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The Dilemma of Genetically Modified Products at Home and Abroad

by

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THE DILEMMA OF GENETICALLY MODIFIED PRODUCTS AT HOME AND ABROAD

Mark King

I. INTRODUCTION

With the rising trade gap in the United States and growing opposition to genetically modified organisms ("GMOs") both home and abroad, agricultural biotechnology has become increasingly significant.[1] Mounting concern about genetically modified organisms, stemming primarily from European scares from contaminated beef, has generated opposition to the once well regarded future of U.S. agriculture.[2] For example, during the fall harvest season in 1999, opposition to genetically modified organisms appeared in Iowa at local cooperatives with signs bearing "[w]e do not take GMO corn not approved for sale in Europe."[3] Consider this in light of the fact that in 1999, nearly seventy million acres, an area equal to all the farmland in Iowa and Illinois, were switched to genetically modified crops.[4] After three years of steadily increasing sales for genetically altered seeds, the orders for the 2000 spring planting season have since revealed a stall in the GMO boom.[5]

Policymakers, producers, and consumers alike cannot ignore the obvious benefits of GMOs. Before biotechnology, corn-killing pests required many farmers to "hire crop-dusters to cover their land with insecticides so powerful they couldn't

1. *See* Greg Wright, *U.S. Seeks More Trade at WTO*, DES MOINES REG., Nov. 28, 1999, at 1AA.

2. *See id.*; Scott Kilman, *Once Quick Converts, Farmers Begin to Lose Faith in Biotech Crops*, WALL ST. J., Nov. 19, 1999, at A1.

3. Anne Fitzgerald, *Biotech Crop Dispute Vexes Iowans*, DES MOINES REG., Nov. 28, 1999, at 1A.

4. *See* Kilman, *supra* note 2, at A1.

5. *See id.*

enter their fields for days afterward."[6] The insecticides killed corn-killing pests, but they also eradicated beneficial insects such as ladybugs and honeybees.[7] Since the emergence of Bt corn, a species containing the transplanted gene from the soil micro-organism called *Bacillus thuringiensis*, a twenty percent decline in insecticide sales in the region near Wayne State College in Nebraska has resulted and also spared many of the beneficial insects.[8] Bioengineered crops also present soil erosion protection; while Monsanto's Roundup kills everything green, a bioengineered soybean strain can withstand Roundup's wrath, decreasing the need to mechanically disturb the soil, which subjects the soil to wind and rain.[9] While this may be cause for applause, critics have been able to silence the clamor with their own evidence.[10]

Adverse effects from GMOs have received much press time due to surfacing concern from unintended results. For example, a Cornell University study in the summer of 1999 suggested pollen of Bt corn can poison Monarch butterfly larvae.[11] The Monarch butterfly has become the emerging symbol of the anti-biotech movement as witnessed in the Chicago Food and Drug Administration ("FDA") hearings on biotech food where protesters were joined by children dressed up as Monarch butterflies.[12] Additional controversy surrounds the long-term effects of biotech commodities. The skeptics advocating bio-diversity need to be assured that GMOs do not produce a super corn-killing caterpillar, a species resistant to both biotechnology and insecticides. Likewise, research has not shown that GMOs will not induce unknown human health problems. Skeptics, both home and abroad, need reassurance that biotech products will not have harmful side effects to the environment and to the consumer.[13]

Consumer-advocate groups have also pushed for labeling of genetically modified products. In November of 1999, a bipartisan bill was introduced requiring labels identifying whether fresh produce or any ingredient in packaged foods was grown from genetically altered seeds.[14] The bill has drawn scrutiny from government food and health agencies as well as food industry lobbies.[15] If enacted, the U.S. food industry could possibly see GMO opposition similar to the European fervor.[16] It is possible that food companies could possibly opt for non-genetically modified ingredients rather than carry a label identifying genetically modified products.

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6. *Id.* at A8.
7. *See id.*
8. *See id.*
9. *See id.*
10. *See* Fitzgerald, *supra* note 3, at 1A (stating that advocates adamantly opposed to GMOs argue that too little is known about the potential effects on human health and the environment).
11. *See* Scott Kilman, *FDA Signals Tighter Biofood Oversight As Pressure From Opponents Increases*, WALL ST. J., Nov. 19, 1999, at A8.
12. *See id.*
13. *See* Fitzgerald, *supra* note 3, at 1A.
14. *See* Kilman, *supra* note 2, at A1.
15. *See id.*
16. *See id.*

Farmers in the United States see subsidies to domestic farmers in Europe and Japan as unfair trade obstacles.[17] They recognize these subsidies as attempts to exclude genetically altered crops from their respective agricultural markets.[18] While the United States wants to phase out farm subsidies, Europe and Japan are disturbed over the possible impact on the smaller family farm's inability to compete with large American operations.[19]

The Clinton administration possibly faced its most fervent post-Lewinsky debacle at the Seattle Round talks for the World Trade Organization ("WTO"). Will the disparity in the United States trade gap widen or will the Clinton administration initiate a more amicable environment for American agricultural products? Perhaps the agricultural market will continue to decrease the presence of GMOs and see a return to genetically unaltered seeds as the preferred method.

At the Millennium Round in Seattle, members of the WTO braced to set their agenda on possibly the most important round of world trade negotiations in the agricultural arena.[20] The WTO failed to address recurring agricultural trade irritants including agricultural tariffs and market access, export subsidies, domestic support, sanitary and phytosanitary measures, standardization of non-tariff barriers, and state trading enterprises.[21] The WTO also failed to incorporate emerging issues in agricultural trade such as export credits, allocation of in-quota tariffs, and regulating products of biotechnology.[22] While the General Agreement on Tariffs and Trade ("GATT") attempted to create an agency designed to implement and regulate the agreement, consensus could not be reached among the participating members.[23] The inception of the WTO at the conclusion of the Uruguay Round began a new era for the international trading system, especially with respect to trade in agricultural products, but these international efforts appear to be somewhat stonewalled.[24]

The recent adoption of the Biosafety Protocol has put added pressure on the WTO's sanitary and phytosanitary measures as well as the technical barriers to trade agreement.[25] The Codex Alimentarius, an international group aimed at developing food safety standards, may be the important missing link in resolving trade barred by sound science versus trade barred by a precautionary principle.

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17. *See* Wright, *supra* note 1, at 1AA.

18. *See id.*

19. *See id.*

20. *See* Geoff Winestock, *EU, U.S. Squabble Over Agenda for WTO: Europe Wants Broad Discussions at Millennium Round*, WALL ST. J. EUR., Oct. 25, 1999, at 4, *available in* WL-WSJE 27642429.

21. *See* Helene Cooper et al., *WTO's Failure in Bid to Launch Trade Talks Emboldens Protestors*, WALL ST. J., Dec. 6, 1999, at A1, A17.

22. *See id. See also* Michael M. Phillips & Bhushan Bahree, *Meeting Agrees to Try to Agree on WTO Talks*, WALL ST. J. EUR., Oct. 27, 1999, at 1, *available in* WL-WSJE 27642503.

23. *See Roots: From Havana to Marrakesh* (visited Feb. 19, 2001) http://www.wto.org/english/thewto_e/whatis_e/tif_e/fact4_e.htm.

24. *See id.*

25. *See Caution Needed*, ECONOMIST, Feb. 5, 2000, at 69.

This Note attempts to explore trade-related issues concerning genetically modified organisms as the new millennium stretches before us. To place world agricultural trade in its proper context, background will first be given on the evolution of GATT and the infancy of the WTO. Further, the increasingly significant role of the Codex Alimentarius will next be addressed in light of the volatile state of open trade for GMOs in respect to the sound science principle of the WTO and the precautionary principle of the Biosafety Protocol.

II. THE HISTORY OF GATT AND THE WTO

On January 1, 1948, GATT became effective when national representatives provisionally approved the agreement.[26] The temporary agreement envisioned a more comprehensive trade and employment treaty with an overseeing institution called the International Trade Organization ("ITO").[27] "GATT was to serve as an interim agreement until the ITO and its founding document, the Havana Charter, could be ratified by national legislatures."[28] Ratification proved impossible, even though the United States government had initially been one of the driving forces, because the American Congress became GATT's most serious opponent and refused to ratify the document.[29] GATT became the de facto permanent trade institution to reduce trade barriers worldwide as the ITO effectively died.[30] Consequently, what was once a temporary agreement remained the only multilateral instrument governing international trade for forty-seven years.[31]

The agreement grew out of the law of comparative advantage, which promotes open trade.[32] Liberal trade policies allow the unrestricted trade of goods and services at the lowest prices.[33] Under this policy, total world wealth is increased when prospering countries take advantage of their assets and natural resources to concentrate on what they best produce, and then trade these products for products from other countries.[34] Liberal trade policies "allow the unrestricted flow of goods and services which multiply the rewards resulting from producing the best products, with the best design, at the best price."[35] Alternatively, perpetual government subsidies and protection against competition from imports can lead to inefficient companies supplying consumers with unattractive and overpriced products.[36]

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26. *See* Kevin C. Kennedy, *The GATT-WTO System at Fifty*, 16 WIS. INT'L L.J. 421, 422 (1998).
27. *See id. See also Roots: From Havana to Marrakesh*, *supra* note 23.
28. *See Roots: From Havana to Marrakesh*, *supra* note 23.
29. *See id.*
30. *See* Kennedy, *supra* note 26, at 423.
31. *See id.* at 423-24.
32. *See id.* at 424.
33. *See id.*
34. *See The Case for Open Trade* (visited Feb. 19, 2001) <http://www.wto.org/english/thewto_e/whatis_e/tif_e/fact3_e.htm>.
35. *Id.*
36. *See id.*

Factories close and jobs are lost as a result when these policies are pursued.[37] The synergy from similar policies throughout the world creates a more hostile environment with stunted economic growth.[38] GATT sought to lower trade barriers to overcome these issues.

GATT's primary concern dealt with the reduction of both tariff and non-tariff trade barriers.[39] Through a series of rounds, trade barriers were lowered and world trade increased.[40] The trade liberalization resulted in world economic growth of approximately five percent annually and increases in world trade around eight percent annually during the 1950s and 1960s.[41] The Tokyo Round, lasting from 1973 to 1979, was the first major attempt to curb non-tariff trade barriers.[42] These barriers include policies of "import licensing schemes, quotas, import bans, and safety and technical standards."[43] A series of agreements emerged from the Tokyo Round modifying non-tariff barriers, such as import licensing procedures and customs valuation, but a consensus was certainly not reached and in most cases, only a small number of industrialized members subscribed to the agreements.[44] It also failed to resolve fundamental agricultural trade problems.[45] In the agricultural field, members continued to exploit loopholes in the multilateral trading system and efforts to liberalize agricultural trade found little success.[46]

While GATT achieved much success, most of the liberalization of international trade came in the form of industrial products.[47] GATT was able to drastically cut tariffs on most industrial products but markedly failed vis-à-vis agricultural products.[48] As a result, most member states continued to shield agricultural products with "high tariff and non-tariff barriers including outright import bans."[49] During the 1970s and early 1980s, economic recessions resulted in the creation of non-tariff barriers to protect government interests facing increased foreign competition.[50] GATT's credibility and effectiveness deteriorated as governments began to increasingly employ subsidies to maintain their agricultural trade interests.[51]

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37. *See id.*
38. *See id.*
39. *See id.* at 421. *See also Roots: From Havana to Marrakesh, supra* note 23.
40. *See Roots: From Havana to Marrakesh, supra* note 23.
41. *See id.*
42. *See id.*
43. Donald E. Buckingham, Emerging Issues in International Agricultural Trade 2 (Oct. 16, 1999) (unpublished manuscript presented at the American Agricultural Law Association symposium in New Orleans, Louisiana) (on file with author).
44. *See Roots: From Havana to Marrakesh, supra* note 23.
45. *See id.*
46. *See id.*
47. *See* Buckingham, *supra* note 43.
48. *See id.*
49. *Id. See also Roots: From Havana to Marrakesh, supra* note 23.
50. *See Roots: From Havana to Marrakesh, supra* note 23.
51. *See id.*

GATT's ad hoc and provisional nature proved to be detrimental, as did its sole application to trade in goods.[52] GATT's ad hoc and provisional nature allowed member states as contracting parties bound only to agree upon that which they wished.[53] By the 1980s, the economic environment had drastically changed with more emphasis on trade in services and intellectual property.[54] The temporary agreement had become antiquated and was in need of a major overhaul. Negotiations behind the Uruguay Round began in Geneva in the 1980s and with it, a new era for the international trading system, finally resulting in GATT in 1994.[55]

A. *The Creation and Implementation of the World Trade Organization*

In response to the vociferous dissatisfaction with GATT's performance in a changing economic environment, "the Bush Administration initiated a new era of GATT negotiations–the Uruguay Round."[56] Financial and other services accounted for nearly seventy percent of the American gross national product showing that American agriculture was in a state of disrepair.[57] As a result, the Uruguay Round dealt extensively with services and intellectual property, but somewhat less extensively with agriculture.[58] Despite its lack of an absolute resolution in all facets, the Uruguay Round culminated in, perhaps, the most important world trade agreement to date, the World Trade Organization.[59]

The World Trade Organization Agreement ("WTOA") replaced the General Agreement on Tariffs and Trade of 1947 by amending rules affecting trade in goods and providing new rules for trade in agricultural products, services, and intellectual property.[60] The first Director-General of the World Trade Organization, Peter Sutherland, described the Uruguay Round as "a defining moment in modern history."[61] In addition to providing new rules for the agriculture, service, and intellectual property fronts, the WTOA created new institutions to resolve and avoid trade irritants before they develop into full-blown trade wars.[62]

Under the new regime, the WTO does not necessarily extinguish the former GATT; rather, it encompasses GATT and its subsequent amendments, the General Agreement on Trade in Services ("GATS"), and the Agreement on Trade-Related Aspects of Intellectual Property Rights ("TRIPS").[63] As a result, the new agreement

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52. *See WTO and GATT–Are They the Same?* (visited Feb. 19, 2001) <http://www.wto.org/english/thewto_e/whatis_e/tif_e/fact6_htm>.
53. *See id.*
54. *See* James M. Cooper, *Spirits in the Material World: A Post-Modern Approach to United States Trade Policy*, 14 AM. U. INT'L L. REV. 957, 963 (1999).
55. *See id.*
56. *See id.*
57. *See id.*
58. *See id.*
59. *See id.* at 968.
60. *See* Kennedy, *supra* note 26, at 443-44.
61. *See id.* at 442.
62. *See* Cooper, *supra* note 54, at 968-70.
63. *See* Kennedy, *supra* note 26, at 444.

amending GATT of 1947 is now termed the GATT of 1994.[64] The resultant WTOA renews the GATT of 1947's commitment of the key principles of non-discrimination, transparency, and predictability and applies them to services and intellectual property.[65] Through renewed commitment to open markets and the elimination of government intervention, free trade has been reinvigorated and enhanced.[66]

Responding to the lack of an effective dispute settlement system to ensure expeditious resolutions that are actually binding, the Uruguay Round also produced the Dispute Settlement Understanding ("DSU").[67] This new mechanism serves to enforce WTO member rights vis-à-vis other WTO members.[68] Recognized in Article 3.2, "[t]he dispute settlement system of the WTO is a central element in providing security and predictability to the multilateral trading system."[69]

B. *Agriculturally Influential Multilateral Trade Agreements*

The WTOA had profound ramifications for the agricultural industry.[70] Previously, GATT 1947 allowed many loopholes for the member states to navigate through to provide protection for the domestic agricultural sector.[71] GATT 1994 established that agriculture was subject to both the general rules outlined in GATT 1947 and specific regulations as provided in the WTOA's Agreement on Agriculture.[72] Thus, agricultural products will not only be subject to the Agreement on Agriculture, but other significant agreements that may have agricultural implications.[73] Discussed more extensively below, the Sanitary and Phytosanitary ("SPS") Agreement and Agreement on Technical Barriers to Trade ("TBT Agreement") contain provisions that may apply in the current biotech food dilemma. In addition, national agricultural policies now face reform from the WTOA/GATT 1994, which significantly limits trade barrier techniques.[74]

64. *See id.*
65. *See id.* at 442-44.
66. *See id.* at 443.
67. *See* Rufus H. Yerxa & Demtrios J. Marantis, *Assessing the New WTO Dispute System: A U.S. Perspective*, 32 INT'L L. 795, 796 (1998).
68. *See id.*
69. Timothy M. Reif & Marjorie Florestal, *Revenge of the Push-Me, Pull-You: The Implementation Process Under the WTO Dispute Settlement Understanding*, 32 INT'L L. 755, 759 (1998).
70. *See* Kennedy, *supra* note 26, at 463-64.
71. *See id.* at 463.
72. *See id.*
73. *See id.* at 466.
74. *See* Buckingham, *supra* note 43.

C. *Agreement on Agricultural Trade*

Agricultural trade issues were most directly addressed in a multilateral trade agreement through the Agreement on Agriculture.[75] The Agreement on Agriculture featured five guidelines to improve better market access for agricultural products:

> (1) converting all non-tariff barriers on agricultural products to bound tariffs, (2) binding tariffs on all agricultural products, (3) prohibiting new tariffs, (4) reducing all tariffs by 36% by the year 2001, and (5) guaranteeing each other a minimum market access equal to roughly three percent of domestic consumption and rising to 5% by 2001.[76]

The ultimate goal of the WTO is to "establish a fair and market-oriented agricultural trading system that includes substantial reductions in agricultural support and protection."[77] To honor these commitments, WTO countries further agreed to reduce subsidies on agricultural products bound for export and to create no new export subsidy programs.[78] Implementing this protocol requires existing subsidies to be reduced by thirty-six percent by the year 2001.[79] Additional measures include also reducing domestic subsidies on agricultural products.[80] This requires member countries to reduce domestic subsidies by twenty percent by 2001.[81] Domestic subsidies not subject to this requirement, known as "green subsidies," are those that are not trade distorting, such as crop insurance, disaster relief, food aid programs, environmental initiatives, and certain conservation programs.[82]

D. *The Sanitary and Phytosanitary Agreement*

While the Agreement on Agriculture may attempt to eliminate or substantially reduce tariff and quota barriers to agricultural trade, the agreement on sanitary and phytosanitary measures attempts to specifically safeguard world trade from non-tariff and non-quota barriers to agricultural trade.[83] History has proven that as more traditional barriers to trade are reduced or eliminated, less traditional SPS measures will crop up with the sole purpose to protect domestic agricultural producers from import competition.[84] Arduous negotiation successes have resulted in utter failure as traditional barriers fall only to be replaced with suspect SPS measures.[85] The SPS Agreement provides a structure by which to assess whether a

75. *See* Kennedy, *supra* note 26, at 444.
76. Buckingham, *supra* note 43.
77. Kennedy, *supra* note 26, at 463.
78. *See* Buckingham, *supra* note 43.
79. *See id.*
80. *See id.*
81. *See id.*
82. *See id.*
83. *See* Kennedy, *supra* note 26, at 455-56.
84. *See id.* at 455.
85. *See id.* at 455-56.

WTO member nation is merely disguising trade barriers in scientifically unfounded fears.[86]

Defined in terms of the purpose, sanitary or phytosanitary measures are those that have been adopted to protect human or animal life or health from various risks.[87] While agricultural products are the target of legitimate SPS measures, they are also frequently the target of not so legitimate SPS measures.[88] The SPS Agreement recognizes the right to take legitimate SPS measures to protect human, plant, and animal life and health by creating procedural requirements.[89] While not providing substantive measures, the SPS Agreement requires procedural safeguards maintaining that measures taken be scientifically based against a legitimate risk to the health of fauna and flora.[90]

"The SPS Agreement applies to all sanitary and phytosanitary measures that may, directly or indirectly, affect international trade."[91] The complaining WTO member must first establish that the measure taken is indeed a sanitary and phytosanitary measure.[92] Second, the trade barrier must be shown to apply to imported products producing a presumed negative effect.[93]

The SPS measure taken is legitimately recognized if the measure is "applied only to the extent necessary . . . based on scientific principles and is not maintained without sufficient scientific evidence," except that such measures may be imposed temporarily when evidence is insufficient and receipt of additional information necessary for a more objective assessment of risk is pending.[94] The member nation must also present the risk or risks "arising from additives, contaminants, toxins or disease-causing organisms in foods, beverages or feedstuffs."[95] Because scientific certainty is nearly unobtainable, the scientific determinations require judgments among competing scientific views making the resolution of SPS legitimacy difficult.[96]

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86. *See* Terence P. Stewart & David S. Johanson, *Policy in Flux: The European Union's Laws on Agricultural Biotechnology and Their Effects on International Trade*, 4 DRAKE J. AGRIC. L. 243, 288 (1999).

87. *See id.* For a discussion of the use of the SPS measures, see Dale E. McNiel, *The First Case Under the WTO's Sanitary and Phytosanitary Agreement: The European Union's Hormone Ban*, 39 VA. J. INT'L L. 89 (1998).

88. *See* Kennedy, *supra* note 26, at 456.

89. *See id.*

90. *See id.* at 455-56.

91. *Id.* at 455.

92. *See* Dale E. McNiel, *The First Case Under the WTO's Sanitary and Phytosanitary Agreement: The European Union's Hormone Ban*, 39 VA. J. INT'L L. 89, 113 (1998).

93. *See id.*

94. *Id.* at 116.

95. Ryan David Thomas, Note, *Where's the Beef? Mad Cows and the Blight of the SPS Agreement*, 32 VAND. J. TRANSNAT'L L. 487, 501 (1999).

96. *See* Kennedy, *supra* note 26, at 456.

E. *The TBT Agreement*

Agricultural products may find their way into a TBT Agreement dispute.[97] "[L]abeling requirements as they apply to a product, process, or production method" are included in the definition of technical regulations as provided in the TBT Agreement.[98] The TBT Agreement, a product of the Uruguay Round, aims to prevent the technical regulations of a country from being used as an insidious and effective national trade barrier to foreign products.[99] The Agreement provides that the technical regulations of a country shall not be applied with the "effect of creating unnecessary obstacles to international trade."[100] While the SPS Agreement and the TBT Agreement are both purported to be mutually exclusive, the two agreements are very similar in most respects.[101]

The SPS and TBT Agreements, while similar, have different tests to determine whether a measure is impermissibly protectionist in nature. While the SPS Agreement focuses on scientific justification and risk assessment, the TBT Agreement relies on a nondiscrimination test.[102] The TBT Agreement prohibits technical regulations that are more trade restrictive than necessary to attain a legitimate objective.[103] The agreement defines legitimate objectives as including the "protection of human health or safety, animal or plant life or health, or the environment."[104]

The TBT Agreement balances national interest in product standards against their unjustified use to protect a domestic industry.[105] The TBT Agreement establishes three areas to distinguish legitimate standards and conformity assessment procedures from protectionist measures and procedures.[106] The three areas include: "(1) the preparation and adoption of technical regulations and standards; (2) conformity assessment procedures and mutual recognition of other countries' assessments; and (3) information and assistance about technical regulations, standards, and conformity assessment procedures."[107] While the agreement does not establish or prescribe standards, technical regulations, or conformity assessment procedures, it does establish "general procedural requirements to be observed when adopting or using such measures in order to prevent unnecessary obstacles to trade."[108]

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97. *See* Stewart & Johanson, *supra* note 86, at 288.
98. *Id.* at 290
99. *See* Kennedy, *supra* note 26, at 460.
100. *See* Stewart & Johanson, *supra* note 86, at 290. *See also* Kennedy, *supra* note 26, at 460.
101. *See* Kennedy, *supra* note 26, at 460-61.
102. *See id.* at 461.
103. *See* Stewart & Johanson, *supra* note 86, at 291.
104. *Id.* at 288.
105. *See* Kennedy, *supra* note 26, at 460.
106. *See id.*
107. *Id.*
108. *Id.*

F. *Assessing the Uruguay Round*

The Uruguay Round failed to conclusively provide a comprehensive agreement and opted for a compromise to gradually reform agricultural trade.[109] Due to French opposition, many difficult issues were left unresolved.[110] Possibly most disconcerting is the possible allotment of time for special interests to form united fronts in opposition to certain issues, which will indeed slow the resolution of many difficult issues.[111] The Uruguay Round may prove to be a missed opportunity for significant agricultural reform as the unresolved issues magnify daily.[112]

G. *Recent Developments in Agricultural Trade*

In light of the failure to provide conclusive and comprehensive agreement on agricultural trade, the dilemma facing agricultural trade stiffens over time. If the recent Seattle Round is any indicator, agricultural trade issues face certain defeat.[113] The Biosafety Protocol agreed upon in late January of 2000 further clouds the already murky picture of biotech food trade.[114] With the rise in anti-GMO fervor, consumers may become the final arbiter forcing food makers to pull GMO ingredients from the recipe.[115]

The events surrounding the onset of the Seattle Round should have been an omen for the demise of the negotiations. Months before the scheduled date of the Seattle Round, member nations squabbled over the agenda for the WTO meeting.[116] While the United States sought to limit the key scope of negotiations to liberalizing trade in agriculture, the European Union("EU") sought a more comprehensive agenda focusing on such issues as "environmental and labor standards, competition policy, and investment rules."[117] The EU also insisted on a "single undertaking" to deter any nations from making side deals.[118] In late October of 2000, economic powers met to discuss the scope of the upcoming Seattle Round and "agreed to instruct their negotiators to show more flexibility on agenda-setting."[119] The ambiguity thickened as the world powers could only agree to disagree.

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109. *See* Cooper, *supra* note 54, at 958-59.

110. *See id.* at 967-68.

111. *See id.* at 959.

112. *See generally id.* (discussing various problems in international trade dispute efforts during the Uruguay Round).

113. *See* Cooper et al., *supra* note 21, at A1.

114. *See Talk of the Nation/Science Friday: Controversy Surrounding Bioengineered Food Products and Genetically Modified Organisms Used in Agriculture* (National Public Radio broadcast, Feb. 4, 2000) (transcript on file with author).

115. *See id.*

116. *See* Winestock, *supra* note 20, at 4.

117. *Id.*

118. *Id.*

119. Phillips & Bahree, *supra* note 22, at 1.

Internal strife on the subject matter of the talks was not the sole concern, however, as protestors from around the globe gathered in Seattle in the days preceding the scheduled meetings to damage the armor of the WTO.[120] As the 135 trade ministers gathered to attend the opening session, a phalanx of protestors opened the session parading outside the Washington State Convention and Conference Center dressed as endangered sea turtles and GMO-afflicted Monarch butterflies.[121] The activists had gathered to protest the WTO's disregard of human rights and environmental decay.[122] Blaming the WTO for its alleged secrecy and lack of democracy, over 600 protestors were arrested,[123] however, they were still successful in sabotaging the opening session.[124]

In the presence of the tear gas, rubber bullets, and riot gear, the WTO's Seattle Round failed miserably.[125] The EU and U.S. had come to an agreement, to substantially reduce all forms of export subsidies "in the direction of progressive elimination," after the initial demand by the U.S. calling for "elimination of all export subsidies."[126] When the issue of labor rights surfaced, the developing countries began to mount an insurmountable obstacle.[127] With the U.S. isolating itself by walking away from a deal with the EU to make a pledge of duty-free access for the poorest countries, the divide between the nations widened.[128] Once the U.S. walked away from a demand from developing nations to review its antidumping rules, these countries, led by Japan, were infuriated.[129] The chairman, Charlene Barshefsky, threatened to call a green room[130] in order to break the deadlock.[131] Shortly thereafter, some developing countries were threatening to withdraw from the talks.[132] The chairman, needing to decide, "whether keeping people in a room discussing intractable issues" was productive, finally emerged with other negotiators admitting that the talks were breaking down.[133] Failing to reach any resolutions, the once hoped

120. *See* Patrick May, *Thousands Expected to Protest*, DES MOINES REG., Nov. 28, 1999, at 1AA.

121. *See id.*

122. *See id.*

123. *See* Geoff Winestock & Helene Cooper, *Stymied in Seattle: Modest WTO Talks Still Manage to Fail; Protestors Celebrate*, WALL ST. J. EUR., Dec. 6, 1999, *available in* WL-WSJE 27645738.

124. *See* Geoff Winestock, *With Streets Quiet, WTO Returns to Negotiations: As Protestors are Silenced in Seattle, Deep Rifts Resound Among States*, WALL ST. J. EUR., Dec. 2, 1999, at 2, *available in* WL-WSJE 27645467.

125. *See* Cooper et al., *supra* note 21, at A1.

126. Winestock & Cooper, *supra* note 123.

127. *See id.*

128. *See id.*

129. *See id.*

130. A green room is, in WTO lore, a term for any private space where a small group of key players caucuses deals when a deadlock is imminent. *See id.*

131. *See id.*

132. *See id.*

133. *Id.*

for dynamic negotiations with a three-year deadline came to a troubled end after becoming a prime-time bonanza for television.[134]

III. THE BIOSAFETY PROTOCOL

On January 29, 2000, new rules regulating the transboundary movement of GMOs were adopted at the Resumed First Session of the Extraordinary Conference of the Parties to the Convention on Biological Diversity for a Biosafety Protocol, which is sponsored by the United Nations Environment Program.[135] Ministers from over 130 nations met in Montreal to discuss the controversial topic of GMOs, which has pitted the EU and U.S. as transatlantic foes.[136] The nations reached a twenty-two-page agreement entitled the Cartagena Protocol on Biosafety, or Biosafety Protocol.[137] The science correspondent for National Public Radio has suggested that the agreement has a lot of "creative ambiguity," which has resulted in both sides of the Atlantic claiming victory.[138]

The first agreement directly regulating trade in GMOs is a response from growing worldwide fear from the growth of the GMO industry.[139] As discussed, opponents fear that not enough is known about the potential threats to biodiversity and health from the use and consumption of GMOs.[140] Margot Wallstrom, the European commissioner for environment, agreed that public fears had been addressed saying, "[t]he international community has shown that it takes the concerns of citizens seriously and ensured that right to take well-founded decisions based on the precautionary principle in order to protect the environment."[141] The Biosafety Protocol further provides for a biosafety clearinghouse where information gathered about the effect of bioengineered foods on humans and the environment will be centrally located and made available to the public on the Internet.[142]

The agreement requires exporters to label shipments that "may contain" bioengineered commodities.[143] This results in shipments with any amount of bioengineered or genetically modified products being labeled.[144] The agreement also allows nations to refuse imports of GMOs on a precautionary basis in the absence of sufficient scientific evidence about their safety.[145] Known as the Precautionary

134. *See id.*
135. *See* Roland Blassnig, *Biotechnology: Countries Agree on Biosafety Protocol Regulating Transboundary Movement of GMOs*, 2 Food Safety Rep. (BNA), 125, 125 (Feb. 2, 2000).
136. *See Talk of the Nation/Science Friday, supra* note 114.
137. *See* Blassnig, *supra* note 135.
138. *See Talk of the Nation/Science Friday, supra* note 114.
139. *See Caution Needed, supra* note 25, at 69.
140. *See Talk of the Nation/Science Friday, supra* note 114.
141. Blassnig, *supra* note 135.
142. *See Talk of the Nation/Science Friday, supra* note 114.
143. *See Caution Needed, supra* note 25, at 69.
144. *See id.*
145. *See id.*

Principle, Article 10 of the protocol provides that a country can reject the import of a living modified organism despite "'lack of scientific certainty . . . regarding the extent of the potential adverse effects of a living modified organism on the conservation and sustainable use of biological diversity' to . . . 'avoid or minimize such potential adverse effects.'"[146] However, Article 15 provides that the party of import "shall ensure that risk assessments are carried out for decisions" under Article 10 on whether a transboundary movement of a living modified organism will be permitted.[147]

The official U.S. insistence is that the treaty allows the precautionary blockage of GMOs only in relation to how biodiversity affects human health.[148] Yet, other nations have interpreted it as allowing refusal of GMOs if there are concerns in light of the lack of evidence whether they are safe for humans.[149] More disturbingly, the SPS Agreement requires sound scientific evidence in order to create a trade barrier while the new Biosafety Protocol appears to contradict that.[150] Margot Wallstrom added that the Biosafety Protocol exists in its own right as an international agreement and "lays down a fundamental principle of mutual supportiveness between multilateral environmental agreements and the WTO."[151] This puts both agreements in a deeper state of obscurity that will not be resolved soon.

IV. THE CODEX ALIMENTARIUS

While the Biosafety Protocol lays its roots in the environment and specifically biological diversity, the Codex Alimentarius is a combination of the Food and Agriculture Organization Program of the United Nations and the World Health Organization Program of the United Nations.[152] The Codex Alimentarius, founded in 1962, was established to "help protect the health of consumers and to facilitate fair trade through the establishment of international food standards, codes of practice and other guidelines."[153] The purpose of Codex lies in developing international food standards, ensuring consumer protection, and facilitating fair trade.[154] It is made up of over 160 member nations, which comprise more than ninety-eight percent of the world's population.[155]

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146. Blassnig, *supra* note 135 (quoting the *Cartagena Protocol on Biosafety–Final Draft Text*).

147. *See id.*

148. *See Talk of the Nation/Science Friday, supra* note 114.

149. *See id.*

150. *See id.*

151. Blassnig, *supra* note 135.

152. *See Codex Alimentarius* (visited Feb. 19, 2001) <http://www.fsis.usda.gov/oa/background/codex.htm>.

153. *Id.*

154. *See id.*

155. *See id.*

Codex finds its role in Article 5 of the SPS Agreement, which requires risk assessment for the establishment and maintenance of SPS measures.[156] Article 5.1 provides that the risk assessment must take into account the risk assessment processes developed by "relevant international organizations," such as Codex.[157] Thus, Codex plays an integral role with the WTO in basing SPS measures in semi-objective standards.[158] Therefore, as the application of biotechnology to food processing and production gains strident worldwide recognition, Codex's scrutiny becomes even more significant.

V. CONCLUSION

While the efforts of the World Trade Organization seemed somewhat promising for agriculture, the issue of GMOs has led the agreement down a path of instability and obscurity. The WTO's Agreement on Agriculture, SPS Agreement, and TBT Agreement have yet to be tested on the GMO front, leaving the efforts of the WTOA negotiators fruitless. The recent disheartening episode during the Seattle Round has culminated in a sense of uncertainty for international trade of agricultural products. Further, the compounding effect of the contradictive Biosafety Protocol may heighten the public's knowledge for the safety of bioengineered foods but certainly reduces the authority of the WTO.

However, the WTO may still have significant bite despite the Biosafety Protocol. As Margot Wallstrom indicated, the Biosafety Protocol ensures the "right to take well-founded decisions based on the precautionary principle in order to protect the environment."[159] Additionally, Article 15 requires risk assessments to be carried out for decisions. Thus, the SPS Agreement's sound science principle appears to survive, albeit in a possibly compromised fashion. The true indicator of bioengineered food's success or failure may be with the Codex's future dealings with the issue.

With the players set, obvious foes begin the battle. Seed-producing companies are waging war on television and in print advocating the safety and benefit of genetically altered materials while environmentalists don butterfly garb and erect signs demanding response to the possibly threatened members of our ecology. Consumers, likely puzzled, are increasingly demanding explanations and the world trade arena postulates what is safe and what is not. This cliff-hanging episode will not likely be resolved soon: beware of what you eat.

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156. *See* Terence P. Stewart & David S. Johanson, *The SPS Agreement of the World Trade Organization and International Organizations: The Roles of the Codex Alimentarius Commission, the International Plant Protection Convention, and the International Office of Epizootics*, 26 SYRACUSE J. INT'L L. & COM. 27, 31 (1998).

157. *See id.*

158. *See id.*

159. Blassnig, *supra* note 135.