

Japan – Measures Affecting the Importation of Apples

(WT/DS245)

Second Written Submission of the United States of America

November 13, 2002

I. Introduction

1. While much ink has been spilled thus far in this dispute, the situation remains as on the day this proceeding began, indeed, the same as it has always been: Japan has not been able to identify *any* scientific evidence that imports of apple fruit pose a risk of introduction of fire blight to Japan. Scientific evidence that apple fruit pose a risk of introduction of fire blight to Japan could consist of (1) evidence that fruit have, in fact, introduced the disease to other areas and (2) evidence that fruit are a pathway for introduction. While Japan repeatedly asserts that the United States would require it to come forward with “direct” evidence, the reality is that Japan must simply come forward with “scientific” evidence establishing a likelihood that apple fruit could introduce fire blight to Japan, whether that evidence is characterized as “direct” or “indirect.” Japan has failed to identify evidence that imports of apple fruit have ever transmitted *Erwinia amylovora* to a new area or identify and evaluate evidence that apple fruit could serve as a pathway for introduction of fire blight because there *is* no such evidence.

2. Upon further consideration of Japan’s first written submission and oral statements at the first substantive meeting of the Panel with the parties, it appears what Japan has come forward with is a series of misleading factual assertions and pure conjecture as to hypothetical pathways that are unsupported by scientific evidence. Many of these assertions and speculations are dealt with in detail in the U.S. answers to questions from the Panel. Thus, the United States takes this second written submission as an opportunity to highlight for the Panel some principal issues in this dispute. First, we confirm the facts relating to the lack of any scientific evidence that apple fruit have transmitted *E. amylovora* to new areas. Second, we highlight the fact that Japan has not presented any scientific evidence that apple fruit could serve as a pathway for introduction of fire blight to Japan. Third, we examine the evidence Japan has brought forward relating to trans-oceanic dissemination of fire blight and demonstrate that none of these instances provides any evidence that apple fruit could serve as a pathway. Finally, we restate our legal claims in light of the evidence before the Panel.¹

II. There Is No Scientific Evidence That Imports of Apple Fruit Have Ever Resulted in Introduction of Fire Blight

3. As noted above, scientific evidence that apple fruit pose a risk of introduction of fire blight to Japan could consist of evidence that fruit have, in fact, introduced the disease to other areas. Japan does not appear to contest that there is *no* evidence that apple fruit have ever transmitted the disease. Japan does, however, seek to dismiss the fact that many billions of apple fruit have been traded world-wide with no evidence of spread of the disease through those fruit. Japan asserts that eight of the countries among the top-ten fire blight-free export markets for U.S. apple fruit “are in the tropical region” while the other two “belong to the desert region” and only Chinese Taipei “has any significant apple production.”² There is no basis, in logic or fact, for

¹The United States wishes to inform the Panel and Japan that, after review of the material submitted to date, the United States will not be advancing arguments on its claims under Articles 2.3, 5.3, 5.5, 6.1, and 6.2 of the *Agreement on the Application of Sanitary and Phytosanitary Measures* (“SPS Agreement”).

²First Written Submission of Japan, paras. 36, 103

Japan’s attempt to dismiss the sheer volume of trade in apple fruit as not providing relevant real-world evidence that apple fruit do not spread fire blight.

4. Japan focuses on the particular markets identified as the top-10 fire blight-free export markets for U.S. apples. However, Japan fails to address the larger point that many more billions of apple fruit have been traded between other countries, with and without fire blight, than reflected in U.S. export statistics. Nonetheless, there is no evidence from anywhere in the world that fire blight has been introduced or spread through trade in apple fruit. The presentation of U.S. export statistics to fire blight-free markets, then, simply provides a window (albeit a window of 48.5 billion apples over the last 35 years) onto the larger view that trade in apple fruit does not result in introduction or spread of fire blight.

5. Japan attempts to argue that, because none of these countries shares a temperate climate with Japan, and none has any significant apple production, “[c]learly, none of them has a favorable condition for introduction and establishment of *Erwinia amylovora*.”³ Japan provides no citation nor any explanation for its assertion that only countries with temperate climates are at risk for introduction of fire blight. It appears that several countries not sharing a temperate climate with Japan nonetheless have fire blight, for example, Cyprus, Iran, Israel, Jordan, Lebanon, Egypt, Bermuda, Guatemala, and Mexico. Not only is Japan aware that these countries have fire blight despite their non-temperate climates,⁴ but Japan explicitly uses the example of a fire blight outbreak in Israel to support its assertion that “[f]ire blight spreads explosively.”⁵

6. As for Japan’s claim that none of these countries or territories has significant apple production, again, Japan does not explain why only apple production (one assumes as a proxy for apple trees) should be relevant to whether fire blight may be introduced into an area. Japan is well aware that there are numerous other host plants for fire blight besides apple trees.⁶ In fact, as part of the “complex, intertwined potential pathways from imported fruit to an orchard” that Japan “can easily envisage,” Japan states that other horticultural plants could form part of the pathway: “[c]otoneaster, for example, is reported to be more susceptible to fire blight

³First Written Submission of Japan, para. 103.

⁴See Plant Protection Law Enforcement Regulations, Annexed Table 2 (listing all of these areas among those from which importation of host plants of *Erwinia amylovora* is prohibited) (Exhibit JPN-21).

⁵1999 Japanese Pest Risk Analysis, § 1-1, at 8 (Outbreak of bacterial shoot blight which is different from fireblight) (U.S. translation) (Exhibit USA-3); see Report on Pest Risk Analysis concerning Fire Blight Pathogen (*Erwinia amylovora*), § 1-1, at 4 (1999) (Japanese provisional translation) (Exhibit JPN-32).

⁶See, e.g., 1999 Japanese Pest Risk Analysis, § 2-2-2-3, at 16 (noting “hosts of fireblight other than fruit trees”) (U.S. translation) (Exhibit USA-3); *id.*, § 2-2-3-1, at 17 (noting damage “not only on fruits but on rose family flowering trees”); *id.*, § 2-2-3-2, at 17-18 (noting loss of agricultural crops due to the wide “range of hosts,” including genera used “as garden trees in Japan”); *id.*, § 2-2-3-3, at 19 (noting impact on export market for plants for propagation such as *Cotoneaster horizontalis* (bonsai dwarf trees) if fire blight introduced).

infection.”⁷ However, Japan does not present any evidence regarding the presence of fire blight hosts other than apple trees in these 10, or any other, tropical- and desert-climate countries and territories. A simple search to determine whether Rosaceae fire blight hosts are found in non-temperate countries and territories would have revealed that Eriobotrya (loquat), Cotoneaster, Mespilus, and Sorbus (mountain ash) are found in Thailand and that Malus (apple), Pyrus (pear), Eriobotrya (loquat), Cotoneaster, Crataegus (hawthorn), Chaenomeles, Pyracantha, and Sorbus are found⁸ in other non-temperate countries and territories that were not among the top-10 fire blight-free U.S. export markets but nonetheless import substantial numbers of apples, such as India (number 12 in marketing year 2001-02) and Vietnam (number 28).⁹ Japan does not explain why the presence of these fire blight host plants other than apples would not be relevant to whether fire blight could be introduced in these areas.

7. Finally, Japan argues that the volume of U.S. exports and the absence of measures similar to the Japanese fire blight measures “of course reflects the level of protection of these countries and territories against the risk of fire blight. Japan is aware that these countries and territories . . . may have a policy more tolerant of risk.” Later, Japan states that the volume of U.S. exports to these areas without any spread of fire blight through those exports “only illustrates the different levels of protection.”¹⁰ Japan does not explain how it comes to the conclusion that these countries and territories have a different and lower level of protection than Japan does. Japan cites no correspondence, documents, or public statements by these countries explaining their appropriate level of protection. Thus, it appears that Japan has simply *assumed* that the application of different measures reflects different levels of protection, rather than a recognition by these countries that their equally stringent level of protection can be met through minimal or no SPS measures.

8. Japan avoids the issue of non-U.S. trade in apple fruit. Japan misguidedly focuses on the non-temperate climates and lack of apple production in the top-10 fire blight-free U.S. apple export markets. Japan assumes it knows the appropriate level of protection held by these importers. Considering all this, it is reasonable to regard Japan’s arguments minimizing the evidence on trade in apple fruit as, to borrow a word from Japan’s first submission, “opportunistic” (at the very least). The fact remains that extensive world-wide trade in apple fruit over many decades has never resulted in a documented – or even suspected – instance of introduction or spread of fire blight through trade in fruit.

⁷First Written Submission of Japan, para. 84.

⁸Information on distribution of fire blight hosts in Asia obtained from www.cabicompendium.org, http://www.forest.go.th/Botany/Flora/Treated_flora.htm, and <http://www.ars-grin.gov/cgi-bin/npgs/html>.

⁹See Exhibit USA-29 (U.S. apple exports volume for marketing year 2001-02).

¹⁰First Written Submission of Japan, para. 108.

III. There Is No Scientific Evidence That the Necessary Steps for Apple Fruit to Serve as a Pathway for Fire Blight Would Be Completed

9. Because there is no scientific evidence that apple fruit have ever introduced or spread fire blight, apple fruit may then only pose a risk of introduction of fire blight to Japan if there is scientific evidence that fruit are a pathway for introduction. Despite numerous opportunities to do so, Japan has not identified each step necessary for imported apple fruit to serve as a hypothetical pathway. Neither has Japan cited to scientific evidence to establish that each step of the hypothetical pathway would be completed – understandably, since there is not scientific evidence to support each step.

10. The identification of each step necessary for imported apple fruit to serve as a hypothetical pathway is not difficult. For example, the 2001 IPPC guidelines for pest risk analysis for quarantine pests set out 5 steps that comprise an evaluation of the probability of entry.¹¹ Applying these evaluative steps to the case of *Erwinia amylovora* and apple fruit, the United States has drafted a diagram (Exhibit USA-26) showing the actual steps that must be completed for imported apple fruit to serve as a pathway for the disease. These steps are: (1) apple fruit must be externally or internally contaminated with fire blight bacteria; (2) the bacteria must survive harvest, commercial handling, and storage conditions; (3) the bacteria must survive transport (including cool storage), handling, and discard conditions (including consumption); (4) the apple fruit must be discarded near a host plant; (5) the host must be at a receptive stage (that is, able to be infected); (6) the bacteria must be transferred from the discarded, contaminated fruit to a susceptible host; and (7) suitable conditions must exist for infection to occur and fire blight to develop.¹²

11. Japan attempts to diagram a hypothetical pathway in Exhibit JPN-14, but this diagram fails to even set out the necessary steps for apple fruit to serve as a pathway for the disease.¹³ For example, Japan’s pathway begins with “[m]ature, apparently healthy but infected fruit” (which would appear to jump straight to step 5, the last step, in the IPPC analysis (and to step (3) of the U.S. hypothetical pathway)) and then moves on to discard. Thus, Japan has not identified the logically necessary step that mature fruit be contaminated with bacteria at harvest, corresponding

¹¹These steps are: (1) identification of relevant pathways; (2) the probability of the pest being associated with the pathway at origin; (3) the probability of survival of the pest during transport or storage; (4) the probability of the pest surviving existing pest management procedures; and (5) the probability of transfer of the pest to a suitable host. See International Plant Protection Convention, Pest Risk Analysis for Quarantine Pests §§ 2.2.1.1-2.2.1.5, at 13 (2001) (International Standards for Phytosanitary Measures Publication No. 11) (Exhibit USA-15).

¹²These steps are closely related to the linear model presented in Roberts *et al.* (1998), but break out two of the nodes in that model into sub-parts. See R.G. Roberts *et al.*, *The potential for spread of Erwinia amylovora and fire blight*, Crop Protection 17: 19-28, at 24-25 (1998) (Exhibit USA-4).

¹³See U.S. answer to Question 5 from the Panel; Exhibit USA-27 (U.S. comment on Exhibit JPN-14).

to step 2 of the IPPC analysis.¹⁴ Japan has also not identified necessary steps that bacteria on such contaminated fruit must survive before arriving in the hands of a consumer or retailer in Japan, such as harvest, commercial handling, cool storage, cool storage in transport, and retail distribution within Japan, corresponding to steps 3 and 4 in the IPPC analysis.¹⁵ Rather, Japan merely *presumes* that the “mature, apparently healthy but infected” apple arrives in Japan when the pathway commences. The United States notes that Exhibit JPN-14 was submitted to the Panel as a means of demonstrating that Japan *has* adequately identified the pathway. The fact that, at the very outset of its analysis, Japan fails to present steps necessary for apple fruit to serve as a pathway – and clearly identified by the IPPC guidelines – suggests either that Japan does not understand how to analyze the probability of entry (with important consequences for the Panel’s analysis under SPS Agreement Article 5.1) or that Japan has omitted these steps because to include them would have required acknowledging the very low theoretical probability that the bacteria would survive each step.

12. The United States also notes that Japan has not cited to scientific evidence to establish that each step in the hypothetical pathway would be completed. In fact, as just suggested, the scientific evidence demonstrates that steps in the hypothetical pathway will either not be, or are very unlikely to be, completed. For example, for step (1) of the U.S. hypothetical pathway (step 2 of the IPPC analysis), there is no scientific evidence that endophytic (internal) fire blight bacteria have been recovered from mature apple fruit harvested from an orchard.¹⁶ The scientific evidence also demonstrates that epiphytic bacteria will very rarely be recovered from such fruit, even when harvested from blighted trees and orchards. The scientific evidence establishes that any surviving epiphytic bacteria are extremely unlikely to survive steps (2) and (3) of the U.S. hypothetical pathway (steps 3, 4, and 5 of the IPPC analysis) relating to harvest, commercial handling, storage, transport, retail distribution, and consumption and discard. In fact, the effect of cool storage *alone* (for example, through the 55-day mandatory cold treatment Japan requires on U.S. apples for codling moth) makes very unlikely the probability of survival of any epiphytic bacteria. For step (6) of the U.S. hypothetical pathway (step 5 of the IPPC analysis), there is simply no scientific evidence of any vector to transfer any hypothetically surviving bacteria from a discarded fruit to a susceptible host. Thus, the scientific evidence establishes that apple fruit do not serve as a pathway because necessary steps will either not be, or are very unlikely to be, completed.

¹⁴International Plant Protection Convention, Pest Risk Analysis for Quarantine Pests § 2.2.1.2, at 13 (2001) (Probability of the pest being associated with the pathway at origin) (Exhibit USA-15).

¹⁵International Plant Protection Convention, Pest Risk Analysis for Quarantine Pests §§ 2.2.1.3 - 2.2.1.4, at 14 (2001) (Probability of survival of the pest during transport or storage; Probability of the pest surviving existing pest management procedures) (Exhibit USA-15).

¹⁶The scientific evidence for each step discussed as part of the U.S. hypothetical pathway is presented in U.S. First Written Submission, paras. 29-45 (Section IV.A.4: The Scientific Evidence Underlying the Fact That Mature, Symptomless Apples Do Not Serve As a Pathway for the Disease).

13. There is no scientific evidence to support even the steps Japan *has* identified. The first step in Japan’s hypothetical pathway is the appearance of “[m]ature, apparently healthy but infected fruit” in Japan. However, there is no scientific evidence that “mature, apparently healthy but infected fruit” exist; rather, this appears to be another conjectural creation by Japan. The citation in the exhibit to van der Zwet *et al.* (1990) does *not* provide “[e]vidence of *Erwinia amylovora* infection with apple fruit” (or, more precisely, with “mature” apple fruit, the hypothetical pathway) because there is no experiment reported in this paper establishing that *E. amylovora* was the cause of fire blight infection in any mature, harvested fruit. Thus, the very first step in Japan’s hypothetical pathway is not supported by any scientific evidence.

14. Japan’s hypothetical pathway also contains the step that bacteria from “[i]nfected apple fruit placed in fields” would be transferred by birds, flying insects, or wind and rain to host plants (step 5 of the IPPC analysis and step (6) of the U.S. hypothetical pathway). As stated above, there is no scientific evidence to support the notion that imported mature apple fruit would be infected. There is also no scientific evidence of any vector to transfer any hypothetically surviving bacteria from a discarded fruit to a susceptible host. Japan’s citation to van der Zwet & Keil (1979) is inapt as the “[e]vidence of *Erwinia amylovora* dissemination by insects, birds, wind, and rain” refers to dissemination of bacteria from diseased host *plants*. There is no evidence that “insects, birds, wind, and rain” would transfer bacteria from epiphytically contaminated and discarded *fruit*; in fact, the scientific evidence confirms that there is no vectoring of epiphytic bacteria from contaminated, discarded fruit. Thus, the last step in Japan’s hypothetical pathway is also not supported by any scientific evidence.

15. Because there is no scientific evidence that apple fruit have ever introduced fire blight or could serve as a pathway for introduction, Japan has acted inconsistently with its obligations under Article 2.2 not to maintain its fire blight measures without sufficient scientific evidence. Japan’s failure to identify the steps necessary for apple fruit to serve as a pathway for introduction of fire blight to Japan and to identify and evaluate scientific evidence related to each step also establishes that Japan has not made a proper assessment of risk within the meaning of Article 5.1 and Annex A of the SPS Agreement. Simply put, if Japan was not looking at each relevant step and the scientific evidence related to it, Japan cannot have evaluated the likelihood – *i.e.*, the probability – of entry, establishment, or spread of fire blight within Japan. Because Japan must base its fire blight measure on a proper assessment of risks, the failure to evaluate the likelihood of completing the pathway confirms that Japan has not ensured that its measures are maintained with sufficient scientific evidence.¹⁷

IV. Japan’s Four Instances of Trans-Oceanic Dissemination of Fire Blight Do Not Provide Scientific Evidence that Apple Fruit Are a Pathway

¹⁷*Australia - Measures Affecting the Importation of Salmon*, WT/DS 18/R, para. 8.52 (November 6, 1998).

16. In part, Japan’s failure in Exhibit JPN-14 to identify the steps necessary for apple fruit to serve as a pathway for introduction of fire blight to Japan underscores the fact that it would prefer not to analyze the probability of entry of fire blight via imported apple fruit through each step in the pathway. To identify and evaluate scientific evidence related to each step would only serve to reveal that the scientific evidence establishes that several steps are either very unlikely to be or will not be completed. Instead, Japan describes in its first written submission what could charitably be called a two-step pathway (which, in fact, is not dissimilar to the pathway in Exhibit JPN-14): first, Japan argues that mature apple fruit can be either infected or endophytically contaminated (which exactly Japan is asserting is a bit unclear); second, Japan argues that four instances of trans-oceanic dissemination provide “indirect” evidence that apple fruit can transmit *E. amylovora* and fire blight. The first step is not supported by any scientific evidence; the second is a further example of Japan attempting to pass off conjecture and speculation as scientific evidence.

17. As explained, contrary to the assertion in Exhibit JPN-14, there is no evidence that “mature, apparently healthy but infected” apple fruit exist. Indeed, infected apple fruit do not develop to maturity; the interactive relationship between the bacteria and the host tissues produces tell-tale symptoms (turning brown to black, shriveling, a water-soaked appearance, bacterial ooze) and eventually death (necrosis).¹⁸ Curiously, Japan’s first written submission does not repeat the assertion of Exhibit JPN-14 that there could be “mature, apparently healthy but infected fruit.” In its submission, Japan limits its presentation to recovery of endophytic or epiphytic bacteria in or on apple fruit.¹⁹ In response to Japan’s repeated erroneous assertion that the 1990 van der Zwet *et al.* paper recovered endophytic bacteria, the United States has repeatedly explained that endophytic bacteria have not been recovered from mature apple fruit by van der Zwet *et al.* (1990) or any other study.²⁰ The United States has also explained that epiphytic bacteria are very rarely detected on mature apple fruit, even when harvested from severely blighted trees or orchards; Japan, on the other hand, does not present all of the relevant evidence on epiphytic contamination and thus does not properly evaluate the likelihood of this step being completed.²¹ Thus, Japan has misrepresented the scientific evidence as relating to allegedly infected and endophytically infested mature apple fruit and misevaluated the evidence

¹⁸Australia, a third party in this dispute, has asserted that Goodman (1954) demonstrates infection of fruit. We note that Australia does not say “mature” fruit because there is no evidence in the paper that the sampled fruit were mature. The fruit were located and sampled in winter, still attached to the tree, which is entirely consistent with the standard description of infection of *immature* fruit provided above.

¹⁹See First Written Submission of Japan, paras. 52-66.

²⁰U.S. First Written Submission, paras. 33-34.

²¹First Written Submission of Japan, para. 66 (discussing only Scholberg *et al.* (1988)). In any event, evidence of epiphytic contamination would only go to the first step in the U.S. hypothetical pathway (or step 2 in the IPPC analysis); the analysis presented above demonstrates that such epiphytic bacteria would be very unlikely to survive storage, handling, transport, and discard conditions and would not be vectored to a susceptible host.

relating to epiphytically contaminated mature apple fruit, effectively demonstrating that the first step in Japan’s two-step pathway is a misstep.

18. The vacuity of Japan’s analysis, however, may be made even more clear in reviewing its attempt to rely on “indirect” evidence of trans-oceanic dissemination of fire blight to assert a risk of introduction of fire blight through trade in apple fruit. The United States has reviewed the literature relating to each instance of trans-oceanic dissemination of fire blight cited by Japan. None of these alleged instances of dissemination involves apple fruit.

19. In two instances, to New Zealand²² and Egypt,²³ the introduction of fire blight has been linked to movement of infected propagative material (nursery stock) and not to trade in apple fruit (as Japan concedes). This is not surprising as the scientific literature makes abundantly clear that infected nursery or propagative material may transmit *E. amylovora* and introduce fire blight to new areas.²⁴ In fact, one study (Calzolari *et al.* (1982))²⁵ intercepted infected, symptomless propagative material *from actual commercial shipments* of several fire blight hosts and recovered the fire blight bacterium from a host plant exported from a country with fire blight. Thus, there is no question that infected propagative material (nursery stock and budwood) can serve as a pathway for the disease. However, apple fruit – not propagative material – is what is at issue in this dispute.

20. Japan’s treatment of the third instance of dissemination, to Great Britain, is highly strained. Japan apparently believes that the introduction has been demonstrated to be linked to

²²T. van der Zwet, *The various means of dissemination of the fire blight bacterium Erwinia amylovora*, EPPO Bulletin 24: 209-14 (1994).

²³A.F. El-Helaly *et al.*, *The occurrence of the fire blight disease of pear in Egypt*, Phytopathologia. Mediterranea 3: 156-63 (1964) (“The occurrence of the disease (fire blight) is quite probable, because: 1) *Seedling production in Egypt depends, mostly, on imported nursery stock from certain European countries where the disease has long been established*, 2) the recent records of the occurrence of fire blight in countries known to be free of it [references omitted], and 3) the prevalence of certain symptoms on some pear trees grown in certain Egyptian localities, similar to those known for *Erwinia amylovora*.”) (emphasis added).

²⁴See, e.g., S.V. Thomson, *Epidemiology of Fire Blight*, in *Fire Blight: The Disease and Its Causative Agent, Erwinia Amylovora*, at 14 (2000) (J.L. Vanneste, ed.) (“The evidence suggests there is potential for fire blight to be transported long distances in nursery trees.”) (Exhibit USA-2); European and Mediterranean Plant Protection Organization (EPPO), *Data Sheet on Quarantine Pests: Erwinia amylovora*, Quarantine for Europe, at 4 (1997) (“The fireblight pathogen can mainly be transmitted over long distances by host plants which are latently infected or have undetectable cankers.”) (Exhibit USA-5); T. van der Zwet, *The various means of dissemination of the fire blight bacterium, Erwinia amylovora*, EPPO Bulletin 24: 209-14, 212 (1994) (“The movement of contaminated budwood is most important in the spread of fire blight by man. This would be the most likely means of dissemination of the fire blight bacterium to the most isolated fruit-growing countries like Australia, Chile, and South Africa.”).

²⁵A. Calzolari *et al.*, *Occurrence of Erwinia amylovora in buds of asymptomatic apple plants in commerce*, Phytopathology 103: 156-62 (1982) (“Our results have offered conclusive evidence to support the hypothesis that *E. amylovora* can be spread over great distances through the transport of apparently healthy plants.”).

contaminated pear fruit boxes from the United States. Although Japan concedes this instance “does not appear to be associated with apple fruit,” nonetheless, Japan believes it “*impl[ies]* that human acts of transporting *fruit* over an ocean can cause dispersion of fire blight to a distant location.”²⁶ Taken at face value, Japan is suggesting an implication from evidence that, Japan admits, does not relate to apple fruit. Whether or not an implication can rise to the level of scientific evidence, the implication is robbed of foundation when one examines the literature related to the spread of fire blight to Great Britain. The literature makes clear that contamination of bins was one theory on the source of inoculum; equally probable was that the disease was introduced on infected nursery stock.²⁷ Both of the primary accounts on the introduction of fire blight to Great Britain explicitly *reject* the implication asserted by Japan that dissemination could be linked to fruit. A Great Britain Ministry of Agriculture, Fisheries and Food (1969) pamphlet states: “Transport of infected fruits is *unlikely* to be a common means of dissemination because most of these would be rejected during grading and packing and because of the *low probability* that infected fruit will reach orchards.”²⁸ Lelliott (1959) states: “It is not known how fire blight entered this country. *The chance that it was introduced with infected fruit* or contaminated stocks of bees *is very slight, and can probably be ignored.*”²⁹ Thus, *neither* of these papers supports an implication “that human acts of transporting fruit over an ocean can cause dispersion of fire blight to a distant location.”

21. Japan believes a fourth instance of fire blight transmission to Hawaii in 1965 was caused by movement of infected fruit from the United States. Our review of the literature does not support the view that fire blight was transmitted to Hawaii, and our research reveals that *Erwinia amylovora* is not, in fact, found in Hawaii. The only reference given for Japan's assertion that fire blight was disseminated to Hawaii is a University of California Newsletter that anecdotally relates an incidence of infected pear fruit arriving in Hawaii that originated in California. Despite this anecdotal report, and in spite of the movement of other fruit to Hawaii over decades, fire blight has never been recorded as occurring and is not known to occur in Hawaii. Therefore,

²⁶First Written Submission of Japan, para. 71.

²⁷R.A. Lelliott, *Fire blight of apples and pears in England*, Agriculture 65: 564-68, 564 (1959) (“Two more plausible explanations are that it was introduced with young trees, stocks, or budwood, *or* on boxes contaminated with bacterial slime - in this connection a common practice has grown up recently on English orchards of using boxes in which fruit has been imported from the U.S.A., and it is known that American *or* New Zealand boxes were brought into some of the earlier affected orchards about 1956-57.”) (emphasis added); Great Britain Ministry of Agriculture, Fisheries and Food, *Fire Blight of Apple and Pear* at 7 (1969) (Advisory Leaflet 571) (Movement of infected planting material, particularly shrubs, has almost certainly been the cause of some spread. . . . [C]ontaminated wooden fruit boxes, which are taken into orchards for fruit picking, *could* therefore serve as a source of infection. There is good *circumstantial evidence* that infection was introduced *into a new area of the country* by this means on one occasion.”) (emphasis added).

²⁸Great Britain Ministry of Agriculture, Fisheries and Food, *Fire Blight of Apple and Pear* at 7 (1969) (Advisory Leaflet 571) (emphasis added).

²⁹R.A. Lelliott, *Fire blight of apples and pears in England*, Agriculture 65: 564-68, 564 (1959) (emphasis added).

Japan errs in suggesting that this anecdotal reference is evidence of transoceanic dissemination of fire blight.

22. The net result of this review of the literature is that there is no, even “indirect,” support for Japan’s argument that these instances of trans-oceanic dissemination of fire blight provide evidence to assert a risk of introduction of fire blight through trade in apple fruit. None of the instances of trans-oceanic dissemination of fire blight – to New Zealand, Great Britain, and Egypt – relates to apple fruit, and the scientific literature either expressly attributes the transmission to infected nursery stock or expressly rejects any role for fruit in the introduction of the disease. Thus, Japan has no scientific evidence of infected or endophytically contaminated mature fruit, the first step in its two-step pathway, and has no scientific evidence implicating fruit in trans-oceanic dissemination of fire blight, the second step in its two-step pathway. As a result, even within the context of the unscientific pathway it has described to the Panel, Japan simply has no scientific evidence that apple fruit would transmit the fire blight bacterium and pose a genuine risk of to plant life or health within Japan.

V. Conclusion: Japan Has Acted Inconsistently with its WTO Obligations

23. What may appear at times to be a highly technical dispute in fact revolves around a simple biological reality: mature apple fruit are not a part of the disease cycle for fire blight bacteria. As a result, there is no scientific evidence that mature apple fruit have ever transmitted or could serve as a pathway for the fire blight disease. Thus, by maintaining its fire blight measures without any scientific evidence, let alone sufficient evidence, Japan has acted inconsistently with Article 2.2 of SPS Agreement.

24. Japan has invoked Article 5.7 as an alternative defense but has not met the requirements necessary under Article 5.7 to claim the qualified exemption from Article 2.2. Specifically, in this case the relevant information is not “insufficient”; there is more than enough evidence to make an objective assessment that imported mature apple fruit do not pose a risk to plant life or health within Japan. Given the quality and quantity of scientific evidence presented by the United States, Japan’s fire blight measures are not adopted “on the basis of available pertinent information.” Japan’s participation in (and then repudiation of) the joint study cannot be considered an effort to obtain additional necessary information, particularly as the joint study provides no information with respect to other steps in the hypothetical pathway that will not be completed. For the same reason, Japan cannot be deemed to have reviewed the measure within a reasonable time. Thus, the qualified exemption under Article 5.7 from Japan’s commitments under Article 2.2 is simply not available to it.³⁰

³⁰The United States provides a more detailed response to Japan’s Article 5.7 defense in the U.S. answer to Question 40 from the Panel.

25. As we have seen, Japan’s assessment of risks does not evaluate the likelihood of entry, establishment, or spread of fire blight through imports of apple fruit, principally because Japan fails to identify necessary steps for imported apple fruit to serve as a pathway and to evaluate the likelihood of each of those steps being completed. Thus, Japan has failed to ensure that its fire blight measures are based on an assessment of the risks to plant life or health, inconsistent with Article 5.1 of the SPS Agreement. In addition, by failing to take into account available scientific evidence relating to the likelihood that necessary steps in the pathway would *not* be completed, Japan has acted inconsistently with Article 5.2 of the SPS Agreement.

26. Because imports of mature apple fruit do not pose a risk to plant life or health within Japan, restricting importation of apples to mature fruit (the exported commodity) is a measure that is reasonably available, achieves Japan’s appropriate level of protection, and is significantly less restrictive to trade than Japan’s fire blight measures. Thus, Japan’s measures are inconsistent with Article 5.6 of the SPS Agreement.

27. Finally, in the interests of transparency, the United States notes that Japan failed to notify changes in and information on its fire blight measures and therefore acted inconsistently with Article 7 and Annex B of the SPS Agreement.