement, measures to accomplish legitimate objectives must be employed in a less restrictive manner, whenever possible. This is controversial, as Members exporting GM foods assert that less restrictive means could be implemented by adopting a voluntary labeling scheme.[520] The argument has also been made that the ability to set a higher percentage for the common threshold would also be less restrictive. By relaxing the threshold, the pecuniary burden inflicted on producers would be avoided. Japan considered this in enacting its own mandatory labeling law in April 2001.[521] The major difference between the EU labeling Regulation and that of Japan is that the latter measure stipulates that the threshold is 5% of the total weight of the product in order to exempt labeling, a much more relaxed condition than that of the EU. This is one way to reconcile trade interests and consumers' interests. In order to solve this implementation issue, it is critical that the

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[519] USTR Biotechnology section "Consumers Choice: Let Consumers Decide" notes: "[T]he United States is not trying to force foods on consumers, in Europe or elsewhere. Consumer choice is a fundamental tenet of U.S. policy. The United States seeks government regulations that maximize choice while protecting consumer health and safety." Online: USTR <http://www.ustr.gov/new/biotech-consumerchoice.htm> (date accessed: 1November 2003).

[520] *G/TBT/M/26*, *supra* note 467. Canada has indeed introduced its voluntary labeling scheme, aiming to prove that less restrictive means exist.

[521] *Notification No.517*, *supra* note 337, See also Japan, Ministry of Health, Labour, and Welfare, "FAQs on Labeling System for Genetically Modified Foods", online: Ministry of Health, Labour, and Welfare <http://www.mhlw.go.jp/english/topics/qa/gm-food/gm1.html> (date accessed: 25 October 2003).

WTO: (1) call upon the TBT Committee to solve this issue, thereby taking advantage of its multilateral nature and (2) take advantage of the dispute settlement system after standards are established by the international standardization body.

D. The Agreement on the Application of Sanitary and Phtyosanitary Measures (SPS Agreement): Labeling on the Basis of Food Safety

1. A Brief Background of the SPS Agreement

The SPS Agreement particularly focuses on sanitary and phtyosanitary measures, a refinement of Article XX(b) of the GATT.[522] While prior to the establishment of the WTO, rules pertaining to sanitary and phtyosanitary measures were commonly established on a bilateral basis,[523] this Agreement seeks to establish "multilateral framework of rules and disciplines to guide the development, adoption and enforcement of sanitary and phytosanitary measures" so as to eliminate adverse effects on international trade.[524] In acknowledging that diverse enactments of sanitary and phtyosanitary measures may be obstacles to international trade, the SPS Agreement promotes harmonization of such measures by referring to other international institutions such as the CAC and the International Office of Epizootics.[525]

2. The Definition and Scope of the SPS Agreement

Since in the EU the labeling of GM foods addresses aspects of food safety, questions arise as to whether the SPS Agreement might also apply. Pursuant to Article 1.1, the Agreement applies to "all sanitary and phytosanitary measures which may, directly or indirectly, affect international trade".[526] According to the SPS Agreement, sanitary and phytosanitary measures are meant:

(a) to protect animal or plant life or health within the territory of the Member from

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[522] Article XX provides general exceptions to GATT obligations, with regulations concerning the protection of human, animal, or plant life or health being covered by Article XX(b).
[523] *SPS Agreement*, *supra* note 426, preamble, third recital reads: "Noting that sanitary and phytosanitary measures are often applied on the basis of bilateral agreements or protocols; [...]".
[524] *Ibid.*, fourth recital.
[525] *Ibid.*, fifth & sixth recital.
[526] *Ibid.*, art. 1.1.

> risks arising from the entry, establishment or spread of pests, diseases, disease-carrying organisms or disease-causing organisms;
> (b) to protect human or animal life or health within the territory of the Member from risks arising from additives, contaminants, toxins or disease-causing organisms in foods, beverages or feedstuffs;
> (c) to protect human life or health within the territory of the Member from risks arising from diseases carried by animals, plants or products thereof, or from the entry, establishment or spread of pests; or
> (d) to prevent or limit other damage within the territory of the Member from the entry, establishment or spread of pests.[527]

Measures include end-product criteria, and PPMs.[528] Packaging and labeling requirements should be "directly related to food safety".[529] It is important to note that the measure does not need to be "solely" related to food safety. The EU has emphasized the possible adverse effects of GM foods on human health on a long term basis.

Regarding to its relation to the TBT Agreement, there are several notable differences: First, the scope of applicability is narrower than that of the TBT Agreement, since it is focused particularly on sanitary and phtyosanitary measures, as defined above. Second, relevant international organizations are explicitly stipulated in the provision. Third, the SPS Agreement neither stipulates MFN nor national treatment. Fourth, the SPS Agreement is more stringent in requiring a scientific basis than the TBT Agreement.

The SPS Agreement emphasizes scientific basis. WTO Members must ensure that their sanitary and phtyosanitary measures are "based on scientific principles and are not maintained without sufficient scientific evidence".[530] Without sufficient scientific evidence, it is likely that the measure will be deemed a "disguised restriction on international trade".[531]

WTO Members are strongly encouraged to base their sanitary and phytosanitary measures on international standards,[532] and must "take into account available scientific evidence".[533] In particular,

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[527] *Ibid.*, ann. A 1.
[528] *Ibid.*
[529] *Ibid.*
[530] *Ibid.*, art. 2.2.
[531] *Ibid.*, art. 2.3.
[532] *Ibid.*, art. 3.1.
[533] *Ibid.*, art. 3.2.

risk assessments based on science are elaborated on detail under Article 5 of the SPS Agreement. WTO Members are required to ensure that "their sanitary and phytosanitary measures are based on an assessment [...] of the risks to human, animal or plant life or heath".[534] Moreover, Article 5 articulates not only how to assess risk, but also how Members should employ sanitary and phytosanitary measures based on such assessment. Pursuant to Article 5.4, Members are required to take into account the "the objective of minimizing negative trade effects".[535] Members must ensure that measures are "not more trade-restrictive than required to achieve their appropriate level of sanitary and phytosanitary protection".[536] Pursuant to Article 5.7 of the SPS Agreement, WTO Members "may provisionally adopt sanitary and phytosanitary measures on the basis of available pertinent information" when they do not have sufficient scientific evidence; however, Members are required to "seek to obtain the additional information necessary for a more objective assessment of risk [...] within a reasonable period of time".[537]

Although there are several cases concerning SPS measures, we will mainly examine the *Beef Hormones* case, since it provides tremendous guidance in terms of interpreting the SPS Agreement.[538] The examination will focus on the criteria for risk assessment as well as the status of the precautionary principle. In addition to the *Beef Hormones* case, the *Japan Apples* case will be referred to in examining Article 5.7 of the SPS Agreement.

3. Jurisprudence of the SPS Agreement

a. The *Beef Hormones* Case

This case concerned EC Directives related to the prohibition of imports of beef and beef products that had been raised with certain hormones. The US argued that the EC measures, which prohibited the importation of beef and beef products treated with six specific hormones, were

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[534] *Ibid.*, art. 5.1.
[535] *Ibid.*, art. 5.4.
[536] *Ibid.*, art. 5.6.
[537] *Ibid.*, art. 5.7.
[538] *EC-Measures Concerning Meat and Meat Products* (1997) WTO Doc. WT/DS26/R (Beef Hormones Panel Report).

inconsistent with the SPS Agreement because they were not based on "sufficient scientific evidence",[539] and that they constituted impediments to international trade. In addition, the US argued that the EC measures were not based on any international standard, even though the CAC had formulated standards for five of them.[540] The EC argued that the measures were founded on the precautionary principle, noting that the EU hoped to attain "high level of consumer protection before the commercial interests of farmers and pharmaceutical companies".[541]

In hearing the case, the Panel noted that the CAC had addressed the standard for disputed hormones. Specifically, when the question of whether the EC measures were "based on" international standards, the Panel mentioned that the EC measures are required to "conform to" international standards, in this case, standards formulated by the CAC.[542] It also stated that a measure based on an international standard "needs to reflect the same level of protection as the international standard",[543] whereas measures not based on the standard with a higher level of protection must be consistent with Article 3.3, which requires "scientific justification".[544]

In addition, the Panel noted that the exercise of assessing risk is stipulated under Articles 5.1 to 5.3 of the SPS Agreement,[545] whereas Articles 5.4 to 5.6 articulate risk management, *i.e.,* the requirements relating to Members' "decision to enact or maintain a sanitary measure".[546] With regard to risk assessment, Members are required to satisfy both procedural and substantive requirements.[547] In contrast to risk assessment, according to the Panel, risk management embodies social value

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[539] *Beef Hormones Panel Report, ibid* at 4.12. See also Sara Dillon, *International Trade and Economic Law and the European Union* (Oxford: Hart, 2002) at 131-141.
[540] *Ibid.* at para. 2.17.
[541] *Ibid.* at para. 4.202.
[542] *Ibid.* at para. 8.72.
[543] *Ibid.* at para. 8.73.
[544] *Ibid.* at para. 8.79.
[545] *Ibid.* at para. 8.93.
[546] *Ibid.* at para. 8.95.
[547] *Ibid.* at paras. 8.113, 8.117. In fulfilling procedural requirements, "the Member imposing a sanitary measure needs to submit evidence that at least it actually took into account a risk assessment when it enacted its sanitary measure in order for that measure to be considered as based on risk assessment." Substantive requirements in this case are explained as (i) identification of "scientific conclusion reached in each of the studies refer to by the European Communities", (ii) identification of "scientific conclusion reflected by the EC measures in dispute", (iii) determination of "whether scientific conclusion reflected in the EC measures can be considered as being conformity with any of those reached in the studies referred to by the European Communities."

judgments.[548] Pursuant to Article 5.5, the Panel noted that "different situations" require "different levels of sanitary protection",[549] and that establishing different levels should not be "arbitrary and unjustifiable".[550] The measure should not "result in 'discrimination or disguised restriction on international trade'."[551]

With regard to the precautionary principle, the Panel rejected the EC's claim by making two points. First, the Panel noted that "the precautionary principle would not override the explicit wording of Articles 5.1 and 5.2".[552] Second, the Panel added that the precautionary principle has already been "incorporated and given a specific meaning in Article 5.7 of the SPS Agreement".[553]

The Appellate Body reversed the Panel's interpretation that a sanitary protection measure "based on" an international standard was equal to one "conforming to" an international standard, as this interpretation would have imposed "obligatory force and effect".[554] In addition, the risk assessment requirement for the purpose of the SPS Agreement was clarified when the Appellate Body rejected the EC's studies, stating that they were "relevant but do not appear to be sufficiently specific to the case at hand".[555] This indicated that if the EC had shown a profound and objective risk analysis, it would have been consistent with Article 5.1 to adopt a higher standard for sanitary measures. With regard to Article 5.5, the Appellate Body noted that the three criteria given by the Panel, being of a "cumulative nature", were all required to be present.[556] However, the Appellate Body stated that the wording "risk management" has no textual basis in the SPS Agreement.[557]

With regard to the precautionary principle, the Appellate Body upheld the Panel's

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[548] *Ibid.* at para. 8.160.
[549] *Ibid.* at para. 8.174.
[550] *Ibid.*
[551] *Ibid.*
[552] *Ibid.* at para. 8.157.
[553] *Ibid.*
[554] *EC-Measures Concerning Meat and Meat Products* (1998), WTO Doc. WT/DS26, 48/AB/R (Appellate Body Report) at para. 70. The Appellate Body stated: "We cannot lightly assume that sovereign states intended to impose upon themselves the more onerous, rather than less burdensome, obligation by mandating *conformity* or *compliance with* such standard, guidelines and recommendations."
[555] *Beef Hormones Appellate Body Report, ibid.* at para. 8.200. Taken from WTO, *WTO Analytical Index: Guide to WTO Law and Practice*, v. 1 (Geneva: WTO Publications, 2003) at 503.
[556] *Beef Hormones Appellate Body Report, ibid.* at para. 120.
[557] *Ibid.* at para. 86.

interpretation that the principle does not override Articles 5.1 and 5.2.[558] The claim by the EC that the principle has gained the status of "general customary rule of law or at least general principle of law" was not examined by the Appellate Body,[559] since in this case, interpreting the precautionary principle was considered "unnecessary, and probably imprudent".[560]

b. The *Japan Apples* Case

This case touched upon Article 5.7 of the SPS Agreement,[561] which concerns the requirements of adopting and maintaining a provisional sanitary measure. The Appellate Body in the *Japan Apples* case referred to the four requirements presented in the *Japan Agricultural Products* II case:

> (1) the measure is imposed in respect of a situation where "relevant scientific evidence is insufficient";
> (2) the measure is adopted "on the basis of available pertinent information";
> (3) the Member which adopted the measure "seek[s] to obtain the additional information necessary for a more objective assessment of risk"; and
> (4) the Member which adopted the measure "review[s] the ...measure accordingly within a reasonable period of time".[562]

In order for the provisional sanitary measure to be compatible with Article 5.7, the Appellate Body stated that these four requirements must be met. In addition, the Appellate Body elaborated that "scientific uncertainty" must be strictly separated from "cases where relevant scientific evidence is insufficient", noting that Article 5.7 is "triggered not by the existence of scientific uncertainty, but rather by the insufficiency of scientific evidence".[563] This indicates that in order to invoke the SPS Agreement, the rationale for adopting the sanitary measure, as defined in the SPS Agreement, must be scientifically oriented. Such strict reliance on scientific evidence stems from the fact that the scope of this Agreement is very narrow from the outset: measures that fall within the definition of a sanitary

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[558] *Ibid.* at para. 158.
[559] *Ibid.* at para. 16.
[560] *Ibid.* at para. 123.
[561] *Japan-Measures Affecting the Importation of Apples* (26 November 2003) WTO Doc. WT/DS245/AB/R (Appellate Body Report).
[562] *Ibid.* at para. 176.
[563] *Ibid.* at para. 184.

measure are automatically under the jurisdiction of the SPS Agreement.

With regard to Article 5.1 of the SPS Agreement concerning risk assessment, the Appellate Body confirmed the definition articulated in the first clause of Paragraph 4 of Annex A to the SPS Agreement: "*Risk assessment*-The evaluation of the likelihood of entry, establishment or spread of a pest or disease within the territory of an importing Member according to the sanitary or phytosanitary measures which might be applied, and of the associated potential biological and economic consequences…".[564]

Then, the Appellate Body referred to the *Australia-Salmon* case, which established three conditions that must be satisfied in order to apply Article 5.1 of the SPS Agreement:

> (1) *identify* the diseases whose entry, establishment or spread a Member wants to prevent within its territory, as well as the potential biological and economic consequences associated with the entry, establishment or spread of these diseases;
> (2) *evaluate the likelihood* of entry, establishment or spread of these diseases, as well as the associated potential biological and economic consequences; and
> (3) evaluate the likelihood of entry, establishment or spread of these diseases *according to the SPS measures which might be applied.*[565]

In addition, referring to the *Beef Hormones* case, the Appellate Body concluded that any evaluation of a sanitary or phytosanitary measure employed by the importing Member should be based on a "sufficiently specific" risk assessment.[566] The Appellate Body further elucidated this by explaining that "sufficiently specific" includes both general harm *as well as* the "precise agent that may possibly cause the harm".[567] However, the Appellate Body recognized that the scope does not extend to what methodology should be used to conduct a risk assessment, thereby affirming the "Member's right to adopt any appropriate methodology", provided that it is compatible with "the definition of 'risk assessment' in paragraph 4 of Annex A to the SPS Agreement".[568]

4. Evaluations of the Mandatory Labeling of GM Foods under the SPS Agreement

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[564] *Ibid.* at para. 196.
[565] *Ibid.*[emphases in original].
[566] *Ibid.* at para. 202
[567] *Ibid.*
[568] *Ibid.* at para. 204

From the definition of a sanitary measure and the legal nature of the SPS Agreement as a science-based instrument, justification for the mandatory labeling of GM foods under this Agreement would be unlikely. The difficulties arise from two main points. First, most widely commercialized GM foods are distributed to the market after scientific approval has been accorded by the competent state authority. As we have seen in the *Beef Hormones* case, a stringent scientific assessment is required in order to be consistent with the SPS Agreement. In the case of commercialized GM foods, the problem is that the SPS Agreement is confined to measures having a sanitary purpose, which is very narrow in scope, whereas the mandatory labeling of GM foods based on consumers' right to information is wider in scope, food safety being part of it. The broader scope of consumers' right to information ensures that consumers can make informed choices regarding what foods to eat.

Indeed, there are some types of GM foods regulations that may fit within the scope of the SPS Agreement. These would include regulations that specify GM foods having toxicity as a result of genetic modification. However, the possibility of this type of measure becoming a dispute under the SPS Agreement is remote, since agricultural exporting states also enact mandatory labeling schemes for foods having toxicity.

Second, the Appellate Body has been cautious in referring to the precautionary principle within the context of the WTO framework. This hesitancy conflicts with the EU's position, which supports the crystallization of the precautionary principle as a general customary rule of law. Since the Appellate Body has been cautious with the legal status of the precautionary principle, it would be difficult for Members to assert consistency with the SPS Agreement on the basis of the principle.

As there are many different kinds of GM foods, *i.e.*, GM foods with additives, the applicability of the SPS Agreement must be decided on a case-by-case basis, taking into account the characteristics of each type. Thus, one cannot jump to the conclusion that all GM foods legislation would not apply or would be inconsistent with the SPS Agreement.

In short, even though there is a remote possibility that mandatory labeling could be justified under the SPS Agreement, this would not have any major influence, since Article 1.5 of the TBT

Agreement provides that measures outside the SPS Agreement would fall under the TBT Agreement. As we saw above, the mandatory labeling of GM foods as it relates to the consumers' right to information would fall under the definition of a technical regulation and a legitimate objective. Thus, the TBT Agreement would apply in this case.

E. Articles III and XX(a) of the GATT 1994

For the sake of argument, if a case were brought under the purview of the GATT 1994, the outcome would still be the same as with the TBT Agreement, *i.e.*, the objective itself would not be a violation, but the diverse implementation threshold would be the main concern. With regard to determining like products, the argument was introduced in the TBT Agreement section above. Although the Panel and/or the Appellate Body determined that mandatory labeling would violate the national treatment principle of Article III of the GATT, the consumers' right to information as an objective can still be legitimate and thus be consistent with Article XX.[569]

Article XX of the GATT 1994 stipulates general exceptions to the GATT 1994 based on the two-tiered test.[570] First, an objective of a measure has to be compatible with one of paragraphs (a) through (j). When the objective of the measure is found to be consistent with one of these paragraphs, the measure has to satisfy the conditions stipulated in the chapeau, which is the introductory part of Article XX. The chapeau stipulates the manner in which the measure is to be implemented.

Paragraph (a) stipulates the necessity to protect public morals. According to the New Oxford Dictionary of English, "morals" in the plural form is defined as "a person's standards of behaviour or

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[569] The relevant part of Article XX of the GATT 1994 stipulates:

> Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting parties of measures:
> (a) necessary to protect public morals;
> (b) necessary to protect human, animal or plant life or health; [...]

[570] WTO, *Analytical Index to WTO Law and Practice*, 1st ed. (Geneva: WTO Publishing, 2003) at 340. Taken from *United States - Standards for Reformulated and Conventional Gasoline* (1996), WTO Doc. WT/DS2/AB/R (Appellate Body Report). The Appellate Body stated: "In order that the justifying protection of Article XX may be extended to it, the measure at issue must not only come under one or another of the particular exceptions – paragraphs (a) to (j) – listed under Article XX; it must also satisfy the requirements imposed by the opening clauses of Article XX."

beliefs concerning what is and is not acceptable for them to do,"[571] and further encompasses an ethical aspect.[572] As Attorney Charnovitz argues, the term does not clarify "what morals are covered and whose morals are covered".[573] Regarding the latter question, Attorney Charnovitz, quoting Professor Jackson, states that Article XX was intended to acknowledge "the importance of a sovereign nation being able to act to promote the purposes of this list [paragraphs (a) to (j)], even when such action otherwise conflicts with various obligations relating to international trade".[574] As public morals include an ethical essence, it is important to note that arguments related to GM foods are relevant to ethical issues. Specifically, the GM foods issue is considered an ethical issue because it relates to the manipulation of nature by humans. For example, *COM (2001) 425 final*, now Regulation No. 1829/2003, states in part: "In addition, the labelling should give information about any characteristics or property which renders a food or feed different from its conventional counterpart with respect to composition, nutritional value or nutritional implications for certain section of the population, as well as any characteristics or property which gives rise to *ethical or religious concerns*".[575]

This mirrors public opinion in the EU, as evidenced by the fact that the Eurobarometer in 2000 stated that one of the top concerns regarding GM foods was that they are regarded as being "against nature",[576] regardless of the benefits accruing from GM foods.[577] Thus, since ethical issues are involved in public morals, consumers have the right to information through the mandatory labeling of GM foods. The existence of Article XX(a) of the GATT 1994 indicates that WTO Members are not prohibited from enacting such legislation. However, the threshold setting regarding the implementation standard is another issue. In other words, even though the objectives of WTO Members are justified under Article XX(a) of the GATT 1994, the second test of the chapeau would

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[571] Judy Pearsall, ed., *New Oxford Dictionary of English* (Oxford: Clarendon Press, 1998), *s.v.* "moral".
[572] J.A. Simpson & E.S.C Weiner eds., *Oxford English Dictionary*, 2d ed. (Oxford: Clarendon Press, 1989), *s.v.* "moral". The definition in 1f states: "Of concepts or terms: Involving ethical praise or blame."
[573] Steve Charnovitz, "The Moral Exception in Trade Policy" (1999) 38 Va. J. Int'l L.689 at 700.
[574] *Ibid.* at 701.
[575] 22nd recital of the REG 1829/2003 *supra* note 317.
[576] EU, Economic Impacts of GM Crops on the Agri-food Sector: Evolving Public Opinions, online: Europa <www.europa.eu.int/comm/agriculture/publi/gmo/fullrep/ch4.htm> (date accessed: 5 November 2003).
[577] *Ibid.*

be difficult to assess. In order to be consistent with the chapeau tests, the means should not be arbitrary or discriminatory; nor should they be a disguised restriction on international trade. Due to the complex backgrounds involved in the GM foods discussion, the appropriate implementation level will need to be negotiated.

F. In Search of Legitimacy: The Important Role for the TBT Committee and the Dispute Settlement Body

1. Utilizing the TBT Committee

The mandatory labeling of GM foods within the WTO framework has already been brought to the TBT Committee. Engaging in discussions under the WTO forum would enshrine the importance of a multilateral approach. Endeavors to find solutions in the negotiations conducted under a multilateral approach would help to sustain the long term stability of the international trading system. It is important to realize that the TBT Committee allows observer status to other international institutions, meaning that if the visions of the observers are considered, the work done by the TBT Committee will be accorded greater legitimacy.

Evidently, discussions under the auspices of the WTO, and more specifically, the TBT Committee would prevent politically motivated unilateral trade sanctions. With regard to bilateralism, this thesis does not reject the benefits of bilateralism, even though it is fraught with risks. However, in reality, some strong initiatives of bilateralism are essential to move the agenda forward. Specifically, when 146 Members are gathered together at WTO meetings, some initiatives need to be taken. The US and the EU are the Members most likely to take initiatives, since they have enormous economic influence and represent two opposite views. Similar situations have arisen during past negotiations. The most recent are those taken by the US and the EU during the period between the Montreal Mini-Ministerial Conference (July 2003) and Cancun Fifth Ministerial Conference (September 2003) regarding agricultural negotiations.[578] However, bilateral initiatives by the two WTO Members

[578] See "A Short Hot Summer for Global Trade: The WTO has Little Time Left to Prevent Failure in Cancun" *The Financial Times* (4 August 2003), 16 (Lexis).

should be exhibited within the WTO framework, not outside of it. Staying within the WTO framework would eliminate the risks arising from pure bilateralism exhibited outside the multilateral forum. In short, bilateralism should be exhibited under the auspices of the WTO framework for the benefit of the multilateral trading system.

2. Utilizing the Dispute Settlement Mechanism

From a long term perspective, there is another way to solve the mandatory labeling of GM foods issue, one that relates to the Dispute Settlement Body (DSB). If standards for the mandatory labeling of GM foods are established by the relevant standard body in the future, it will be important for the Panel and the Appellate Body to refer to those standards in solving the dispute brought to the DSB. Incorporating international standards set by an outside international standardization body would be significant for the Panel and the Appellate Body in several respects.

First, incorporation of an international standard developed by the international standard body would assist both the Panel and the Appellate Body. For instance, the Panel and the Appellate Body's incorporations of standards developed by the CAC in the *Sardines* and the *Beef Hormones* cases have played a crucial role in resolving disputes. Standards established by the CAC have been exerting enormous influence in this regard. The relevant standard could be circumvented by the Panel or Appellate Body, whether the complaining parties like it or not.

Second, incorporating standards set by other international institutions gives impetus to the harmonization of diverse national measures. Harmonization is broadly defined as "making the regulatory requirements or governmental policies of different jurisdictions identical, or at least similar".[579] According to Professor Leebron, the concept of harmonization has gained credibility in the sphere of international trade, since it is the "mechanism by which unfair differences in legal and other regimes are eliminated, and the level playing field, the metaphoric symbol of fairness is

[579] David W. Leebron, "Claims for Harmonization: A Theoretical Framework" (1996) 27 Can. Bus. L.J. 66.

restored".[580] By the Panel and the Appellate Body incorporating other international standards, the WTO dispute settlement mechanism has gained attention because of its endeavor to resolve inevitable differences deriving from various legal obligations among WTO Members.[581] As we have seen in the *Sardines* case, the WTO dispute settlement mechanism is trying its best to fill the gaps deriving from these differences by incorporating international standards.

Third, and most importantly, incorporating international standards would enhance legitimacy from the international community, since these standards were also created by the participation and vote of members of that institution. Enhancing legitimacy is important because international institutions, including the WTO, are sometimes cited as being weak in terms of legitimacy.[582] In order to justify its decisions at the international community level, Attorney Charnovitz stated that "surely one of the most interesting features of WTO jurisprudence has been that the way the Appellate Body and the Panels are resorting to other treaties, customary international law, international judicial and arbitral judgments, and the writings of publicists in order to render trade decisions".[583] The CAC deserves recognition as its standards have been referred to in order to solve the *Beef Hormones* and the *Sardines* cases. Moreover, it has been participating in the TBT Committee as an observer. Incorporating standards through other regimes would increase the level of legitimacy as well as overcome criticisms that the WTO is a self-contained organization. For instance, in the case of the CAC, their purpose, including protecting the health of consumers, would be incorporated within the WTO framework. Blending the Codex standards would promote consumers' right to information concerning the foods they consume because health concerns are an essential part of it.

Having mentioned that the standards established by the CAC have been exerting enormous

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[580] *Ibid.* at 64.

[581] John H. Jackson, "The WTO Dispute Settlement Understanding- Misunderstanding on the Nature of Legal Obligation" (1997) 91 A.J.I.L. 60.

[582] Daniel Bodansky, "The Legitimacy of International Governance: A Coming Challenge for International Environmental Law?" (1999) 93 A.J.I.L. 601. Professor Bodansky has referred to legitimacy as "the justification of authority", and "authority" meaning "the right to command, or give an ultimate decision."

[583] Steven Charnovitz, "Rethinking WTO Trade Sanctions" (2001) 95 A.J.I.L. 794.

influence on the findings of the Panel and the Appellate Body, it is quite likely that governments would participate in the standard-making process of the CAC, taking into account that it would be used as criteria for WTO dispute settlement in the future. This was the lesson learned from the *Beef Hormones* case, a case that illustrates just how influential the CAC actually is. Obviously, both the US and the EU are aggressively participating in the negotiations pertaining to standards for the labeling of GM foods. Likewise, the incentive of each government participating in the CAC is strong, envisaging that the WTO dispute settlement body would refer to it in settling disputes. Thus, WTO Members would be eager to assert their own positions, deeming their views would be reflected in the standards of the CAC. By being one of the participants in this standard-making process, compliance may become effective in some instances.[584] With this in mind, it is understandable that the TBT Agreement encourages each Member to participate in rule-making institutions.[585]

G. Conclusion for Chapter 3

This chapter contends that the WTO is capable of addressing the labeling of GM foods issue. This chapter first explored the reasons why the labeling issue should be brought to the WTO, rather than resolved on a purely bilateral basis outside the WTO framework. The reasoning was based on taking advantage of multilateralism. Bringing cases to the WTO should contribute to avoiding risks stemming from bilateralism as well as unilateral economic sanctions. Indeed, the mandatory labeling of GM foods is, by its very nature, not confined to purely bilateral matters. Many states have an interest in the outcome regardless of whether they are an importer or an exporter of GM foods. In addition, the WTO has relevant instruments to solve this issue as a non-tariff barrier.

To examine the mandatory labeling of GM foods issue under the WTO framework, this chapter first investigated the labeling dispute. Specifically, the eco-labeling scheme and its

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[584] Bodansky, *supra* note 582 at 606.

[585] *TBT Agreement*, *supra* note 10, art. 2.6 reads: "With a view to harmonizing technical regulations, on as wide a basis as possible, Members shall play a full part, within the limits of their resources, in the preparation by appropriate international standardizing bodies of international standards for products for which they either have adopted, or expect to adopt, technical regulations."

implications were examined. After scrutinizing this issue as precedence of the WTO handling of the labeling issue, this chapter concentrated on exploring the TBT and the SPS Agreements. A discussion regarding Article III of the GATT 1994 was conducted under the TBT Agreement, with this thesis taking the position that the same tests would apply in determining the nature of "like products" as articulated in both Article 2.2 of the TBT Agreement and Article III of the GATT. The potential difference would be the scope: The TBT Agreement specifically applies to technical regulations, whereas Article III of the GATT applies to measures in general. In seeking guidance, examinations of these Agreements included past cases from the Panel and the Appellate Body. With regard to the TBT Agreement, this chapter evaluated that the mandatory labeling the GM foods would fit the definition of a "technical regulation". It addition, this chapter concentrated on investigating Article 2, since it contains important criteria to determine whether the labeling of GM foods is consistent with the TBT Agreement. This thesis asserted that consumers' right to information regarding the foods they eat would be within the scope of legitimate objectives and that the implementation standard would be the most contentious factor.

For the sake of argument, if Article III were chosen, rather than the TBT Agreement, and was declared violated, Article XX would then apply. In this case, this thesis stated that Article XX(a), not Article XX(b), would apply. Manipulation of trans-genetics as an ethical concern is part of consumers' right to information. This thesis is of the view that an analysis of Article XX(a) should reach the same conclusion as an analysis conducted under the TBT Agreement. The consumers' right to information can be a legitimate objective under Article XX(a). However, it is the threshold criteria that would be problematic. By setting too stringent a threshold, the measure could be declared arbitrary and discriminatory and thus, inconsistent with the chapeau of Article XX. With regard to the mandatory labeling of GM foods issue, the justification for the appropriate threshold requires further discussion.

With regard to the SPS Agreement, although this Agreement does contain a labeling clause, the application of the mandatory labeling of GM foods requirements would be less likely to apply because the mandatory labeling scheme is more than just a sanitary measure, as defined in the Annex

of the SPS Agreement. The labeling purpose for GM foods is the consumers' right to information, which is much wider than the definition of sanitary measures provided in the SPS Agreement. In addition, in order to make the SPS Agreement applicable to GM foods legislation, further refinements must be made to the categorizations of GM foods. In other words, GM foods must be categorized according to their characteristics, such as GM foods with toxicity and GM foods with herbicides. The legislation that regulates GM foods with toxicity is likely to fit under the SPS Agreement, considering the definition of a sanitary measure. However, this would not be an international dispute in the first place since exporters of GM foods also have labeling requirements in such cases. Furthermore, for the sake of argument, even though the SPS Agreement is applicable to the mandatory labeling regulations for GM foods, consumers' right to information as a legitimate objective would not be appreciated under the SPS Agreement because this instrument, established for sanitary purposes, requires a scientific assessment. This nature of the SPS Agreement would result in undermining the importance of the consumers' right to information regarding the foods they eat because this objective is much broader in scope than intended by the SPS Agreement. One might argue that the precautionary principle could be a way to assert that the mandatory labeling of GM foods legislation is consistent with the SPS Agreement. However, the precautionary principle has been construed narrowly in the *Beef Hormones* case, as the Appellate Body noted that the precautionary principle would not override Articles 5.1 and 5.2.[586] In this regard, it is vital to realize that consumers' right to information is wider than a scientific analysis for the purpose of the SPS Agreement. However, it does not affect the analysis since the TBT Agreement would apply to the mandatory labeling of GM foods.

The major problem associated with the mandatory labeling of GM foods is that each Member currently specifies its own exemption level/threshold. The EU, as we have seen, has set its threshold at 0.9%, whereas Japan has established its threshold at 5%. South Korea has set its threshold at 3%. Obviously, the threshold level needs to be harmonized. This thesis strongly asserts that the WTO can offer a forum to negotiate this threshold conundrum before (1) the TBT Committee and (2) the dispute

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[586] *Beef Hormones Appellate Body Report, supra* note 554 at para.158.

settlement body.

With respect to the TBT Committee, such negotiations might take time, as has been the case with the eco-labeling issue in the Trade and Environment Committee. Since many international organizations are participating as observers, TBT Committee meetings can reflect or blend the voices of these observers, thereby enriching the legitimacy of the TBT Committee working in collaboration with other international organizations. Criticisms that the WTO is a self-contained organization would, hopefully, wane. In addition, maintaining a multilateral approach under the auspices of the WTO framework would ensure fairness and transparency, which would not be the case with unilateral or bilateral relations. However, since there are 146 Members, there might be instances when two Members, most likely the US and the EU, take steps to move the agenda forward. This thesis does not reject bilateral initiatives, but rather contends that, should they occur, it is essential not to deviate from the multilateral framework. In other words, such initiatives should take place within the WTO framework. This thesis holds that bilateral initiatives under the WTO framework would benefit the other Members, ensuring fairness and transparency, which is different from pure bilateralism outside the WTO framework.

This chapter also emphasized the importance of the Panel and the Appellate Body's incorporating relevant international standards to solve this issue once such a standard has been established. Relevant international standards would be made by the international institution that allows membership for all WTO Members. The necessity of promoting incorporation of other international institutions' standards would, in effect, bring not only transparency but also the enrichment of legitimacy to the findings of the WTO dispute settlement body. This is important for the WTO since it has sometimes been criticized for being a self-contained organization. For instance, with the referral of the CAC, an institution established to ensure food safety, the essence of food safety can be blended into WTO decisions. By blending the institution's work, the findings of the Panel and the Appellate Body will achieve legitimacy at the international community level. Enriching legitimacy also contributes to the compliance mechanism, since they can participate and have their voices heard,

thereby being assured of fairness. Enriching legitimacy is the key to the long term success of the WTO. The mandatory labeling of GM foods issue is the tangible example that this will be tested. However, until such standard exists, further negotiations taking place at the TBT Committee are the most likely solution within the WTO framework.

CONCLUSION

The manipulation of nature using modern biotechnology has resulted in the creation of GM foods. While GM foods contribute to increased productivity and help to eliminate chronic food shortages, they also carry with them unanswered questions about long term safety in terms of human consumption and about consumer trust. Recognizing these uncertainties, many states have enacted legislation requiring the mandatory labeling of GM foods so as to respect the consumers' right to information regarding the foods they eat.

Since 1994, the commercialization of GM foods has expanded to cross-border trade. One of the economic issues embodied in the trade sphere is whether to view the mandatory labeling of GM foods as a non-tariff barrier. This thesis took the position that the WTO is capable of dealing with novel topics such as the GM foods issue and that the mandatory labeling of GM foods to ensure that consumers are informed about the foods they eat can be justified under the WTO framework. In exploring this issue, the background as to why it is so controversial was examined.

First, the mandatory labeling of GM foods issue heavily involves non-economic values such as the protection of consumers' right to information concerning the foods they eat. There are concerns that the WTO, an international economic organization focusing on trade liberalization, will vitiate the importance of the consumers' right to information by placing the greatest priority on the maximization of economic interests. In addition to this, Members exporting GM foods are concerned that the pecuniary cost deriving from mandatory labeling might detract from the competitiveness of their products.

Second, the WTO faces the challenge of determining how it can take into account newly derived issues, such the evolution of biotechnology. The development of biotechnology has had a significant impact on trade, with the GM foods issue being a notable example. The convergence of biotechnology and trade is a difficult but inevitable issue for the WTO.

Third, the mandatory labeling of GM foods issue is, in part, related to the treatment of agriculture. In this regard, WTO negotiations concerning agriculture are at a stalemate. Past negotiations have proved that the gulf between agriculture-exporting and agriculture-importing Members is difficult to bridge. The GM foods issue has added fuel to the already heated agricultural negotiations, as we saw in Chapter 1.

In Chapter 2, we examined the US and the EU positions concerning the mandatory labeling of GM foods. Their opposing views about the issue have resulted in trade friction. These different perspectives regarding the mandatory labeling of GM foods have been based on the socio-economic conditions of the countries. The US, an agriculture-exporting state, objects to mandatory labeling schemes for GM foods on several grounds. First, it asserts that the mandatory labeling of GM foods is unnecessary, since commercialized GM foods are substantially equivalent to conventional foods. The US has been applying existing food-labeling regulations, rather than creating *ex nihilo* regulations specifically formulated for GM foods. They do not treat GM foods as *sui generis*. Second, the US has expressed great concern that a mandatory labeling scheme would place a pecuniary burden on producers by increasing the cost of the final product. This would strip away the competitiveness of the technology-oriented US agriculture sector. Third, the US contends that voluntary labeling is sufficient to satisfy the protection of consumers' right to information about the foods they eat. The FDA, the regulatory authority responsible for food labeling, has adhered to a voluntary labeling scheme since 1992. With regard to US state legislation, all mandatory labeling statutes proposed between 2001 and 2002 were turned down. In addition, jurisprudence in the US, affirming the FDA's position, has rejected consumers' right to be informed about the foods they eat as a rationale for the mandatory labeling of GM foods.

In contrast, the EU has been strengthening its regulatory framework in order to employ the mandatory labeling of GM foods. The underlying reason for this is consumers' hesitancy regarding food safety. Consumers in the EU are vigilant about food safety because they have lived through the BSE and dioxin-contaminated chicken incidents. Since these two severe food contaminations, the EU,

a major agriculture-importing state, has accelerated the strengthening of its food safety regulatory regime. These incidents incited the EU to expand the application of the precautionary principle to the realm of food safety, even though the precautionary principle is a notion originally developed for international environmental law.

At present, several EU Members have imposed a *de facto* moratorium on the importation of GM foods. The denial of market access has been of deep concern for agriculture-exporting states, notably the US, Canada, and Argentina. EU Members adhering to the *de facto* moratorium contend that they require the mandatory labeling regulation so as to close the market to GM foods. Although there were mandatory labeling requirements related to GM foods included in past legislation, two proposals were additionally adopted concerning their mandatory labeling. Through these two proposals, the labeling requirements have been gradually strengthened. For instance, foods must be labeled if genetically modified, irrespective of whether they contain remnants of protein or DNA derived from genetic modification. The threshold has been set at 0.9%.

In response to current trends concerning the handling of GM foods, this thesis investigated whether WTO Members enacting regulations regarding the mandatory labeling of GM foods on the grounds of consumers' right to information is compatible with the WTO Agreements. This thesis contended that WTO Members invoking measures for the mandatory labeling of GM foods based on the protection of the consumers' right to information is, indeed, viable under the TBT Agreement. Moreover, the WTO can act as the conduit to converge trade liberalization and governments' interests in protecting consumers' right to information about the foods they eat.

In searching for guidance, we explored past labeling issues with which the GATT/WTO had dealt. Labeling issues themselves are not new to the GATT/WTO framework. The GATT/WTO regime has experience in handling the adjustment of two values, such as trade and environment, through eco-labeling schemes. Eco-labeling requirements have been controversial because they concern NPR-PPMs, which do not affect characteristics of the end product. In addition to the non-detectable characteristics of NPR-PPMs, each environmental issue differs from place to place,

which would impose different types of burdens on foreign producers accessing each market. In this regard, in the *Tuna/Dolphin* I case, the Panel noted that labeling does not violate the Most Favored Nations obligation articulated in Article I(1) of the GATT because it does not deny products without the dolphin-friendly label access to the US market.

Having considered the tremendous trade implications of eco-labeling schemes, negotiations at the CTE have been actively pursued since the eco-labeling scheme was first created. In 1996, the CTE came to some conclusions without making any concrete recommendations. The Doha Ministerial Declaration in 2001 noted that the eco-labeling scheme issue needs further discussion. The CTE's Report to the Cancun Ministerial Conference did not present any concrete solutions, but the Report did clarify what is encompassed in the eco-labeling argument. As exemplified in the eco-labeling discussion under the CTE, negotiations require the efforts of each WTO Member. Members continue to adhere to the negotiations at the CTE because in so doing, they can avoid unilateral trade measures.

With regard to the mandatory labeling of GM foods, the WTO faces the challenge of converging the necessity of trade liberalization and the protection of consumers' right to information regarding the foods they eat. This thesis investigated the compulsory labeling of GM foods, comparing it to voluntary eco-labeling. In light of this situation, the TBT Agreement applies to the mandatory labeling of GM foods issue because it directly concerns product-related PPMs, and thus such foods constitute a technical regulation. In this thesis, the protection of consumers' right to information regarding the foods they eat can be justified as a legitimate objective pursuant to Article 2.2 of the TBT Agreement. This thesis asserted that the interpretation of legitimate objectives includes the importance of the state interest in enacting legislation that ensures consumers will be informed about the foods they consume.

With regard to the SPS Agreement, this thesis concluded that very little legislation concerning the mandatory labeling of GM foods would be applicable due to the narrowly defined terms of sanitary measures by the SPS Agreement. The most likely case in which the Agreement could be

applied would be regulations such as those concerning toxicity deriving from genetic modification. Moreover, the justification to assert consumers' right to information regarding the foods they eat under the SPS Agreement would be a remote possibility because the Agreement requires a stringent scientific assessment. Furthermore, according to the *Beef Hormones* case, the precautionary principle will not "override" risk assessment. Despite these odds, this thesis's assertion would not be affected by the outcome of the SPS Agreement analysis because WTO Members can enact the mandatory labeling of GM foods on the basis of protecting consumers' right to information about the food they eat based on the TBT Agreement, which states that measures that fall outside the SPS Agreement will be regulated under the TBT Agreement, provided that they meet the definition of a technical regulation.

Further to the above argument, this thesis analyzed the hypothetical situation of mandatory labeling being in violation of Article III of the GATT 1994. In such case, this thesis concluded that a strong possibility remains that mandatory labeling would be consistent with Article XX(a) of the GATT 1994, which articulates general exceptions to GATT obligations for measures pertaining to ethical concerns. The mandatory labeling of GM foods can be justified under Article XX(a) of the GATT 1994, since transgenesis has been acknowledged as comprising ethical concerns in part and thus also comprises part of the consumers' right to information. Even though the argument is brought under Article XX(a), the outcome remains the same as the argument introduced in the TBT Agreement: the consumers' right to information can be justified as a legitimate objective, but it is a matter of how the criteria concerning implementation have been set out. Specifically, diverse implementation thresholds need to be scrutinized further. For instance, Japan has established its mandatory labeling exemption level at 5%, while the EU has set its labeling exemption level at 0.9%. This disparity can only result in confusion in terms of the smooth flow of international trade. The implementation criteria debate has the potential to undermine the objective, even though the objective itself is necessary. In this regard, the measure could be inconsistent with the chapeau of Article XX if the exemption criteria were employed in an arbitrary and discriminatory manner.

As seen above, this thesis contended that WTO Members can enact legislation requiring the mandatory labeling of GM foods that can be compatible with the interpretation of a legitimate objective contained in the TBT Agreement: however, the kernel of the problem lies in the wide range of thresholds for exempting mandatory labeling requirements. This thesis proposed two ways in which the WTO can handle the threshold criteria issue. First, the TBT Committee could be the forum in which to negotiate the threshold criteria issue. There has been a similar case in the CTE concerning the voluntary nature of eco-labeling. In the case of the mandatory labeling of GM foods, the TBT Committee is essential to finding a solution to this issue. It may take time, but negotiating under the auspices of a multilateral approach would prevent unfair unilateral sanctions and maintain procedural fairness. At the same time, it is important to realize that many international organizations are participating as observers.[587] If their views were to be reflected, it would enhance the legitimacy of negotiations held at the Committee.

Second, from a long term perspective, the importance of the Panel and the Appellate Body incorporating standards formulated by the international standardization body was emphasized, as they may address the trade implications of the mandatory labeling of GM foods issue. Including such standards in the dispute settlement process, if they were established in the future, may give impetus to harmonize the different implementation levels of WTO Members. More importantly, it may also enhance legitimacy from the international community, since such standards would derive from a body outside the WTO. In this regard, the most likely international body would be the CAC, since it has been attempting to establish a standard for the labeling of GM foods. Taking the CAC as an example, the importance of the Panel and the Appellate Body incorporating the standard established by the

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[587] Participants as observatory status include representatives from ACP (African, Caribbean, and Pacific Associables), ALADI (Latin America Association of Integration), EFTA (European Free Trade Association), FAO (Food and Agriculture Organization of the United Nations), IEC (International Electrotechnical Commission), IMF (International Monetary Fund), ISO (International Standardization Organization), ITC (International Trade Centre), OECD (Organization for Economic Co-operation and Development), OIE (International Office of Epizootics), UNCTAD (United Nations Conference on Trade and Development), UN/ECE (United Nations Economic Commission for Europe), WHO(World Health Organization), Codex Alimentarius Commission, and the World Bank). WTO, *Report (1998) of the Committee on Technical Barriers to Trade* (1998), WTO Doc. G/TBT/SPEC/7 at para. 6

CAC in its decision would be somewhat significant, as the CAC objective would also be reflected in the decision. In other words, the CAC has been established so as to "to protect health of consumers and ensure fair practices in the food trade".[588] It is evident that consumers' right to information regarding the foods they eat extends to their safety concerns. By including CAC standards as implementing standards, WTO decisions by the Panel and the Appellate Body would incorporate the essence of consumer concerns into their decisions. This would enrich the legitimacy of the WTO under international law. However, this is the long term agenda; it is assumed that negotiations at the TBT Committee will play a major role in the establishment of such standards.

[588] *Codex Statutes, supra* note 110 art. 1.

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