

IMPACT OF LIVESTOCK ANIMAL DISEASE OUTBREAKS ON INTERNATIONAL TRADE: A STUDY FOCUSING ON THE CURRENT FOOT-AND- MOUTH DISEASE AND MAD COW DISEASE CRISES

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I. INTRODUCTION

Ten years elapsed from the time the first case of Bovine Spongiform Encephalopathy (BSE), commonly referred to as “mad cow disease,”¹ was discovered in Great Britain, until researchers confirmed that BSE was

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1. See USDA Animal and Plant Health Inspection Service, *Bovine Spongiform Encephalopathy*, [hereinafter USDA/APHIS, BSE], at www.aphis.usda.gov/oa/bse (last visited Oct. 5, 2001).

responsible for many human deaths.² In many regions of the world, especially the United Kingdom, rampant epidemics of the dreaded foot-and-mouth disease (FMD) threaten to devastate the worldwide multi-billion dollar agricultural industry.³ During the last five years, the public has been exposed to the media onslaught of written, verbal, and photographic images depicting flaming piles of animal corpses conveying the fear and mayhem caused by these contagious diseases that appear to pose serious health hazards. Independent governmental bodies have had mixed reactions to the current outbreaks that exist in or threaten to invade their respective countries.

Currently, there is no uniform method of procedure to contain and ultimately eradicate these animal diseases. The World Trade Organization (WTO), the International Office of Epizootics (OIE, or World Organization for Animal Health), and the Codex Alimentarius Commission (Codex) are several global entities working in conjunction to curb the threat of these diseases that are potential causes of international catastrophe to physical and economic health. Recent accusations by European Union countries of independent policymaking motivated by economic protectionism, rather than by scientific principle, have spurred debates about conformity of disease prevention and eradication standards and trade regulations.⁴

This article will explore the nature of these viral epidemics and contemplate whether disease-free countries like the United States are sufficiently protected from, and prepared for, an outbreak of either or both of these viruses. Additionally, this article will provide an overview of how different countries around the world are coping with containment, eradication, and prevention of viral outbreaks. Finally, this article will address the issue of fairness and efficacy of international policies related to BSE and FMD.

2. After the first confirmed case of BSE in 1986, the British government assured the public that beef was safe to eat. This was based on the scientific perception that TSEs (Transmissible Spongiform Encephalopathies - the general term for the type of virus that includes BSE) were not transmissible between species. The BSE Inquiry, *Vol. 1: Findings and Conclusions, Executive Summary of the Report of the Inquiry*, 5. *Communication of the Risk Posed by BSE to Humans*, at <http://www.bse.org.uk/report/volume1/execsum6.htm> (last visited Oct. 27, 2001).

3. See, e.g., *Foreign Animal Diseases Emergency Plan Urged by House Agriculture Committee Leaders*, Vol. 39 FOOD CHEMICAL NEWS, Nov. 24, 1997, at 1, available at 1997 WL 10014496; Alex Binkley, et. al., *EU Extends Measures to Combat Foot-and-Mouth Disease*, 43 FOOD CHEMICAL NEWS, Mar. 5, 2001, at 1, available at 2001 WL 12772751.

4. See, e.g., World Trade Organization, *Committee Discusses Foot-and-Mouth Disease, BSE and Equivalence*, WTO NEWS: 2001 NEWS ITEMS [hereinafter WTO News], at www.wto.org/english/news_e/news01_e/010711_spsctte_e.htm (last visited Oct. 27, 2001).

Part One of this article will illustrate the characteristics of BSE and FMD. Part Two of this article will examine the United States' strategies to protect its citizens and its agricultural industry against these two diseases. Part Three of this article will focus on the current status of the two diseases in selected regions of the world, and what policies specific countries have enacted. Part Four will address the sanitary standards for exporting countries contained in the SPS Agreement, the international treaty governed by the WTO. Part Five will contemplate the perspectives of disease-free countries and countries affected economically by the trade regulations and the importation policies and restrictions that have been imposed by importing countries.

II. DISEASE CHARACTERISTICS

A. BSE

BSE is a type of degenerative neurological diseases known as Transmissible Spongiform Encephalopathy (TSE).⁵ TSEs occurring in other animal species are known by names specific to the type of animal.⁶ It is not known exactly how TSEs are spread.⁷ However, it is now recognized that the once common practice of using ground bodily remains of TSE-carrying animals in feed given to ruminant animals, which are inherently herbivorous, has caused the recent BSE outbreak in Great Britain.⁸ In the commercial livestock industry, cattle and sheep are routinely fed high protein diets to facilitate rapid and enhanced growth.⁹ BSE incubation periods can run from several months to several years after ingestion of contaminated animal feed.¹⁰ What is known for certain is that TSEs always result in fatality of the affected organism.¹¹

BSE afflicted cattle exhibit symptoms of neurological and central nervous system damage, including changes in disposition, difficulty standing straight, and other signs of physical debilitation.¹² A BSE infected animal's brain will have sponge-like holes on its surface, a common

5. USDA/APHIS, BSE, *supra* note 1.

6. *Id.* The TSE found in sheep is known as "scrapie." As of this writing, scrapie is not transmissible to humans. *Id.*

7. *Id.* The causative agent of TSEs has not been fully characterized, though they are suspected to be caused by a type of a virus or a protein. *Id.*

8. See ERIC SCHLOSSER, FAST FOOD NATION: THE DARK SIDE OF THE ALL-AMERICAN MEAL 202 (2001). See also USDA/APHIS, BSE, *supra* note 1.

9. See SCHLOSSER, *supra* note 8, at 202.

10. See USDA/APHIS, BSE, *supra* note 1.

11. *Id.*

12. *Id.*

characteristic of all TSEs.¹³ Currently, diagnosis of BSE can only be confirmed through a post-mortem examination of the animal's brain.¹⁴

There is no known treatment or cure for BSE.¹⁵ A BSE infected animal's condition will systematically worsen until it dies naturally within two weeks to six months, or until it is slaughtered.¹⁶ Upon confirmation of BSE in an animal, the affected animal, along with the remainder of its herd, will be quickly destroyed and the carcasses incinerated in an effort to halt the spread and eradicate the disease.¹⁷ The milk and offspring of these animals are not known to carry BSE.¹⁸ BSE is only known to be contracted as a result of ingesting BSE contaminated meat.¹⁹

The form of TSE that affects humans is called Creutzfeldt-Jakob Disease (CJD).²⁰ Currently, there are no known cases of CJD in the United States.²¹ The first confirmed case of CJD in Great Britain was reported in 1986.²² Incidence of CJD is estimated to be one in one million people around the world.²³ In the mid-1990s ten cases of CJD in humans were confirmed in Great Britain.²⁴ Scientists discovered that this was a variant form of CJD (vCJD) that closely resembles BSE.²⁵ Like all TSEs, vCJD is a fatal disease that attacks brain tissue.²⁶ Scientists believe that vCJD was contracted by humans after ingesting or otherwise coming into contact with BSE contaminated animal products.²⁷ Products containing

13. *Id.*

14. Currently, BSE is undetectable in live animals. Animals showing signs of neurological disorders are slaughtered and during necropsy, their brain tissue is examined for BSE. Additionally, immunohistochemistry and immunoblotting techniques are used to detect the partially-proteinase resistant form of the prion (PRPres) protein that would confirm a BSE diagnosis. The laboratory confirmation of BSE takes up to two weeks. USDA/APHIS, BSE, *supra* note 1.

15. National Center for Infectious Diseases, *Bovine Spongiform Encephalopathy and New Variant Creutzfeldt-Jakob Disease*, [hereinafter CDC, BSE, and vCJD], at www.cdc.gov/ncidod/diseases/cjd/bse_cjd.htm (last visited Jan. 4, 2001).

16. *Clinical Signs of BSE in Cattle*, USDA/APHIS, BSE, *supra* note 1, at 2.

17. CDC, BSE, and vCJD, *supra* note 15.

18. *Id.*

19. *Id.*

20. *Id.*

21. *Id.*

22. USDA/APHIS, BSE, *supra* note 1.

23. See CDC, BSE, and vCJD, *supra* note 15.

24. *Id.*

25. *Id.*

26. *Id.*

27. See CDC, BSE, and vCJD, *supra* note 15.

possible BSE contaminated beef go far beyond a simple hamburger.²⁸ They include cosmetics, pharmaceuticals, vaccines, and gelatin.²⁹ It is unknown which, if any, of these products were responsible for the BSE outbreak in the United Kingdom.³⁰ This finding spurred the enactment of measures worldwide to control the spread and eradicate BSE.³¹

No cases of either BSE or vCJD currently exist in the United States.³² In 1997, the United States banned the use of most animal remains in cattle feed, especially meat and bone meal (MBM), which is the suspected culprit of the origination of BSE.³³ There is no vaccination or treatment currently available for any of the TSEs.³⁴ The scientific inconclusiveness about the epidemiology (how the disease is contracted and transmitted) of the disease is cause for health and economic concern in any part of the world where cattle products are a substantial part of daily living.³⁵

B. FMD

FMD is a highly contagious viral infection that affects cloven-foot domestic livestock and wild animals.³⁶ It is rarely contagious to humans.³⁷ The primary concern humans have regarding a FMD outbreak is of an economic nature.³⁸ Although FMD has a mortality rate of less than one

28. The BSE Inquiry, *Vol. 1: Findings and Conclusions, 1. Introduction*, at <http://www.bse.org.uk/report/volume1/chaptera.htm> (last visited Oct. 27, 2001).

29. *Id.*

30. *Id.*

31. *See, e.g.*, United States Department of Agriculture, Bovine Spongiform Encephalopathy (BSE) Response Plan Summary (Oct. 1998) at www.aphis.usda.gov/oa/BSE/BSEsum.pdf (last visited Oct. 27, 2001).

32. *Id.*

33. The FDA banned the practice of adding the wastes and remains from slaughtered ruminant animals to animal feed meant for ruminants. This ban was based on evidence suggesting that consumption of BSE contaminated animal feed caused the BSE outbreak in the United Kingdom, SCHLOSSER, *supra* note 8, at 202. *See also* Office of Public Affairs, *FDA Announces Test Results from Texas Feed Lot*, FDA NEWS, Jan. 30, 2001.

34. CDC, BSE and vCJD, *supra* note 15.

35. *Id.*

36. Animal and Plant Health Inspection Service, *Keeping America Free From Foreign Animal Diseases* [hereinafter APHIS], at http://www.aphis.usda.gov/vs/ep/fad_training/bibpage.htm (last visited Oct. 27, 2001).

37. Memorandum from James R. Little, Chair, National Food and Agriculture Council, to all employees of the USDA, *On Guard Against Foot-and-Mouth Disease* (June 12, 2001), available at www.aphis.usda.gov/oa/fmd/fmdmemo.html.

38. *Id.* *See also* *Japan to Ban Pork, Mutton From EU Over Foot-and-Mouth*, ASIAN ECONOMIC NEWS, Mar. 26, 2001, available at www.lexis.com/research/retrieve (last visited Oct. 27, 2001).

percent, it weakens and reduces the productivity of the afflicted livestock.³⁹ FMD is transmitted easily by animal-to-animal or human-to-animal contact.⁴⁰ There is thought to be a risk of airborne contamination risk because it can spread to nearby flocks without any physical contact.⁴¹ For example, a human who has been in contact with a FMD infected animal may harbor the virus in his or her respiratory tract for twenty-four hours, and possibly transmit the disease to a FMD susceptible animal in another area.⁴² Humans can also carry the disease on their clothing and shoes.⁴³ Animals easily contract the virus by breathing it in through their noses or ingesting it in their mouths.⁴⁴ The incubation period is one to five days.⁴⁵ Symptoms include fever and characteristic oozing sores, known as vesicles, on the feet, legs, teats, udder, and in and around the mouth.⁴⁶ An infected animal's tongue grows a grayish-white coating with several blisters protruding from underneath.⁴⁷ As the disease runs its course, the protrusions erupt and the thick grayish-white coating layer eventually sloughs off by itself.⁴⁸ FMD damages the cardiac muscle and results in decreased fertility and milk production.⁴⁹

Although the mortality rate for FMD is under one percent, this percentage rises in young and otherwise immune-compromised animals.⁵⁰ The cost of a FMD outbreak can ultimately amount to billions of dollars.⁵¹

39. Aphis, *supra* note 36, at http://www.aphis.usda.gov/vs/ep/fad_training/VESVOL7/page20_7.htm (last visited Oct. 27, 2001), http://www.aphis.usda.gov/vs/ep/fad_training/VESVOL7/page70_7.htm (last visited Oct. 27, 2001). (pregnant cows may abort, milk output falls, and young calves are more likely to die from FMD).

40. Aphis, *supra* note 36, at http://www.aphis.usda.gov/vs/ep/fad_training/VESVOL7/page12_7.htm (last visited Oct. 27, 2001).

41. *Id.*

42. *Id.*

43. *Id.*

44. *Id.*

45. Aphis, *supra* note 36, at http://www.aphis.usda.gov/vs/ep/fad_training/VESVOL7/page15_7.htm (last visited Oct. 27, 2001).

46. *Id.* at 20-21.

47. *Id.*

48. *Id.* at 21. At later stages, FMD infected animals may exhibit signs of aggression, lameness, excessive drooling, and nasal discharge. *Id.*

49. APHIS, *supra* note 36, at http://www.aphis.usda.gov/vs/ep/fad_training/VESVOL7/page20_7.htm (last visited Oct. 27, 2001).

50. *Id.* at http://www.aphis.usda.gov/vs/ep/fad_training/VESVOL7/page70_7.htm (last visited Oct. 27, 2001).

51. An FMD outbreak could have a devastating effect on the \$93 billion United States animal agriculture industry. *Foreign Animal Diseases Emergency Plan Urged by House Agriculture Committee Leaders*, FOOD CHEMICAL NEWS, Nov. 24, 1997; *See also Foot-and-*

Vaccinations are available for FMD, but one vaccine cannot protect against all variant strains of the disease.⁵² Furthermore, a country is prohibited from claiming an official recognition of “disease-free” status if it has a current FMD vaccination program in effect.⁵³ Countries implementing vaccination programs are designated as “FMD-free (with vaccination).”⁵⁴ As such, the downgrade in status to “FMD-free (with vaccination)” creates a downward spiral in export prices for meat products, while meat prices rise for consumers within these countries.⁵⁵ In endemic countries, meaning those where FMD is deemed generally under control, livestock export prices are generally fifty percent lower.⁵⁶ Declaring a country free of FMD increases its livestock export prices by one hundred percent.⁵⁷

Many countries choose not to implement a vaccination program, but rather opt to eradicate FMD through the immediate slaughter of all susceptible animals within a proscribed zone of possible contamination and decontamination of the infected premises.⁵⁸ This instant slaughter and burn method is quicker and, arguably, more efficient than employing a vaccination program; but it is the most costly method both economically and environmentally.⁵⁹ In some countries, like the United Kingdom, the government compensates farmers for their slaughtered livestock.⁶⁰ Ultimately, the whole country suffers financially from an outbreak.⁶¹ In Great Britain, for example, the cost of eradicating FMD is estimated to be

Mouth War is Costing Taxpayers, THE SUN SENTINEL, July 14, 2001, at 17A [hereinafter *FMD War*] (Eradication of the FMD outbreak in the United Kingdom will cost U.S.\$3 billion. This includes the cost of destroying and disposing of animals, disinfecting contaminated areas, and compensating farmers for their losses sustained).

52. Farmers once coped with FMD outbreaks by wiping the tongues of FMD infected animals with rags and then used those rags to purposely spread the disease to the rest of the herd. This way, they would all be infected at the same time and build up immunity to FMD. However, this tactic did not always work because the cattle, while immune to one strain of FMD, would become stricken by other variant strains of the disease. APHIS, *supra* note 36, at http://www.aphis.usda.gov/vs/ep/fad_training/VESVOL7/page77_7.htm (last visited Oct. 27, 2001).

53. Steven Lewis, *South America Facing Shortage of Foot-and-Mouth Vaccines*, 43 FOOD CHEMICAL NEWS, May 7, 2001, at 7.

54. See, e.g., Binkley, et. al., *supra* note 3, at 17.

55. *Id.*

56. James F. Smith, *From Frankenfood to Fruit Flies: Navigating the WTO/SPS*, 6 U.C. DAVIS J. INT'L L. & POL'Y 1, 29 (2000).

57. *Id.*

58. *Id.*

59. *Id.*

60. See *FMD War*, *supra* note 51, at 17A.

61. *Id.*

several billion dollars.⁶² In other countries, farmers can be financially devastated by an FMD outbreak if they are forced to have their animals slaughtered or carry the financial burden of vaccinating their herds, or the diminished productivity of their disease ridden livestock.⁶³

III. FMD AND BSE STATUS IN THE UNITED STATES

The United States currently employs measures to vigilantly guard against BSE and FMD.⁶⁴ BSE poses less of a threat than FMD because there has never been a case in the United States, and because it is spread by ingestion of BSE contaminated meat.⁶⁵ Feedlots where live cattle are held awaiting slaughter and slaughterhouses are constantly monitored for signs of cattle with neurological disorders, and brains of slaughtered cattle are routinely tested as a precaution.⁶⁶ Since 1997, feed mills have been prohibited from using ruminant animal wastes as an ingredient in feed for ruminant animals.⁶⁷

Disease outbreaks can have far-reaching effects in the modern global economy besides affecting meat and milk prices. For example, the BSE/vCJD outbreak in Europe may lead to a reduction in the amount of surgical procedures performed in New York City, where at least twenty-five percent of the blood supply is imported from Europe.⁶⁸ This is due to new Food and Drug Administration (FDA) guidelines restricting blood donations from people who may have been exposed to BSE.⁶⁹

The United States Department of Agriculture (USDA), in conjunction with the Centers for Disease Control, the National Institute of Health, and the Food and Drug Administration, bears the responsibility of safeguarding the United States from food-borne diseases.⁷⁰ Recently, the USDA obtained a court order to confiscate and destroy several hundred sheep

62. *Id.*

63. *Id.*

64. *See Foreign Animal Diseases Emergency Plan Urged by House Agriculture Committee Leaders, supra* note 3.

65. *See* SCHLOSSER, *supra* note 8.

66. *See* CDC, BSE and vCJD, *supra* note 15.

67. *See* SCHLOSSER, *supra* note 8.

68. *See* Raymond Hernandez, *Mad Cow Test Could Cut New York Blood Supply*, N.Y. TIMES, June 27 2001, at 8A.

69. *Id.*

70. *See* Allison Beers, *Animal Diseases Targeted, But Few New Policy Initiatives in Bush Budget; Proposal of Slight Increase for Food Safety and Inspection Service*, 43 FOOD CHEMICAL NEWS 8 (Apr. 16, 2001); Andy Solomon, *USDA to Destroy Three Vermont Sheep Flocks Quarantined for TSE*, USDA, Office of Communications (July 14, 2000), available at www.usda.gov/news/releases (last visited Oct. 27, 2001).

from neighboring Vermont farms.⁷¹ The sheep, imported from Belgium and the Netherlands in 1996, were suspected of being exposed to BSE contaminated feed before being imported into the United States.⁷² In 2000, some sheep in the Vermont flocks tested positive for a TSE, prompting the USDA to issue a “declaration of extraordinary emergency” to have the sheep removed.⁷³ It may take years to determine, through laboratory tests, which form of TSE was found in the Vermont sheep.⁷⁴ Although there are no documented cases of BSE infected sheep, serious concern arises from the fact that sheep can contract BSE from ingestion of a very small amount of BSE contaminated feed.⁷⁵ Additional fears arose from the uncertainty of whether flocks of sheep were consistently monitored in Europe for TSEs.⁷⁶ Consequently, humans are possibly in danger of exposure to vCJD from the Vermont sheep.⁷⁷ Prior to 1998, when the USDA learned of the possible exposure to BSE contaminated feed, offspring and milk products from the Vermont sheep were sold for human consumption.⁷⁸

FMD threatens United States livestock because it is easily transmissible.⁷⁹ Over fifty years have passed since the last FMD outbreak in the United States.⁸⁰ Animals in the United States are particularly susceptible to an outbreak of FMD because they have no immunity.⁸¹ Currently, there is no vaccination program in effect due to the high cost involved and the questionable effectiveness of such a program.⁸² Because FMD is a highly contagious viral disease spread by physical contact, widespread fears abound of the threat of contamination from people carrying the disease and arriving in the United States from FMD affected

71. Jim Rogers, et. al., *USDA Removes Quarantined Sheep From Second Vermont Farm*, USDA, Office of Communications (Mar. 23, 2001) available at www.aphis.usda.gov/oa/TSE/addinfo.html (last visited Oct. 27, 2001).

72. *Id.*

73. *Id.*

74. See Solomon, *supra* note 70.

75. United States Department of Agriculture, Animal and Plant Health Inspection Service, *Additional Information on the Imported Belgium/Netherlands Sheep*, available at <http://www.aphis.usda.gov/oa/tse/addinfo.html> (last visited Oct. 27, 2001).

76. *Id.*

77. *Id.*

78. See Solomon, *supra* note 70.

79. See Smith, *supra* note 56.

80. *Id.* at 28-29.

81. *Id.* at 29.

82. USDA, Animal and Plant Health Inspection Service, *Foot-and-Mouth Disease Vaccine* (July 2001), available at www.aphis.usda.gov/oa/pubs/fsfmdvac.html.

countries.⁸⁵ An FMD outbreak may cost the United States taxpayers billions of dollars before it is under control and eradicated.⁸⁴

IV. FMD STATUS INTERNATIONALLY

Although FMD is widespread around the world, currently North America, Central America, Chile, Australia, New Zealand, and some European countries are considered FMD disease-free.⁸⁵ South America, Africa, and parts of Asia have reported recent outbreaks of FMD.⁸⁶ While reported outbreaks of FMD are on the decline in the United Kingdom, public disapproval of the slaughter and burn program has swayed the British government toward enactment of a regional vaccination program.⁸⁷ The head of the European Union's meat trade association officially recognized the financial devastation that would ensue in the event of an FMD outbreak in the mainland European countries.⁸⁸ In 1998, the United States placed a ban on importation of all meat products from the European Union countries.⁸⁹

A. Japan

Similarly, in response to a recent outbreak of FMD, for the first time in ninety-two years Japan has recently banned all pork, mutton, and related meat imports from the European Union Countries.⁹⁰ This follows a ban on

83. See, e.g., *In re Cynthia Twum Bofo*, P.Q. Docket No. 00-0014, 2001 WL 195269 (USDA) (A woman imported beef from Ghana, a FMD affected region. Regardless of lack of intent to spread disease, sanctions were issued as a deterrent to others who try to import meat); *In re Conrad Payne*, A.Q. Docket No. 98-000457, 1998 WL 872494 (USDA) (A man imported uncooked sausage from the Netherlands. In a USDA administrative appeal hearing regarding importation of raw meat. The Netherlands, at the time, was considered at the time to be free of FMD).

Even though the USDA has declared a region free of FMD, the meat and other animal products produced in such free regions may be commingled with the meat of animals from an infected region, resulting in an undue risk of introducing FMD into the United States. See 9 C.F.R. § 94.1.

84. See Foreign Animal Diseases Emergency Plan Urged by House Agriculture Committee Leaders, *supra* note 3.

85. See Steve Clapp and Mark Thornton, *FAO Warns that Foot-and-Mouth Disease Represents Global Threat*, 43 FOOD CHEMICAL NEWS, Mar. 19, 2001, at 1.

86. *Id.*

87. Sebastian Romero Melchor and Terry Downs, *EU Veterinary Panel Extends All Foot-and-Mouth Disease Bans*, 43 FOOD CHEMICAL NEWS, Apr. 2, 2001, at 7.

88. Binkley, et al., *supra* note 3, at 17.

89. *Id.*

90. *Japan to Ban Pork, Mutton From EU Over Foot-and-Mouth*, *supra* note 38.

all beef products two months earlier after the European outbreak of BSE.⁹¹ The European Commission called Japan's ban on meat from all the European Union countries "unnecessary and not proportionate."⁹² The ban on meat products from all the European Union countries will drive up meat prices in Japan.⁹³

B. Canada

Like the United States and Japan, Canada does not import meat products from Europe because even a small outbreak would cost the country an estimated \$2 billion dollars.⁹⁴ The last FMD outbreak occurred there in 1952, and it has been FMD-free since that time.⁹⁵ Since Canada does not allow any meat products imported from Europe, its main concern is that someone will unknowingly bring the virus into the country on their shoes or in food or plants through their luggage.⁹⁶ Canadian inspectors are increasing inspections of passengers and luggage on flights from Britain in order to keep FMD out of North America.⁹⁷

C. European Union

1. United Kingdom

Combined efforts between the European Union's Standing Veterinary Committee and the United Kingdom government authorities intended to contain and eliminate FMD have been fairly successful in reducing the frequency of outbreaks.⁹⁸ The British government has extended the ban on the movement of all livestock within the country, while other European Union member-states also are taking unilateral steps.⁹⁹ Following outbreaks earlier this year, France, the Netherlands, and Germany have slaughtered all animals with any connection to Great Britain.¹⁰⁰ The French government prohibits vaccination programs in favor of eradication of

91. *Id.*

92. *Id.*

93. *Id.*

94. Binkley, et al., *supra* note 3, at 17.

95. *Id.*

96. *Id.*

97. *Id.*

98. Binkley, et al., *supra* note 3, at 17. (In the United Kingdom, the number of new cases have fallen from forty per day at the peak of the outbreak to less than ten per day.) See WTO News, *supra* note 4, at 1.

99. *Id.*

100. *Id.*

affected animals and has implemented a ban on importation.¹⁰¹ France has recently declared itself FMD disease-free.¹⁰²

2. Ireland

Ireland also has a FMD disease-free status after enacting aggressive measures throughout its territory.¹⁰³ Police, military, and Department of Agriculture officials are banning together to effectuate extensive controls at ports, airports, and on vehicles at the border of United Kingdom/Northern Ireland.¹⁰⁴ As in other countries, they require disinfection of vehicles at the border, ports, and airports.¹⁰⁵ Movement of all FMD susceptible species is banned, except directly to slaughter or for welfare reasons.¹⁰⁶ Vehicles must be cleaned and disinfected following transport of susceptible species.¹⁰⁷ Personnel have been increased in slaughter plants for the purpose of detailed ante-mortem examination of sheep.¹⁰⁸ Intensive public campaigns disseminate information to farmers, veterinarians, and the general public.¹⁰⁹

D. South America

1. Argentina

Various types of FMD viruses have been identified recently in South America.¹¹⁰ In South America, countries battling FMD outbreaks vaccinate animals as part of their eradication programs.¹¹¹ Supplies of vaccinations are rapidly depleting in an effort to control the spread of the recent FMD outbreak.¹¹² Delays in reporting FMD outbreaks in Argentina have been instrumental in spreading the disease across its borders.¹¹³ Secrecy in

101. See Office International Des Epizooties, International Animal Health Code at 892 (June 29, 2001), available at http://www.oie.int/eng/info/hebd/a_current.htm#Sec2 [hereinafter OIE, IAC].

102. *Id.*

103. Binkley, et al., *supra* note 3, at 17.

104. *Id.*

105. *Id.*

106. *Id.*

107. *Id.*

108. Binkley, et al., *supra* note 3, at 17.

109. *Id.*

110. Clapp and Thornton, *supra* note 85.

111. OIE, IAC, *supra* note 101.

112. Lewis, *supra* note 53, at 19.

113. Steven Lewis, *Argentina's Secrecy on Foot-And-Mouth Proves Costly; Restrictions Imposed on Meat Exports*, 43 FOOD CHEMICAL NEWS, Mar. 26, 2001, at 4.

reporting the true status of FMD outbreaks in Argentina will prove costly, not only because of the expenses involved and loss of exports, but in terms of the government's image.¹¹⁴

Argentina requires FMD vaccine to inoculate fifty million head of cattle against the disease.¹¹⁵ In June, a total of eighty-six outbreaks affecting thousands of animals were confirmed, clinically and by laboratory tests, in cattle in various districts and departments in provinces of Argentina.¹¹⁶ Control measures involve application of animal movement restrictions, in the areas around the outbreaks and in the surveillance zones.¹¹⁷ These measures include a temporary ban on gatherings of animals for trade, whatever the destination and purpose.¹¹⁸ Primary vaccination against FMD is being performed in accordance with the provisions of the Eradication Program, and is due to be completed in late June or early July, depending on the climatic conditions prevailing in the different parts of the country.¹¹⁹

2. Uruguay

Coping with a new FMD epidemic, Uruguay will have trouble meeting its demand for FMD vaccine.¹²⁰ Recognized as FMD free, the country had previously implemented a vaccination program along with movement restrictions, to eliminate the disease in 1994.¹²¹

Furthermore, in 1994, Uruguay passed a law banning the production of FMD vaccine, in an effort to improve its standing as a FMD disease-free nation.¹²² Now, the country has one laboratory equipped to manufacture the vaccine, and it will not be able to produce the estimated 28 million doses needed for its vaccination program.¹²³ Beef exports have been put on hold until the disease is once again eradicated.¹²⁴

114. *Id.*

115. See OIE, IAC, *supra* note 101, at 892. (The number of affected animals is 4021, out of 94,122 animals exposed to the risk of infection. Up to June 23, 2000, 1429 total outbreaks were confirmed.); Steven Lewis, *Argentina's Secrecy on Foot-And-Mouth Proves Costly; Restrictions Imposed on Meat Exports*, 43 FOOD CHEMICAL NEWS, Mar. 26, 2001, at 4.

116. *Id.*

117. Lewis, *supra* note 53, at 7.

118. *Id.*

119. *Id.*

120. *Id.*

121. See Smith, *supra* note 58, at 29.

122. See Lewis, *supra* note 53, at 7.

123. *Id.*

124. *Id.*

3. Brazil

Bordering Uruguay, Brazil has been coping with its own FMD outbreaks.¹²⁵ Although thousands of animals have been slaughtered to date, the Brazilian government, under pressure from cattle industry associations, has implemented a regional vaccination program along with other control measures, including a halt to vehicle or pedestrian movement across the Brazil/Uruguay border, where the most recent FMD outbreaks have occurred.¹²⁶

V. WTO SANITARY/PHYTOSANITARY AGREEMENT

The Sanitary/Phytosanitary (SPS) Agreement was drafted in 1994 to promote uniform sanitary and phytosanitary measures for WTO member countries.¹²⁷ To achieve this goal, the SPS Agreement encourages WTO members, when creating or maintaining SPS measures, to rely upon the SPS standards established by three international organizations: the Codex Alimentarius Commission (Codex); the International Plant Protection Convention (IPPC); and the International Office of Epizootics (OIE).¹²⁸ These organizations act as advisory boards to address issues concerning human, plant, and animal life and health, respectively.¹²⁹

Disputes may arise concerning standards proposed based on the specific trade agendas of member countries, as opposed to scientific evidence.¹³⁰ Lengthy approval processes and the desire to retain professional integrity of the scientists who are delegates to these organizations, may prevent the creation of scientifically questionable standards.¹³¹ The SPS Agreement was designed to provide sanitary guidelines based on scientific principles, not to impose strict uniform standards on its member countries.¹³² Consequently, wide latitude is given

125. *Id.*

126. *Id.*

127. Terence P. Stewart and 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, 28 (1998).

128. *Id.* at 28.

129. *Id.*

130. *Id.* at 51.

131. *Id.* at 52.

132. David G. Victor, *The Sanitary and Phytosanitary Agreement of the World Trade Organization: An Assessment after Five Years*, 32 N.Y.J.U. INT'L. L. & POL. 865, 879-80 (2000).

to the individual sanitary policies of member countries.¹³³ The SPS Agreement's purpose is to encourage international trade by limiting the use of sanitary measures as disguised barriers to trade.¹³⁴ WTO member countries have the right to impose SPS measures as necessary "for the protection of human, animal or plant life or health."¹³⁵ Another goal is to minimize trade barriers by preventing countries from committing arbitrary or unjustifiable discrimination when imposing SPS policies on imported products.¹³⁶

VI. PROTECTIONISM OR PROTECTION?

The European Union has taken offense to the United States and Japanese bans on imports from all European Union countries as unreasonable measures, and accused the United States policy of being rooted in economic protectionism because the ban is not considered scientifically grounded.¹³⁷ However, a European Union official has recognized that the current FMD outbreak in Great Britain is a result of a particularly potent strain of the virus believed to be brought over from India.¹³⁸ As such, it is understandable that FMD-free countries would want to employ the most drastic measures necessary to prevent introduction of the virus. At issue are the adequacy of monitoring standards set by the OIE and import restrictions on meat that are not as stringent as in the United States.¹³⁹

The principle argument of the European Union is that it is unfair to ban imports from regions that are disease-free because they are European Union countries.¹⁴⁰ The European Union feels that it is protectionism masked by unsound scientific principle.¹⁴¹ The United States may soon find itself on the opposite end of this type of dispute.¹⁴² The European Communities may ban imports of United States manufactured pharmaceuticals because of the use of gelatin capsule casings partially composed of materials such as bovine brains and spinal cords originating

133. *Id.* at 877.

134. *Id.* at 875.

135. *Id.*

136. *Id.*

137. Stewart and Johanson, *supra* note 127, at 53; Binkley, *supra* note 3, at 17.

138. *Id.*

139. Stewart and Johanson, *supra* note 127, at 51-52.

140. *Id.* at 51.

141. *Id.*

142. *Id.*

from BSE infected countries.¹⁴³ This ban could cost the United States billions of dollars in pharmaceutical sales overseas.¹⁴⁴ The United States views this European Communities measure as violating the SPS Agreement based on “scientifically unsound” principles because the United States monitors for BSE in compliance with OIE standards.¹⁴⁵

VII. CONCLUSION

FMD and BSE seriously threaten human and animal health, food supplies, and agricultural economy around the world. Public awareness of the implications of an outbreak is important so that governments and regulatory agencies will be more accountable for their control of agricultural industries. Though global entities are striving for uniformity in sanitary practices and disease eradication measures, cultural differences may thwart efforts to maintain harmony in international trade.

Difficulty lies in distinguishing between international trade policies rooted in protectionism and those based on sound scientific principle. It is more important for a government body to make decisions for its constituents erring on the side of caution than it is for a particular foreign country to expect entitlement to sell its exports. Fears of losing export business because of FMD or BSE should provide economic incentive for countries to adhere to sanitary standard guidelines. Until BSE is eradicated and there is certainty that an FMD outbreak can be easily quashed without debilitating great numbers of livestock, there should be no reason to subject a country to international disputes involving a decision to ban imports from any other country or region.

143. *Id.*

144. Stewart and Johanson, *supra* note 127, at 51.

145. *Id.*