

DEPARTMENT OF AGRICULTURE**Animal and Plant Health Inspection Service****7 CFR Parts 300, 301, 305, 318, and 319**

[Docket No. 02–019–1]

Phytosanitary Treatments; Location of Treatment Schedules and Other Requirements**AGENCY:** Animal and Plant Health Inspection Service, USDA.**ACTION:** Final rule.

SUMMARY: This final rule amends the plant health regulations by adding to 7 CFR part 305 treatment schedules and related requirements that now appear in the Plant Protection and Quarantine Treatment Manual and by removing the Plant Protection and Quarantine Treatment Manual from the list of material that is incorporated by reference into the regulations. We are taking this action to simplify the process for amending treatment schedules and related requirements and to more clearly distinguish between treatment-related requirements and nonbinding administrative information, which the Plant Protection and Quarantine Treatment Manual also contains.

EFFECTIVE DATE: June 7, 2005.

FOR FURTHER INFORMATION CONTACT: Ms. Meredith C. Jones, Regulatory Coordination Specialist, PPQ, APHIS, 4700 River Road Unit 141, Riverdale, MD 20737–1236; (301) 734–7467.

SUPPLEMENTARY INFORMATION:**Background**

The regulations in 7 CFR parts 300 to 399 (referred to below as the regulations) are intended, among other things, to prevent the introduction or spread of plant pests and noxious weeds into or within the United States. Under the regulations, certain plants, fruits, vegetables, and other articles must be treated before they may be moved into the United States or interstate. Most of the phytosanitary treatments authorized by the Animal and Plant Health Inspection Service (APHIS) are contained in the Plant Protection and Quarantine (PPQ) Treatment Manual. Among other things, the PPQ Treatment Manual contains approximately 400 treatment schedules, detailed instructions for administering the treatments, and requirements for certification of facilities that administer the treatments.

Prior to this rule, the PPQ Treatment Manual was incorporated by reference into the regulations at 7 CFR 300.1. In

this document, we are amending 7 CFR part 300, “Incorporation by Reference,” to remove the PPQ Treatment Manual from the list of materials incorporated.

We are adding the portions of the PPQ Treatment Manual that prescribe the treatment schedules, instructions for administering the treatments, and requirements for certification of facilities that administer the treatments to 7 CFR part 305, “Phytosanitary Treatments.” The purpose of part 305 is to provide treatment schedules and other requirements related to approved treatments; it does not indicate whether treatment is required for a particular article to be imported or moved interstate. Whether treatment is required for a commodity will continue to be indicated in the regulations in 7 CFR part 301, the domestic quarantine notices; part 318, the Hawaiian and territorial quarantine notices; part 319, the foreign quarantine notices; on a permit; or by an inspector.

One of the reasons that we are adding the treatment schedules and other requirements to part 305 is to distinguish the treatment schedules and other treatment-related requirements from administrative information in the PPQ Treatment Manual that has no regulatory purpose. In addition to the treatment provisions, the PPQ Treatment Manual contains useful information such as operational procedures for port inspectors, conversion tables, instructions for using treatment and safety equipment, and a reference guide to commercial suppliers of treatment and safety equipment. It also contains copies of U.S. Coast Guard regulations related to shipboard fumigation, as well as other technical information. We believe that placing the treatment schedules and other requirements related to treatments in part 305 will clearly distinguish those requirements that APHIS intends to enforce from other, nonbinding information.

Another reason for placing the treatment schedules and other requirements in part 305 is to simplify and improve the efficiency of our rulemaking process for rules involving phytosanitary treatments. Materials that have been incorporated by reference into the CFR have the same force and effect as the regulations themselves, without taking up what may be a large number of pages in the CFR. The Office of the Federal Register must approve the incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. If that material is later revised, and the agency wishes to have the revision incorporated by reference, the revision must also be approved by

the Office of the Federal Register for incorporation by reference. While incorporation by reference can save time and space in the CFR by allowing an agency to refer to an already published document rather than duplicating that material in the CFR, the process is inefficient when the document that is incorporated by reference is frequently updated, as occurs with the PPQ Treatment Manual.

For example, on October 1, 2002, we published a proposed rule in the **Federal Register** to amend 7 CFR part 319 allow the importation of various fruits and vegetables into the United States under specified conditions (Docket No. 02–026–1, 67 FR 61547–61564). In some cases, the specified conditions included treatments, which needed to be added to the PPQ Treatment Manual. Therefore, before the final rule could be published, the changes to the PPQ Treatment Manual had to be reviewed and approved by the Office of the Federal Register, and the final rule, in addition to amending part 319, also amended part 300 to show that revisions to the PPQ Treatment Manual had been approved for incorporation by reference (Docket No. 02–026–4, 68 FR 37904–37923, published and effective on June 25, 2003). Including the treatment provisions directly in the regulations rather than incorporating them by reference will eliminate the separate approval process required for material incorporated by reference and could make new and amended treatment provisions available to the public sooner.

In conjunction with adding treatment schedules and other requirements to part 305, we are amending the regulations in parts 301, 318, and 319 by removing references to the PPQ Treatment Manual and adding references to part 305. Except as discussed below, we have not moved treatment schedules that are already in the CFR in parts 301, 318, and 319 to part 305. We intend to move those treatment schedules to part 305 in future rulemakings.

Treatment Schedules Moved to Part 305 From Other Parts

Sections 318.13–4a and 318.58–4a of part 318 and § 319.56–2c of part 319 authorize the use of quick freeze treatment for certain fruits and vegetables. We have moved the provisions of these sections that pertain directly to treatment to part 305. Specifically, we have included in § 305.1 a definition of the term *quick freeze* that is derived from paragraph (a) of those sections. This definition reads: “A commercially acceptable method of

quick freezing at subzero temperatures with subsequent storage and transportation at not higher than 20 °F. Methods that accomplish this are known as quick freezing, sharp freezing, cold pack, or frozen pack, but may be any equivalent commercially acceptable freezing method." We have also moved to part 305 provisions from those sections regarding inspection of the fruits and vegetables upon arrival. These provisions state that the fruits or vegetables may not be removed from the vessel or vehicle transporting them until an inspector has determined that they are in a satisfactory frozen state upon arrival (*i.e.*, at 20 °F or below). They further state that if the temperature of the fruits or vegetables in any part of a shipment is found to be above 20 °F at the time of inspection upon arrival, the entire shipment must remain on board the vessel or vehicle under such safeguards as may be prescribed by the inspector until the temperature of the shipment is below 20 °F, or the shipment is transported outside the United States or its territorial waters, or is otherwise disposed of to the satisfaction of the inspector.

Since the definition of quick freeze and the requirements for maintaining this frozen state have been moved from §§ 318.13–4a, 318.58–4a, and 319.56–2c to part 305, we have amended all three sections to state that quick freezing is authorized in accordance with part 305. Because the Agency's liability for treatment is discussed in § 305.2, we have removed the paragraphs from each section that pertain to treatment liability. In addition, we have made minor, nonsubstantive changes to those sections, such as changing "Deputy Administrator" to "Administrator" and redesignating paragraphs, and replacing a reference to the Caroline Islands with references to Palau and the Federated States of Micronesia.

Section 319.75–4 of part 319 contained treatment schedules for khapra beetle. These schedules had typographical errors and inconsistencies with the treatment schedules for khapra beetle in the PPQ Treatment Manual. For example, a treatment schedule at § 319.74(a)(3)(iii) indicated that methyl bromide could be applied at temperatures below 40 °F—a temperature range that is not authorized by the U.S. Environmental Protection Agency (EPA) and that would not effectively neutralize the pest. The correct schedules from the PPQ Treatment Manual are now included in part 305, and we have removed the treatment schedules from § 319.75–4 and added a reference to part 305. This eliminates duplication of the treatment

schedules and the errors contained in § 319.75–4.

Duplication of Some Treatment Schedules

In a few cases, we are adding treatment schedules now located in parts 301 and 318 to part 305, without, at this time, removing the treatment schedules from parts 301 and 318. In these cases, the fruits and vegetables may be moved interstate from areas within the United States that are under Federal quarantine if they are treated either according to treatment schedules found in the PPQ Treatment Manual or according to different treatment schedules found in parts 301 and 318. To ensure that persons referring to part 305 find all approved treatments for these fruits and vegetables will be able to find all applicable treatment schedules in one place in the CFR, we have duplicated in part 305 the treatment schedules for these fruits and vegetables that had only been found in parts 301 and 318. We are leaving the treatment schedules in parts 301 and 318 temporarily to ensure that readers know they are still valid. The format of these treatment schedules in part 305 has, in some cases, been altered to be consistent with the other schedules we are adding to part 305.

We are not duplicating in part 305 any of the treatment schedules found in part 319. We intend to move all the treatment schedules in part 319 to part 305 in a separate rulemaking.

Removal of Some Treatment Schedules From the CFR

In § 319.40–7 of part 319, paragraph (f) set out requirements for fumigation with methyl bromide of logs, lumber, and other unmanufactured wood products. Paragraph (f) referred to specific treatment schedules in the PPQ Treatment Manual and set out other schedules that could be used in lieu of the PPQ Treatment Manual schedules. In lieu of treatment schedule T–404 in the PPQ Treatment Manual, paragraphs (f)(1)(ii), (f)(2), and (f)(3)(ii) provided for fumigation to be conducted with an initial methyl bromide concentration of at least 120 grams per cubic meter with exposure and concentration levels adequate to provide a concentration-time product of at least 1920 gram-hours calculated on the initial methyl bromide concentration. However, this standard is impossible to achieve given normal decreases in fumigant concentration and is therefore never used. We have, therefore, removed this alternative schedule from § 319.40–7(f)(1)(ii), (f)(2), and (f)(3)(ii). The alternative treatment schedules in § 319.40–7(f)(1)(i) and

(f)(3)(i) remain. We have replaced references to the PPQ Treatment Manual with references to part 305.

Correction of Some Treatment Schedules

We have also corrected errors contained in treatment schedules in the PPQ Treatment Manual. Specifically, in a treatment for corn seed (treatment schedule T510–2), the temperature for steam is shown as 40 °F in the PPQ Treatment Manual. The correct temperature of at least 240 °F is now given in part 305. A methyl bromide treatment schedule for khapra beetle (T301–b–1–2) incorrectly stated that the treatment is to be conducted at normal atmospheric pressure. We have corrected that treatment schedule in part 305 to specify that the treatment is to be conducted in vacuum fumigation chambers. A treatment for citrus seeds from countries where citrus canker exists (T511–1) specified a 0.525 percent concentration of sodium hypochlorite for a chemical dip treatment, while the regulations at § 319.37–6(e) specified a concentration of 200 parts per million. The regulations are correct, and part 305 contains the corrected treatment schedule. Both the regulations at § 319.56–2ii(b) and the PPQ Treatment Manual stated that a vapor heat treatment for mangoes from the Philippines (T106–d–1) was approved for all *Bactrocera* spp. fruit flies; in fact, it is only approved for *Bactrocera occipitalis* and *B. philippinensis*. Part 305 contains the corrected treatment schedule. Finally, in a cold treatment schedule for pecans and hickory nuts (T107–g), the PPQ Treatment Manual lists the temperature range within which the treatment is to be conducted as 32 °F or below; the correct temperature range is 0 °F or below, and part 305 contains the corrected treatment schedule.

Except to correct the errors just discussed, part 305 retains the descriptions of treated articles, treatment schedules, and instructions for administering treatments that had been contained in the PPQ Treatment Manual. In some cases, this has meant retaining schedules and administration instructions that appear to be substantively identical; the three hot water immersion treatment schedules in § 305.22, for example, differ only in wording. In other cases, we have retained language that may be ambiguous; in vapor heat treatment schedule T106–e, the treatment instructions state that fruit must be held at 114.8 °F or above for 20 minutes, without stating whether 20 minutes is a minimum time or the exact time for

which that temperature must be held. We are currently reviewing the provisions of the PPQ Treatment Manual that we have moved into part 305 in this final rule, and we may amend part 305 in the future to address issues such as those described above. If we undertake such amendments, we will do so through notice-and-comment rulemaking.

In the course of transferring the requirements for treatment facilities to part 305 from the Treatment Manual, we edited the requirements to make them more performance based, clear, and concise, and to eliminate redundancy. However, these requirements were not changed in any substantive way.

The amended content of part 305 is discussed below in general terms; specific requirements for phytosanitary treatments are contained in the rule portion of this document.

Amended Part 305

Definitions

We are amending § 305.1 by adding several definitions for types of treatments and terms related to administering treatments. Specifically, we are adding definitions for the following terms: *Autoclaving, cold treatment, forced hot air, fumigant, fumigation, hitchhiker pest, hot water immersion dip, irradiation, methyl bromide, phosphine, quick freeze, Section 18 of Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), sulfuryl fluoride, steam heat, vacuum fumigation, and vapor heat.* The definitions for each of these terms are located below in the rule portion of the document, along with the terms and definitions that were already included in part 305, prior to this rule.

We are also amending the definition of *inspector*, which had previously been defined as “Any employee of the Animal and Plant Health Inspection Service or other person authorized by the Administrator to inspect and certify the plant health status of plants and products under this part,” to reflect the fact that some inspection responsibilities have been transferred to the Department of Homeland Security’s Bureau of Customs and Border Protection.

Approved Treatments

Prior to this rule, § 305.2 contained provisions for the irradiation treatment of imported fruits and vegetables for certain fruit flies and a mango seed weevil. Since irradiation treatment of imported fruits and vegetables will now be one of a number of treatments located in part 305, we are reorganizing the part,

and we have redesignated the section concerning irradiation of imported fruits and vegetables as § 305.31. Section 305.2 now lists the commodities for which approved treatments are available.

The listed commodities are alpha grass and handicrafts; bags, bagging materials, and covers; broomcorn and broomcorn articles; cotton and cotton products; cut flowers and greenery; equipment; fruits and vegetables; garbage; hay, baled; materials or products that could be infested by khapra beetle; miscellaneous nonfood, nonfeed commodities; plants, bulbs, corms, tubers, rhizomes, and roots; railroad cars (empty); rice straw and hulls; seeds; ships, containers, and surrounding area; skins (goatskins, lambskins, and sheepskins); soil; sugarcane; and wood products. The commodities, except for fruits and vegetables, are primarily arranged alphabetically by the type of commodity, followed by pests of concern and approved treatment schedules.

The list of fruits and vegetables is arranged first by the area of origin of the fruit or vegetable, including specific foreign countries and quarantined areas in the United States. Currently, treatment is authorized for fruits and vegetables from specific regions in 7 CFR parts 301, 318, and 319 or in departmental permits issued in accordance with 7 CFR part 319. Although the origin of fruits and vegetables is seldom identified in the PPQ Treatment Manual, we have included this information in the list of approved treatments for fruits and vegetables, when possible, to assist importers, individuals who administer the treatments, and others in determining whether a treatment is available for admissible fruits or vegetables from a specific country or quarantined area within the United States. In cases where a treatment is approved for a commodity but not associated with a specific country or other area of origin, the commodity is listed under “All.” Beside each area of origin, we list specific fruits and vegetables from those areas for which a treatment is authorized. Alongside the specific commodity for which treatment is authorized, the list shows the pest of concern followed by the treatment schedule that may be used to treat the commodity for that pest.

Some treatment schedules are set out in § 305.2, but in most cases, the treatment schedules identified are located in a subsequent subpart according to the type of treatment—chemical, cold, quick freeze, heat,

irradiation, various treatments for garbage, and miscellaneous. Most listed treatments are identified by a combination of capital letters and a “T” (treatment) number (e.g., MB T104–a–1). The capital letters indicate the type of treatment (e.g., MB refers to methyl bromide fumigation), and the “T” number (e.g., T104–a–1) refers to a specific treatment schedule. Listed treatments that duplicate schedules in part 301 have acronymic identifiers; for example, a treatment schedule to neutralize Oriental fruit fly in fruits and vegetables using fumigation with methyl bromide is identified as MBOFF. (It was not necessary to introduce acronymic identifiers for listed treatments that duplicate schedules in part 318; irradiation is the only treatment for which a schedule was duplicated from part 318, and it is identified by the generic abbreviation IR.)

Chemical Treatments

The first section (§ 305.5) within the subpart for chemical treatments contains requirements for facility certification, treatment monitoring, and treatment procedures. One of the requirements is that all chemical applications must be administered in accordance with an EPA-approved pesticide label and the APHIS-approved treatment schedule. It is possible that EPA may cancel the approval for use of a pesticide on a commodity before APHIS has had the opportunity to remove the associated treatment schedule for that commodity. If EPA cancels the approval for use of a pesticide on a commodity, the schedule is no longer authorized. If the commodity is not listed on the label or does not have a section 18 exemption under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), then no chemical treatment is available.

The next five sections provide the treatment schedules for administering methyl bromide (§ 305.6); phosphine (§ 305.7); sulfuryl fluoride (§ 305.8); aerosol spray for aircraft (§ 305.9); combination treatments (§ 305.10), which combine chemical treatments with nonchemical treatments, such as fumigation with methyl bromide and cold treatment; and miscellaneous chemical treatments (§ 305.11). The treatment schedules set out requirements that are within the limits authorized by EPA. However, to ensure that an actionable pest is neutralized with minimal effect on the quality of the commodity, the schedules may be more specific than what is stated on the pesticide label.

Nonchemical Treatments

Nonchemical treatments are organized into six subparts: Cold treatment, quick freeze, heat treatment, irradiation, various treatment for garbage, and miscellaneous treatments.

The subpart for cold treatment contains treatment requirements (§ 305.15) and treatment schedules (§ 305.16). The treatment requirements in § 305.15 cover facility and carrier approval, treatment enclosures, treatment monitoring, compliance agreements for cold treatment facilities located in the United States, work plans for cold treatment facilities located outside the United States, and treatment procedures.

The subpart for quick freeze treatment lists commodities for which quick freeze is authorized and prohibited in § 305.17 and sets out treatment schedule T110 in § 305.18.

The subpart for heat treatments includes treatment requirements (§ 305.20) and treatment schedules for hot water dip (§ 305.21), hot water immersion (§ 305.22), steam sterilization (§ 305.23), vapor heat (§ 305.24), dry heat (§ 305.25), heat treatment for materials or products that could be infested by khapra beetle (§ 305.26), forced hot air (§ 305.27), and kiln sterilization (§ 305.28). The treatment requirements in § 305.20 cover facility certification, treatment monitoring, compliance agreements for heat treatment facilities located in the United States, work plans for facilities located outside the United States, and treatment procedures.

(Note: APHIS certification of facilities that administer approved phytosanitary treatments always involves the preparation of a compliance agreement for facilities within the United States, or the preparation of a work plan for facilities outside the United States. The compliance agreement or work plan sets out the procedures the facilities will follow and is signed by officials from APHIS and the facility (in the case of a compliance agreement) or by officials from APHIS, the facility, and the national plant protection organization of the country of export (in the case of a work plan). The PPQ Treatment Manual specifically mentions the need for a work plan in sections pertaining to certification of facilities for some types of heat treatment, but not all, and does not mention compliance agreements. For clarity and transparency, we are referencing both types of documents in part 305 under each type of heat treatment.)

The subpart for irradiation includes four sections authorizing irradiation treatment for commodities from different areas and for different pests. Irradiation treatment for imported fruits and vegetables, which was the only treatment provided for in part 305 prior

to this final rule, has been moved to § 305.31. This new section includes all the provisions previously in § 305.2, plus two requirements from the PPQ Treatment Manual: (1) All containers or vans that will transport treated commodities must be free of pests prior to loading the treated commodities and (2) each shipment of fruits and vegetables treated outside the United States must be accompanied into the United States by a phytosanitary certificate. All of these requirements are now in § 305.31. The subpart for irradiation also includes three sections, §§ 305.32 through 305.34, that duplicate the irradiation treatments in § 301.64–10(g), for regulated articles moved interstate from areas under Federal quarantine for Mexican fruit fly; in § 301.78–10(c), for regulated articles moved interstate from areas under Federal quarantine for Mediterranean fruit fly; and in § 318.13–4f, for certain commodities moved interstate from Hawaii.

The subpart for garbage treatments contains treatment schedules and requirements for caterers conducting the treatments under compliance agreements (§ 305.40). The subpart lists three treatment schedules for neutralizing insect pests and pathogens: Incineration, dry heat, and grinding and discharge into a sewer system.

The miscellaneous treatments subpart contains treatment schedules for soapy water and wax for certain fruits; warm soapy water and brushing for durian and other large fruits, such as breadfruit; and alternative treatments for plant material not tolerant to fumigation (§ 305.42).

Miscellaneous

We have made minor, nonsubstantive changes to parts 301, 318, and 319. In § 319.56–2k, we have replaced a reference to the Union of Soviet Socialist Republics with a reference to Armenia, Azerbaijan, Belarus, Estonia, Georgia, Latvia, Lithuania, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. In parts 301, 318, and 319, we have changed references to “he” or “him” to terms that are more inclusive (e.g., “he or she” or “the inspector”). Because the Oxford Plant Protection Center has moved to the Center for Plant Health Science and Technology, we have amended the address in the regulations. We have also corrected typographical errors in the regulations.

Internal Agency Management

This rule relates to internal agency management. Therefore, this rule is

exempt from the provisions of Executive Orders 12866 and 12988. Moreover, pursuant to 5 U.S.C. 553, notice of proposed rulemaking and opportunity for comment are not required for this rule, and it may be made effective less than 30 days after publication in the **Federal Register**. In addition, under 5 U.S.C. 804, this rule is not subject to congressional review under the Congressional Review Act of 1996, Pub. L. 104–121. Finally, this action is not a rule as defined by 5 U.S.C. 601 *et seq.*, the Regulatory Flexibility Act, and thus is exempt from the provisions of that Act.

Paperwork Reduction Act

This rule contains no information collection or recordkeeping requirements under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). [Must be confirmed.]

List of Subjects

7 CFR Part 300

Incorporation by reference, Plant diseases and pests, Quarantine.

7 CFR Part 301

Agricultural commodities, Plant diseases and pests, Quarantine, Reporting and recordkeeping requirements, Transportation.

7 CFR Part 305

Agricultural commodities, Chemical treatment, Cold treatment, Garbage treatment, Heat treatment, Imports, Irradiation, Phytosanitary treatment, Plant diseases and pests, Quarantine, Quick freeze, Reporting and recordkeeping requirements, Transportation.

7 CFR Part 318

Cotton, Cottonseed, Fruits, Guam, Hawaii, Plant diseases and pests, Puerto Rico, Quarantine, Transportation, Vegetables, Virgin Islands.

7 CFR Part 319

Bees, Coffee, Cotton, Fruits, Honey, Imports, Logs, Nursery stock, Plant diseases and pests, Quarantine, Reporting and recordkeeping requirements, Rice, Vegetables.

Accordingly, we are amending 7 CFR chapter III as follows:

PART 300—INCORPORATION BY REFERENCE

- 1. The authority citation for part 300 continues to read as follows:

Authority: 7 U.S.C. 7701–7772; 7 CFR 2.22, 2.80, and 371.3.

§ 300.1 [Removed and reserved]

■ 2. Section 300.1 is removed and reserved.

PART 301—DOMESTIC QUARANTINE NOTICES

■ 3. The authority citation for part 301 continues to read as follows:

Authority: 7 U.S.C. 7701–7772; 7 CFR 2.22, 2.80, and 371.3.

Section 301.75–15 also issued under Sec. 204, Title II, Pub. L. 106–113, 113 Stat. 1501A–293; sections 301.75–15 and 301.75–16 also issued under Sec. 203, Title II, Pub. L. 106–224, 114 Stat. 400 (7 U.S.C. 1421 note).

§ 301.45–1 [Amended]

■ 4. In § 301.45–1, the definition of *treatment manual* is amended by removing the words “and the Plant Protection and Quarantine Treatment Manual” and by removing footnote 3.

§ 301.45–4 [Amended]

■ 5. Section 301.45–4 is amended by redesignating footnote 4 as footnote 3.

§ 301.45–5 [Amended]

■ 6. In § 301.45–5, paragraph (a)(3) is amended by adding the words “and part 305 of this chapter” immediately after the words “treatment manual”.

§ 301.45–6 [Amended]

■ 7. In § 301.45–6, paragraph (a) is amended by adding the words “and part 305 of this chapter” immediately after the words “treatment manual”.

§ 301.48–1 [Amended]

■ 8. Section 301.48–1 is amended by removing the definition of *Treatment Manual*.

§ 301.48–4 [Amended]

■ 9. In § 301.48–4, paragraph (d)(4) is amended by removing the words “with the Treatment Manual” and adding the words “with part 305 of this chapter” in their place; and by removing the words “the Treatment Manual” and adding the words “part 305 of this chapter” in their place.

§ 301.52–1 [Amended]

■ 10. Section 301.52–1 is amended by removing the definition of *treatment manual* and footnote 2.

§ 301.52–3 [Amended]

■ 11. Section 301.52–3 is amended by redesignating footnote 3 as footnote 2.

§ 301.52–4 [Amended]

■ 12. Section 301.52–4 is amended as follows:

■ a. In paragraph (a)(3), by removing the words “the treatment manual” and adding the words “part 305 of this chapter” in their place.

■ b. In paragraph (b), by removing the words “the treatment manual” and adding the words “part 305 of this chapter” in their place; and by removing the word “he” and adding the words “the inspector” in its place.

■ c. In paragraph (f), by removing the word “he” and adding the words “the inspector” in its place.

§ 301.52–5 [Amended]

■ 13. In § 301.52–5, paragraph (b) is amended by removing the word “he” and adding the words “the inspector” in its place.

■ 14. Section 301.64–10 is amended as follows:

■ a. In paragraph (a), by removing the words “the PPQ Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place; and by removing the second sentence.

■ b. In paragraphs (d) and (e), by removing the words “the PPQ Treatment Manual” and adding the words “part 305 of this chapter” in their place.

■ c. By revising paragraph (f) to read as set forth below.

■ d. In footnote 10 and in paragraph (g)(7), by removing the address “Oxford Plant Protection Center, 901 Hillsboro St., Oxford, NC 27565” and adding the address “Center for Plant Health Science and Technology, 1017 Main Campus Drive, suite 2500, Raleigh, NC 27606” in its place.

§ 301.64–10 Treatments.

* * * * *
(f) *Citrons, litchis, longans, persimmons, and white sapotes.* Cold treatment in accordance with the following schedule, which is also found in part 305 of this chapter:

Treatment (°F)	Exposure period (days)
33 or below	18
34 or below	20
35 or below	22

* * * * *

§ 301.75–4 [Amended]

■ 15. In § 301.75–4, paragraph (d)(2) is amended by removing the word “quarantined” and adding the word “quarantined” in its place, both times it occurs.

§ 301.78–10 [Amended]

■ 16. Section 301.78–10 is amended as follows:

■ a. In the introductory text, by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place; and by removing the second sentence.

■ b. In footnote 10 and in paragraph (c)(7), by removing the address “Oxford Plant Protection Center, 901 Hillsboro St., Oxford, NC 27565” and adding the address “Center for Plant Health Science and Technology, 1017 Main Campus Drive, suite 2500, Raleigh, NC 27606” in its place.

§ 301.81–4 [Amended]

■ 17. In § 301.81–4, paragraph (b) is amended by removing the words “the Plant Protection and Quarantine Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place.

§ 301.85–1 [Amended]

■ 18. Section 301.85–1 is amended by removing the definition of *treatment manual*.

§ 301.85–2 [Amended]

■ 19. Section 301.85–2, paragraph (d) is amended by adding the words “or she” immediately after the word “he”, both times it occurs.

§ 301.85–4 [Amended]

■ 20. Section 301.85–4 is amended as follows:

■ a. In paragraph (a), by removing the word “he” and adding the words “the inspector” in its place.

■ b. In paragraphs (a)(2), (b), and (e), second sentence, by removing the words “the treatment manual” and adding the words “part 305 of this chapter” in their place.

■ c. In paragraph (f), by adding the words “or she” after the word “he” and by adding the words “or her” after the word “his”.

§ 301.85–5 [Amended]

■ 21. In § 301.85–5, paragraph (c), first sentence, is amended by removing the word “he” and adding the words “the inspector” in its place.

§§ 301.93–10, 301.97–10 [Amended]

■ 22. The introductory text of §§ 301.93–10, 301.97–10, is amended by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place; and by removing the second sentence.

§ 301.98–10 [Amended]

■ 23. Section 301.98–10 is amended as follows:

■ a. In the introductory text, by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place; and by removing the second sentence.

■ b. In paragraph (b), by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place.

§ 301.99–10 [Amended]

■ 24. Section 301.99–10 is amended as follows:

■ a. In the introductory text, by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place; and by removing the second and third sentences.

■ b. In paragraph (b), first sentence, by removing the words “as an alternative to treating the fruits as provided in the Plant Protection and Quarantine Treatment Manual”.

■ c. In paragraph (c), first sentence, by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place.

■ 25. Part 305 is revised to read as follows:

PART 305—PHYTOSANITARY TREATMENTS

Sec.

305.1 Definitions.

305.2 Approved treatments.

305.3–305.4 [Reserved]

Subpart—Chemical Treatments

305.5 Treatment requirements.

305.6 Methyl bromide fumigation treatment schedules.

305.7 Phosphine treatment schedules.

305.8 Sulfuryl fluoride treatment schedules.

305.9 Aerosol spray for aircraft treatment schedules.

305.10 Treatment schedules for combination treatments.

305.11 Miscellaneous chemical treatments.

305.12–14 [Reserved]

Subpart—Cold Treatments

305.15 Treatment requirements.

305.16 Cold treatment schedules.

Subpart—Quick Freeze Treatments

305.17 Authorized treatments; exceptions.

305.18 Quick freeze treatment schedule.

305.19 [Reserved]

Subpart—Heat Treatments

305.20 Treatment requirements.

305.21 Hot water dip treatment schedule for mangoes.

305.22 Hot water immersion treatment schedules.

305.23 Steam sterilization treatment schedules.

305.24 Vapor heat treatment schedules.

305.25 Dry heat treatment schedules.

305.26 Khapra beetle treatment schedule for feeds and milled products.

305.27 Forced hot air treatment schedules.

305.28 Kiln sterilization treatment schedule.

305.29–305.30 [Reserved]

Subpart—Irradiation Treatments

305.31 Irradiation treatment of imported fruits and vegetables for certain fruit flies and mango seed weevils.

305.32 Irradiation treatment of regulated fruit to be moved interstate from areas quarantined for Mexican fruit fly.

305.33 Irradiation treatment of regulated articles to be moved interstate from areas quarantined for Mediterranean fruit fly.

305.34 Administrative instructions prescribing methods for irradiation treatment of certain fruits and vegetables from Hawaii.

305.35–305.39 [Reserved]

Subpart—Treatments for Garbage

305.40 Garbage treatment schedules for insect pests and pathogens.

305.41 [Reserved]

Subpart—Miscellaneous Treatments

305.42 Miscellaneous treatment schedules.

Authority: 7 U.S.C. 7701–7772; 21 U.S.C. 136 and 136a; 7 CFR 2.22, 2.80, and 371.3.

§ 305.1 Definitions.

The following definitions apply for the purposes of this part:

Administrator. The Administrator, Animal and Plant Health Inspection Service, United States Department of Agriculture, or any person delegated to act for the Administrator in matters affecting this part.

APHIS. The Animal and Plant Health Inspection Service, United States Department of Agriculture.

Autoclaving. The introduction of steam at 212 °F into a pressurized enclosure containing a commodity to kill spores and other treatment-resistant pests.

Cold treatment. Exposure of a commodity to a specified cold temperature that is sustained for a specific time period to kill targeted pests, especially fruit flies.

Dose mapping. Measurement of absorbed dose within a process load using dosimeters placed at specified locations to produce a one-, two-, or three-dimensional distribution of absorbed dose, thus rendering a map of absorbed-dose values.

Dosimeter. A device that, when irradiated, exhibits a quantifiable change in some property of the device that can be related to absorbed dose in a given material using appropriate analytical instrumentation and techniques.

Dosimetry system. A system used for determining absorbed dose, consisting of dosimeters, measurement instruments and their associated reference standards, and procedures for the system's use.

Forced hot air. Hot air blown uniformly across commodities in a shipment until the pulp of each unit in the shipment of the commodity reaches a specified temperature.

Fumigant. A gaseous chemical that easily diffuses and disperses in air and is toxic to the target organism.

Fumigation. Releasing and dispersing a toxic chemical in the air so that it reaches the target organism in a gaseous state.

Hitchhiker pest. A pest that is carried by a commodity or a conveyance and, in the case of plants and plant products, does not infest those plants or plant products.

Hot water immersion dip. Complete immersion of a commodity in heated water to raise the temperature of the commodity to a specific temperature for a specified time. This treatment is usually used to kill fruit flies.

Inspector. Any individual authorized by the Administrator of APHIS or the Commissioner of Customs and Border Protection, Department of Homeland Security, to enforce the regulations in this part.

Irradiation. The use of irradiated energy to kill or devitalize organisms.

Methyl bromide. A colorless, odorless biocide used to fumigate a wide range of commodities.

Phosphine. Flammable gas generated from either aluminum phosphide or magnesium phosphide and used to treat stored product commodities.

Quick freeze. A commercially acceptable method of quick freezing at subzero temperatures with subsequent storage and transportation at not higher than 20 °F. Methods that accomplish this are known as quick freezing, sharp freezing, cold pack, or frozen pack, but may be any equivalent commercially acceptable freezing method.

Section 18 of Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). An emergency exemption granted by the U.S. Environmental Protection Agency to Federal or State agencies authorizing an unregistered use of a pesticide for a limited time.

Sulfuryl fluoride. An odorless, colorless, and nonflammable compressed fumigant that is used primarily to kill pests of wood.

Steam heat. The introduction of steam at 212 °F or higher into an enclosure containing a commodity to kill targeted organisms.

Vacuum fumigation. Fumigation performed in a gas-tight enclosure. Most

air in the enclosure is removed and replaced with a small amount of fumigant. The reduction in pressure reduces the required duration of the treatment.

Vapor heat. Heated air saturated with water vapor and used to raise the temperature of a commodity to a required point for a specific period.

§ 305.2 Approved treatments.

(a) Certain commodities or articles require treatment, or are subject to treatment, prior to the interstate movement within the United States or importation or entry into the United States. Treatment is required as indicated in parts 301, 318, and 319 of this chapter, on a permit, or by an inspector.

(1) Treatment schedules provided in this part must be followed to neutralize pests.

(2) More information about treatment schedules is contained in the Plant Protection and Quarantine (PPQ) Treatment Manual, which is available on the Internet at http://www.aphis.usda.gov/ppq/manuals/online_manuals.html or by contacting the Animal and Plant Health Inspection Service, Plant Protection and Quarantine, Manuals Unit, 69 Thomas Johnson Drive, Suite 100, Frederick, MD 21702.

(3) Treatment requirements provided in this part must be followed to adequately administer treatment schedules.

(4) APHIS is not responsible for losses or damages incurred during treatment

and recommends that a sample be treated first before deciding whether to treat the entire shipment.

(b) *Alpha grass and handicrafts (Stipa tenacissima, Ampelodesmos mauritanicus).* For treatment schedules, see § 305.6 for methyl bromide (MB) fumigation.

Pest	Treatment
<i>Harmolita</i> spp.	MB T304-a or MB T304-b.

(c) *Bags, bagging materials, and covers (used).* The treatment schedules for which administration instructions are not provided are in § 305.6 for methyl bromide (MB) fumigation, § 305.23 for steam sterilization (SS), and § 305.25 for dry heat (DH).

Used material	Pest	Treatment
Bags and bagging material or covers used to contain root crops.	<i>Globodera rostochiensis</i>	MB T306-a.
Bags and bagging used for commodities grown in soil.	Potato cyst nematode	MB T502-1.
Bags and bagging material or covers used for cotton only.	<i>Pectinophora</i> spp.	MB T306-b.
Bags and bagging used for small grains	Downy mildews and <i>Physoderma</i> diseases of maize.	T503-1-2: Soak in water slightly below boiling (212 °F) for 1 hour; or SS T503-1-3; or DH T503-1-4.
	Flag smut	DH T504-1-1 or SS T504-1-2.
Bags and bagging material or covers	<i>Trogoderma granarium</i>	MB T306-c-1 or MB T306-c-2.
Bagging from unroasted coffee beans	Various	MB T306-d-1 or MB T306-d-2.
Covers used for commodities grown in soil	Potato cyst nematode	MB T502-2.
Covers used for small grains	Downy mildews and <i>Physoderma</i> diseases of maize.	T503-2-2: Soak in water slightly below boiling (212 °F) for 1 hour; or SS T503-2-3; or DH T503-2-4.
Covers used for wheat	Flag smut	DH T504-2-1 or SS T504-2-2.

(d) *Broomcorn and broomcorn articles.* The treatment schedules for which administration instructions are not provided are in § 305.6 for methyl bromide (MB) fumigation and § 305.23 for steam sterilization (SS).

Pest	Treatment
Corn-related diseases (pre-cautionary treatment).	T566-1 (broomcorn) and T566-2 (broomcorn articles): Completely submerge in hot water at 102 °F.
<i>Ostrinia nubilalis</i> , ticks, and saw flies.	MB T309-a or MB T309-b-1 or MB T309-b-2 or SS T309-c.

(e) *Cotton and cotton products.* The treatment schedules for which administration instructions are not provided are in § 305.6 for methyl bromide (MB) fumigation and § 305.7 for phosphine (PH).

Material	Pest	Treatment
Baled lint or linters	<i>Pectinophora</i> spp.	MB T301-a-3.
Baled lint, linters, waste, piece goods, gin trash.	<i>Trogoderma granarium</i>	MB T301-b-1-1 or MB T301-b-1-2.
Cottonseed (samples and bulk)	<i>Pectinophora</i> spp.	T301-a-7: (1) Delint the cottonseed by applying sufficient heat (145 °F) or acid or both; or (2) raise the temperature of the delinted seed during the subsequent drying process to 145 °F for no less than 45 seconds or at least 140 °F for no less than 8 minutes.
Cottonseed, cottonseed products, or samples.	<i>T. granarium</i>	MB T301-b-2.
Cottonseed meal	<i>T. granarium</i>	MB T301-b-3.
Cotton and cotton products	<i>Globodera rostochiensis</i>	MB T301-c.
Cotton and cotton products	<i>Anthonomus grandis</i>	MB T301-d-1-1 or PH T301-d-1-2.

Material	Pest	Treatment
Lint, linters, cottonseed, cottonseed hulls, gin trash, waste, cottonseed meal, or other baled or bulk commodities (except samples).	<i>Pectinophora</i> spp	MB T301-a-1-1 or MB T301-a-1-2.
Lint, linters, and cottonseed (bulk, sacked, or packaged cottonseed, lint or linters, cottonseed hulls, gin trash, and all other baled or bulk cotton commodities).	<i>Pectinophora</i> spp	PH T301-a-6.
Lint (except baled lint or linters), cottonseed (except packaged cottonseed), cottonseed hulls, gin trash, waste, cottonseed meal, or other baled or bulk commodities (excluding samples).	<i>Pectinophora</i> spp	MB T301-a-2.
Packaged cottonseed	<i>Pectinophora</i> spp	MB T301-a-4.
Samples of cotton and cotton products	<i>Pectinophora</i> spp	MB T301-a-5-1 or MB T301-a-5-2.

(f) *Cut flowers and greenery.* The treatment schedules for which administration instructions are not provided are in § 305.6 for methyl bromide (MB) fumigation.

Pest	Treatment
External feeders, leafminers, hitchhikers (except for snails and slugs), surface pests	MB T305-a.
Borers or soft scales	MB T305-b.
Mealybugs	MB T305-c.

(g) *Equipment.* The treatment schedules for which administration instructions are not provided are in § 305.6 for methyl bromide (MB) fumigation, § 305.9 for aerosol, and § 305.23 for steam sterilization (SS).

Article	Pest	Treatment
Aircraft	<i>Trogoderma granarium</i>	T409-a: Contact PPQ Regional Director for specific instructions. Aerosol T409-b.
Automobiles	Hitchhiker pests (other than <i>T. granarium</i> , fruit flies, and soft-bodied insects). Fruit flies and soft-bodied insects	Aerosol T409-c-1 or Aerosol T409-c-3.
Construction equipment with cabs	<i>Globodera rostochiensis</i>	T406-c, steam cleaning: Steam at high pressure until all soil is removed. Treated surfaces must be thoroughly wet and heated.
Construction equipment without cabs	<i>G. rostochiensis</i>	MB T406-b.
Containers	<i>G. rostochiensis</i>	SS T406-d.
Containers	<i>G. rostochiensis</i>	MB T406-b.
Field and processing equipment (<i>Saccharum</i>) ..	Potato cyst nematode	MB T506-1.
Mechanical cotton pickers and other cotton equipment.	<i>Xanthomonas albilineans</i> and <i>X. vasculorum</i> ..	T514-4: Remove all debris and soil from equipment with water at high pressure (300 pounds per square inch minimum) or with steam.
Used farm equipment with cabs	<i>Pectinophora gossypiella</i>	MB T407.
Used farm equipment with cabs	<i>G. rostochiensis</i>	T406-c, steam cleaning: Steam at high pressure until all soil is removed. Treated surfaces must be thoroughly wet and heated.
Used farm equipment without cabs	<i>G. rostochiensis</i>	MB T406-b.
Used containers	<i>G. rostochiensis</i>	SS T406-d.
	<i>G. rostochiensis</i>	SS T406-d.

(h) *Fruits and vegetables.* (1) Treatment of fruits and vegetables from foreign localities by irradiation in accordance with § 305.31 may be substituted for other approved treatments for the mango seed weevil *Sternochetus mangiferae* (Fabricus) or for one or more of the following 11 species of fruit flies: *Anastrepha fraterculus*, *A. ludens*, *A. obliqua*, *A. serpentina*, *A. suspensa*, *Bactrocera*

cucurbitae, *B. dorsalis*, *B. tryoni*, *B. jarvisi*, *B. latifrons*, and *Ceratitidis capitata*.

(2) The treatment schedules for which administration instructions are not provided are in § 305.6 for methyl bromide (MB) fumigation, § 305.10(a) for methyl bromide fumigation and cold treatment (MB&CT), § 305.10(b) for cold treatment and methyl bromide fumigation (CT&MB), § 305.11 for

miscellaneous chemical treatments (CMisc.), § 305.16 for cold treatment (CT), § 305.18 for quick freeze, § 305.21 for hot water dip (HWD), § 305.22 for hot water immersion (HWI), § 305.24 for vapor heat (VH), § 305.27 for forced hot air (FHA), §§ 305.31 through 305.34 for irradiation (IR), and § 305.42 for miscellaneous (Misc.).

(i) *Treatment for shipments from foreign localities.*

Location	Commodity	Pest	Treatment schedule ¹
All	All imported fruits and vegetables	Hitchhiker pests or surface pests, except mealybugs.	MB T104-a-1.

Location	Commodity	Pest	Treatment schedule ¹
	Acorns, chestnuts (see § 319.56–2b of this chapter).	Mealybugs	MB T104–a–2.
	Banana	Most	Quick freeze T110.
	Beet	<i>Cydia splendana</i> and <i>Curculio</i> spp..	MB T101–t–1 or MB T101–u–1.
	Beet	External feeders such as Noctuidae spp., <i>Thrips</i> spp., <i>Copitarsia</i> spp..	MB T101–d–1.
	Blackberry	Internal feeders	MB T101–g–1.
	Broccoli (includes Chinese and rapini).	External feeders	MB T101–g–1–1.
	Brussel sprouts	External feeders such as Noctuidae spp., <i>Thrips</i> spp., <i>Copitarsia</i> spp., <i>Pentatomidae</i> spp., and <i>Tarsonemus</i> spp..	MB T101–h–1.
	Cabbage (European and Chinese)	External feeders and leafminers ..	MB T101–n–2.
	Cabbage (bok choy, napa, Chinese mustard).	External feeders	MB T101–n–2.
	Cantaloupe	External feeders	MB T101–n–2.
	Carrot	External feeders and leafminers ..	MB T101–n–2.
	Carrot	External feeders	MB T101–j–1.
	Cauliflower	External feeders	MB T101–n–2.
	Celery (celery root)	External feeders and leafminers ..	MB T101–n–2.
	Celery (above ground parts)	External feeders	MB T101–n–1.
	Chayote (fruit only)	External feeders	MB T101–o–1.
	Cherry	External feeders	MB T101–p–1.
	Cherry	Insects other than fruit flies	MB T101–r–1.
	Chicory (above ground parts)	<i>Rhagoletis indifferens</i> and <i>Cydia pomonella</i> .	MB T101–s–1.
	Chicory root	External feeders	MB T101–v–1.
	Copra	External feeders	MB T101–n–1.
	Corn-on-the-cob	External feeders	MB T101–x–1.
	Cucumber	<i>Ostrinia nubilalis</i>	MB T101–x–1–1.
	Dasheen	External feeders	MB T101–y–1.
	Dasheen	External feeders	MB T101–z–1.
	Durian and other large fruits such as breadfruit.	Internal feeders	MB T101–a–2.
	Endive	External feeders	Misc. T102–c.
	Fava bean (dried)	External feeders	MB T101–b–2.
	Garlic	Bruchidae	MB T101–c–2.
	Ginger (rhizome)	<i>Brachycerus</i> spp. and <i>Dyspessa ulula</i> .	MB T101–d–2.
	Ginger (rhizome)	Internal feeders	MB T101–e–2.
	Grapefruit and other citrus	External feeders	MB T101–f–2.
	Herbs and spices (dried)	<i>Aleurocanthus woglumi</i>	MB T101–g–2.
	Herbs, fresh (includes all fresh plant parts except seeds).	Various stored product pests, except khapra beetle.	MB T101–j–2.
	Kiwi	External feeders and leafminers..	MB T101–n–2–1–1.
	Leeks	External feeders, <i>Nysius huttoni</i> ..	MB T101–m–2.
	Lentils (dried)	Internal feeders	MB T101–q–2.
	Litchi	Bruchidae	MB T101–e–1.
	Lime	Mealybugs (Pseudococcidae)	MB T101–b–1–1.
	Melon (including honeydew, muskmelon, and watermelon).	Mealybugs and other surface pests.	HWI T102–e.
	Onion	External feeders such as Noctuidae spp., <i>Thrips</i> spp., <i>Copitarsia</i> spp..	MB T101–o–2.
	Papaya	Internal feeders and leafminers	MB T101–q–2.
	Parsnip	<i>Cercospora mamaonis</i> and <i>Phomopsis carica-papayae</i> .	T561: Dip in hot water at 120.2 °F for 20 minutes.
	Peas (dried)	Internal feeders	MB T101–g–1.
	Pecans and hickory nuts	Bruchidae	MB T101–e–1.
	Peppers	<i>Curculio caryae</i>	CT T107–g.
	Pineapple	Internal pests (except fruit flies) and external pests (except mealybugs).	MB T101–a–3.
	Plantain	Internal feeders	MB T101–r–2.
	Potato (white or Irish)	External feeders such as Noctuidae spp., <i>Thrips</i> spp., <i>Copitarsia</i> spp..	MB T101–t–2.
		<i>Graphognathus</i> spp.	MB T101–u–2.

Location	Commodity	Pest	Treatment schedule ¹
	Potato (white or Irish)	<i>Ostrinia nubilalis</i> , <i>Phthorimaea operculella</i> .	MB T101-v-2.
	Pulses (dried)	Bruchidae	MB T101-e-1.
	Pumpkin (includes calabaza varieties).	External feeders	MB T101-w-2.
	Radish	Internal feeders	MB T101-g-1.
	Raspberry	External feeders such as Noctuidae spp., <i>Thrips</i> spp., <i>Copitarsia</i> spp..	MB T101-x-2.
	Shallots	Internal feeders including leafminers.	MB T101-q-2.
	Squash (winter, summer, and chayote).	External feeders	MB T101-y-2.
	Sweet potato	External and internal feeders	MB T101-b-3-1.
	Strawberry	External feeders	MB T101-z-2.
	Tuna and other cactus fruit	External feeders and leafminers ..	MB T101-e-3.
	Turnip	Internal feeders	MB T101-g-1.
	Yam (see §319.56-21 of this chapter).	Internal and external feeders	MB T101-f-3.
	Zucchini	<i>Ceratitis capitata</i> , <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> .	VH T106-b-8.
Albania	Zucchini	External feeders	MB T101-h-3.
Algeria	Horseradish	<i>Baris lepidii</i>	MB T101-l-2.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grapefruit, tangerine	<i>Ceratitis capitata</i>	CT T107-a.
	Pear, plum, ethrog	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Antigua and Barbuda	Bean (pod), pigeon pea (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Argentina	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Apple, apricot, cherry, kiwi, peach, pear, plum, nectarine, quince, pomegranate.	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitis capitata</i> .	CT T107-a-1.
	Blueberry	<i>Ceratitis capitata</i>	MB T101-i-1-1.
	Grape	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitis capitata</i> .	CT T107-a-1.
		Insects other than <i>Ceratitis capitata</i> and <i>Lobesia botrana</i> .	MB T101-i-2.
Armenia	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Australia	Horseradish	<i>Baris lepidii</i>	MB T101-l-2.
	Apple	<i>Austrotortrix</i> spp. and <i>Epiphyas</i> spp., <i>Bactrocera tryoni</i> , <i>Ceratitis capitata</i> , and other fruit flies.	CT&MB T109-d-1.
		<i>Bactrocera tryoni</i>	CT T107-d.
		Tortricidae	MB T101-a-1.
		External feeders, apple moth	MB T101-a-1.
	Asparagus	External feeders such as Noctuidae spp., <i>Thrips</i> spp. (except <i>Scirtothrips dorsalis</i> from Thailand), <i>Copitarsia</i> spp..	MB T101-b-1.
		<i>Halotydeus destructor</i>	T101-b-1-1.
	Citrus—oranges, grapefruits, limes, lemons, mandarins, satsumas, tangors, tangerines, and other fruits grown from this species or its hybrids (<i>C. reticulata</i>).	<i>Bactrocera tryoni</i>	CT T107-d.

Location	Commodity	Pest	Treatment schedule ¹
	Citrus—oranges, grapefruits, limes lemons, mandarins, satsumas, tangors, tangerines, and other fruits grown from this species or its hybrids (<i>C. reticulata</i>).	<i>Ceratitis capitata</i>	CT T107-a.
	Grape	<i>Austrotortrix</i> spp. and <i>Epiphyas</i> spp., <i>Bactrocera tryoni</i> , <i>Ceratitis capitata</i> , and other fruit flies.	MB&CT T108-b or CT&MB T109-d-1.
	Kiwi	<i>Bactrocera tryoni</i>	CT T107-d.
	Pear	<i>Austrotortrix</i> spp., <i>Epiphyas</i> spp., <i>Bactrocera tryoni</i> , <i>Ceratitis capitata</i> , and other fruit flies.	CT&MB and T109-d-1.
Austria	Grape	<i>Bactrocera tryoni</i>	CT T107-d.
		Tortricidae	MB T101-a-1.
		<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Aruba	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
	Bean, garden (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2 or MB T101-k-2-1.
	Green bean	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Azerbaijan	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Bahamas	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.
	Bean (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Pigeon pea (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Barbados	Bean (pod or shelled), pigeon pea (pod).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Belarus	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Belgium	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
	Bean, garden (pod or shelled), pea (pod or shelled).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Belize	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.
	Bean (pod or shelled), pigeon pea (pod or shelled).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Carambola	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>).	CT T107-c.
	Ethrog	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grapefruit, orange, tangerine	<i>Anastrepha ludens</i>	CT T107-b.
	Papaya	<i>Ceratitis capitata</i> , <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> .	FHA T103-d-2 (see §319.56-2(j) of this part).
Bolivia	Blueberry	<i>Ceratitis capitata</i>	MB T101-i-1-1.

Location	Commodity	Pest	Treatment schedule ¹
Bosnia	Ethrog	<i>Ceratitis capitata</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	CT T107-a. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Brazil	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
	Apple, grape (prohibited into California).	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitis capitata</i> .	CT T107-a-1.
Bulgaria	Mango	<i>Ceratitis capitata</i> , <i>Anastrepha</i> spp., <i>Anastrepha ludens</i> .	HWD T102-a.
	Okra	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Cayman Islands	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
	Bean (pod or shelled), pigeon pea (pod).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Chile (all provinces except provinces of Region 1 or Chanaral Township of Region 3).	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Apricot, nectarine, peach, plum, plumcot.	External feeders	MB T101-a-3.
Chile (all provinces of Region 1 or Chanaral Township of Region 3).	Cherimoya	<i>Brevipalpus chilensis</i>	Misc. T102-b (see § 319.56-2z of this chapter for additional treatment information)
	Grape	External feeders	MB T101-i-2-1.
	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.
	Lemon (smooth skin)	External feeders, <i>Brevipalpus chilensis</i> .	MB T101-n-2-1.
	Lime	<i>Brevipalpus chilensis</i>	Misc. T102-b-1.
		External feeders, <i>Brevipalpus chilensis</i> .	MB T101-n-2-1.
	Passion fruit	<i>Brevipalpus chilensis</i>	Misc. T102-b-2.
	Tomato	External feeders	MB T101-a-3.
Chile (all provinces of Region 1 or Chanaral Township of Region 3).	Apple, cherry, pear, quince	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Apricot	<i>Ceratitis capitata</i> and external feeders.	CT T107-a and MB T101-a-3.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Avocado	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Babaco (fruit)	<i>Ceratitis capitata</i> , <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> .	VH T106-b-3.
		External feeders	MB T103-d-1.
	Blueberry	<i>Ceratitis capitata</i>	MB T101-i-1-1.
	Grape	<i>Ceratitis capitata</i>	CT T107-a.
		External feeders	MB T101-i-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.
	Kiwi	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Lemon (smooth skinned)	External feeders, <i>Brevipalpus chilensis</i> .	MB T101-n-2-1.
	Lime	<i>Brevipalpus chilensis</i>	Misc. T102-b-2.

Location	Commodity	Pest	Treatment schedule ¹
		External feeders, <i>Brevipalpus chilensis</i> .	MB T101-n-2-1.
	Loquat	<i>Ceratitis capitata</i>	CT T107-a.
	Mango	<i>Anastrepha</i> spp., <i>Anastrepha ludens</i> , <i>Ceratitis capitata</i> .	HWD T102-a.
	Mountain papaya	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	VH T106-b-3 or FHA T103-d-1.
	Nectarine	<i>Ceratitis capitata</i>	CT T107-a.
	Papaya	External feeders	MB T101-a-3.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	VH T106-b-4 or FHA T103-d-2.
	Peach	<i>Ceratitis capitata</i>	CT T107-a.
		External feeders	MB T101-a-3.
	Persimmon, sand pear	<i>Ceratitis capitata</i>	CT T107-a.
	Plum, plumcot	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	<i>Opuntia</i> spp.	External feeders	MB T101-a-3.
		<i>Ceratitis capitata</i>	MB T101-d-3.
	Tomato	<i>Scrobipalpa absoluta</i> , <i>Rhagoletis tomatis</i> .	MB T101-c-3-1.
China	Litchi	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Conopomorpha sinensis</i> .	CT T107-h.
	Longan	<i>Bactrocera dorsalis</i> and <i>B. cucurbitae</i> .	CT T107-j.
	Pear (Ya variety), Shandong Province only.	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Eutetranychus orientalis</i> .	CT T107-f.
	Sand pear	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Eutetranychus orientalis</i> .	CT T107-f.
Colombia	Bean, garden	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2 or MB T101-k-2-1.
	Cape gooseberry	<i>Ceratitis capitata</i>	CT T107-a.
	Grape	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>).	CT T107-c.
	Grapefruit, orange, plum, tangerine, pomegranate.	<i>Anastrepha ludens</i>	CT T107-b.
	Okra	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Tuna	<i>Ceratitis capitata</i>	MB T101-d-3.
	Yellow pitaya	<i>Ceratitis capitata</i> and <i>Anastrepha fraterculus</i> .	VH T106-e.
Costa Rica	Bean, garden	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2 or MB T101-k-2-1.
	Bean, lima (pod or shelled), pigeon pea (pod or shelled).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Ethrog	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera</i> MB&CT <i>cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	T108-a-1 or T108-a-2 or T108-a-3.
	Grapefruit, orange, tangerine	<i>Anastrepha ludens</i>	CT T107-b.
	Mango	<i>Ceratitis capitata</i> , <i>Anastrepha</i> spp., <i>Anastrepha ludens</i> .	HWD T102-a.
Croatia	Ethrog	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Cyprus	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
	Ethrog	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.

Location	Commodity	Pest	Treatment schedule ¹
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Czech Republic	Grapefruit, orange, tangerine	<i>Ceratitis capitata</i>	CT T107-a.
Denmark	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
Dominica	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.
	Bean (pod), pigeon pea (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Dominican Republic	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Bean (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Goa bean (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leaf min- ers.	MB T101-k-2.
	Grape	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>).	CT T107-c.
	Hyacinth bean	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leaf min- ers.	MB T101-k-2-1.
	Pigeon pea (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , <i>Melanagromyza obtusa</i> and leaf miners.	MB T101-k-2 or MB T101-k-2- 1.
	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Yard long bean (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Ecuador	Apple	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitis</i> <i>capitata</i> .	CT T107-a-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Bean (pod or shelled), pigeon pea (pod or shelled).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Blueberry	<i>Ceratitis capitata</i>	MB T101-i-1-1.
	Ethrog	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grapefruit, orange, tangerine	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitis</i> <i>capitata</i> .	CT T107-a-1.
	Mango	<i>Ceratitis capitata</i> , <i>Anastrepha</i> spp., <i>Anastrepha ludens</i> .	HWD T102-a.
	Okra	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Pea (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2 or MB T101-k-2- 1.
Egypt	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Orange	<i>Ceratitis capitata</i>	CT T107-a.
	Pea (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2 or MB T101-k-2- 1.
	Pear	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
El Salvador	Bean, garden and lima	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2 or MB T101-k-2- 1.

Location	Commodity	Pest	Treatment schedule ¹
	Ethrog	<i>Ceratitidis capitata</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	CT T107-a. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grapefruit, orange, tangerine Pigeon pea (pod or shelled)	<i>Anastrepha ludens</i> <i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	CT T107-b. MB T101-k-2.
Estonia	Grape	<i>Lobesia botrana</i> <i>Ceratitidis capitata</i> <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB T101-h-2. CT T107-a or MB T101-h-2-1. MB T101-h-2-1. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Finland	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.
France	Apple, pear	<i>Ceratitidis capitata</i>	CT T107-a.
	Ethrog, kiwi	<i>Ceratitidis capitata</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	CT T107-a. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grape	<i>Lobesia botrana</i> <i>Ceratitidis capitata</i> <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB T101-h-2. CT T107-a or MB T101-h-2-1. MB T101-h-2-1. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.
Georgia, Republic of	Grape	<i>Lobesia botrana</i> <i>Ceratitidis capitata</i> <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB T101-h-2. CT T107-a or MB T101-h-2-1. MB T101-h-2-1. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
Germany	Grape	<i>Lobesia botrana</i> <i>Ceratitidis capitata</i> <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> <i>Bactrocera cucurbitae</i> , <i>E. B. dor-</i> <i>salis</i> , <i>B. tryoni</i> , <i>Brevipalpus</i> <i>chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> .	MB T101-h-2. CT T107-a or MB T101-h-2-1. MB T101-h-2-1. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
Greece (includes Rhodes)	Grape	<i>Lobesia botrana</i> <i>Ceratitidis capitata</i> <i>Ceratitidis capitata</i> , <i>Lobesia botrana</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB T101-h-2. CT T107-a or MB T101-h-2-1. MB T101-h-2-1. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
	Kiwi, tangerine, ethrog	<i>Ceratitidis capitata</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitidis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	CT T107-a. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Orange, pomegranate	<i>Ceratitidis capitata</i>	CT T107-a.
Grenada	Bean (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Okra	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Pigeon pea (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Guadeloupe, Dept of (FR) and St. Barthelemy.	Okra (pod)	<i>Pectinophors gossypiella</i>	MB T101-p-2.
	Pigeon pea (pod or shelled), bean (pod).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Guatemala	Ethrog	<i>Ceratitidis capitata</i>	CT T107-a.

Location	Commodity	Pest	Treatment schedule ¹
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grapefruit, orange, plum, tan- gerine.	<i>Anastrepha ludens</i>	CT T107-b.
	Mango	<i>Ceratitis capitata</i> , <i>Anastrepha</i> spp., <i>Anastrepha ludens</i> .	HWD T102-a.
	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Pigeon pea (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Guyana	Tuna	<i>Ceratitis capitata</i>	MB T101-d-3.
	Apple, orange	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>).	CT T107-c.
	Bean (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Haiti	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Apricot, pomegranate	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>).	CT T107-c.
	Mango	<i>Ceratitis capitata</i> , <i>Anastrepha</i> spp., <i>Anastrepha ludens</i> .	HWD T102-a.
	Bean (pod), pigeon pea (pod or shelled).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Hungary	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
India	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
	Litchi (fruit)	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> <i>Eutetranychus orientalis</i> .	CT T107-f.
Israel (includes Gaza)	Apple, apricot, nectarine, peach, pear, plum.	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Avocado	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	MB T101-c-1.
	<i>Brassica oleracea</i>	External feeders and leafminers ..	MB T101-n-2.
	Ethrog	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grapefruit, litchi, loquat, orange, persimmon, pomegranate, pummelo, tangerine.	<i>Ceratitis capitata</i>	CT T107-a.
	Horseradish root (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.
	Lettuce (leaf), field grown	External feeders and leafminers ..	MB T101-n-2.
	Pea (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Italy	Tuna (fruit)	<i>Ceratitis capitata</i>	MB T101-d-3.
	Ethrog (North Atlantic ports only)	<i>Ceratitis capitata</i>	CT T107-a.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.

Location	Commodity	Pest	Treatment schedule ¹
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grapefruit, orange, persimmon, tangerine.	<i>Ceratitis capitata</i>	CT T107-a.
	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
	Kiwi (fruit)	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Pea (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Jamaica	Tuna (fruit)	<i>Ceratitis capitata</i>	MB T101-d-3.
	Bean (pod), pigeon pea (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Ivy gourd (fruit)	<i>Cydia fabivora</i> , <i>Epinotia</i> <i>aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Thyme	External feeders and leafminers ..	MB T101-n-2.
Japan (includes Bonian Island, Ryukyu, Island Ryukyu Island, Tokara Island, Volcano Islands).	Apple (Fuji only)	<i>Carposina niponensis</i> , <i>Conogethes punctiferalis</i> , <i>Tetranychus viennensis</i> , <i>T.</i> <i>kanzawai</i> .	CT&MB T109-a-1 or T109-a-2.
	Cabbage (to Hawaii)	External feeders and leafminers ..	MB T101-n-2.
	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.
Jordan	Apple, persimmon	<i>Ceratitis capitata</i>	CT T107-a.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i> ,	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
Kazakhstan	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108a-1 or T108-a-2 or T108-a-3.
	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
Korea, Republic of (South)	Apple (Fuji only)	<i>Carposina niponensis</i> , <i>Conogethes punctiferalis</i> , <i>Tetranychus viennensis</i> , <i>T.</i> <i>kanzawai</i> .	CT&MB T109-a-1 or T109-a-2.
		<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
Latvia	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tyroni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
Lebanon	Apple	<i>Ceratitis capitata</i>	CT T107-a.
Libya	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
		<i>Lobesia botrana</i>	MB T101-h-2.
Lithuania	Grape	<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.

Location	Commodity	Pest	Treatment schedule ¹
Luxembourg	Horseradish Grape	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> . <i>Baris lepidii</i> <i>Lobesia botrana</i> <i>Ceratitis capitata</i> <i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3. MB T101-1-2. MB T101-h-2. CT T107-a or MB T101-h-2-1. MB T101-h-2-1.
Macedonia	Ethrog	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> . <i>Ceratitis capitata</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3. CT T107-a.
Martinique, Dept. of (FR)	Horseradish Ethrog	<i>Baris lepidii</i> <i>Ceratitis capitata</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB T101-1-2. CT T107-a. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Mexico	Horseradish Apple, cherry, peach, plum, tan- gerine. <i>Brassica</i> spp., <i>Chenopodium</i> spp., cilantro.	<i>Baris lepidii</i> <i>Anastrepha ludens</i> External feeders such as <i>Noctuidae</i> spp., <i>Thrips</i> spp. (ex- cept <i>Scirtothrips dorsalis</i> from Thailand), <i>Copitarsia</i> spp..	MB T101-1-2. CT T107-b. MB T101-b-1.
	Carambola	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>).	CT T107-c.
	Grapefruit	<i>Anastrepha ludens</i> <i>Anastrepha</i> spp.	CT T107-b. MB T101-j-2-1 or FHA T103-a- 1 or VH T106-a-2.
	Horseradish Mango	<i>Baris lepidii</i> <i>Anastrepha ludens</i> <i>Ceratitis capitata</i> , <i>Anastrepha</i> spp., <i>Anastrepha ludens</i> . <i>Anastrepha ludens</i> , <i>Anastrepha</i> <i>obliqua</i> , <i>Anastrepha serpentina</i> .	MB T101-1-2. VH T106-a-3. HWD T102-a. FHA T103-c-1.
	Okra	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Orange	<i>Anastrepha ludens</i> <i>Anastrepha</i> spp.	CT T107-b. MB T101-j-2-1 or FHA T103-a- 1.
	Pigeon pea (pod or shelled), bean (pod or shelled).	<i>Anastrepha</i> spp. (includes <i>Anastrepha ludens</i>). <i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> .	VH T106-a-4. MB T101-k-2.
	Tangerine	<i>Anastrepha</i> spp.	MB T101-j-2-1 or FHA T103-a- 1 or VH T106-a-1 or VH T106- a-1-1.
Moldova	Grape	<i>Lobesia botrana</i> <i>Ceratitis capitata</i> <i>Ceratitis capitata</i> , <i>Lobesia botrana</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB T101-h-2. CT T107-a or MB T101-h-2-1. MB T101-h-2-1.
Montserrat	Horseradish Bean (pod), pigeon pea (pod)	<i>Baris lepidii</i> <i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-1-2. MB T101-k-2.
Morocco	Okra Apricot, peach, pear, plum	<i>Pectinophora gossypiella</i> <i>Ceratitis capitata</i> <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB T101-p-2. CT T107-a. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Cipollino (bulb/wild onion)	<i>Exosoma lusitanica</i>	MB T101-w-1.
	Ethrog	<i>Ceratitis capitata</i>	CT T107-a.

Location	Commodity	Pest	Treatment schedule ¹
	Grape	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Netherlands, Kingdom of	Grapefruit, orange, tangerine	<i>Ceratitis capitata</i>	CT T107-a.
	Bean, garden	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Netherlands Antilles (includes Bo- naire, Curacao, Saba, St. Eustatius).	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.
New Zealand	Bean (pod or shelled), pigeon pea (pod or shelled).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Apple	Tortricidae	MB T101-a-1.
	Asparagus	<i>Halotydeus destructor</i>	MB T101-b-1-1.
	Pear	Tortricidae	MB T101-a-1.
Nicaragua	Faba bean (pod), green bean (pod), mung bean (pod), pea (pod).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2 or MB T101-k-2- 1.
	Mango	<i>Ceratitis capitata</i> , <i>Anastrepha</i> spp., <i>A. ludens</i> .	HWD T102-a.
	Yard-long-bean (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , and <i>Maruca testulalis</i> .	MB T101-k-2 or MB T101-k-2- 1.
Norway	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.
Panama and canal zone	Bean (garden) and lima (pod)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2 or MB T101-k-2- 1.
	Ethrog	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grapefruit, orange, tangerine	<i>Anastrepha ludens</i>	CT T107-b.
	Pigeon pea (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
Peru	Asparagus	External feeders	MB T101-b-1.
	Bean (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Blueberry	<i>Ceratitis capitata</i>	MB T101-i-1-1.
	Grape	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitis</i> <i>capitata</i> .	CT T107-a-1.
	Mango	<i>Ceratitis capitata</i> , <i>Anastrepha</i> spp., <i>Anastrepha ludens</i> .	HWD T102-a.
Philippines	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Avocado	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	MB T101-c-1.
	Mango	<i>Bactrocera occipitalis</i> and <i>B.</i> <i>philippinensis</i> .	VH T106-d-1.
Poland	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
Portugal (includes Azores)	Bean, faba (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.
	Ethrog	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata</i> , <i>Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>B. tryoni</i> , <i>Brevipalpus chilensis</i> , <i>Ceratitis capitata</i> , <i>Lobesia</i> <i>botrana</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-1-2.

Location	Commodity	Pest	Treatment schedule ¹
Romania	Grape	<i>Lobesia botrana</i> <i>Ceratitis capitata</i> <i>Ceratitis capitata, Lobesia botrana</i> <i>Ceratitis capitata, Eutetranychus orientalis</i> <i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB T101-h-2. CT T107-a or MB T101-h-2-1. MB T101-h-2-1. CT T107-a. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Russian Federation	Horseradish Grape	<i>Baris lepidii</i> <i>Lobesia botrana</i> <i>Ceratitis capitata</i> <i>Ceratitis capitata, Lobesia botrana</i> <i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB T101-1-2. MB T101-h-2. CT T107-a or MB T101-h-2-1. MB T101-h-2-1. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Saint Kitts and Nevis	Horseradish Bean (pod), pigeon pea (pod)	<i>Baris lepidii</i> <i>Cydia fabivora, Epinotia aporema, Maruca testulalis, and leafminers.</i>	MB T101-1-2. MB T101-k-2.
Saint Lucia	Okra (pod) Bean (pod), pigeon pea (pod)	<i>Pectinophora gossypiella</i> <i>Cydia fabivora, Epinotia aporema, Maruca testulalis, and leafminers.</i>	MB T101-p-2. MB T101-k-2.
St. Martin (France and Netherlands). Saint Vincent and the Grenadines	Okra (pod) Bean (pod), pigeon pea (pod)	<i>Pectinophora gossypiella</i> <i>Cydia fabivora, Epinotia aporema, Maruca testulalis, and leafminers.</i>	MB T101-p-2. MB T101-k-2.
Senegal	Okra (pod) Bean, garden (pod or shelled)	<i>Pectinophora gossypiella</i> <i>Cydia fabivora, Epinotia aporema, Maruca testulalis, and leafminers.</i>	MB T101-p-2. MB T101-k-2 or MB T101-k-2-1.
Slovakia	Horseradish	<i>Baris lepidii</i>	MB T101-1-2.
Slovenia	Ethrog	<i>Ceratitis capitata</i> <i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	CT T107-a. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
South Africa	Horseradish Apple, grape, pear Nectarine, peach, plum	<i>Baris lepidii</i> <i>Ceratitis capitata</i> <i>Cryptophlebia leucotreta and Pterandrus rosa.</i>	MB T101-1-2. CT T107-a. CT T107-e.
Spain	Citrus (fruit, Western Cape Province only). Apple	<i>Cryptophlebia leucotreta and Pterandrus rosa.</i> <i>Ceratitis capitata</i> <i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	CT T107-e. CT T107-a. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Ethrog	<i>Ceratitis capitata</i> <i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	CT T107-a. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grape	<i>Lobesia botrana</i> <i>Ceratitis capitata</i> <i>Ceratitis capitata, Lobesia botrana</i> <i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB T101-h-2. CT T107-a or MB T101-h-2-1. MB T101-h-2-1. MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grapefruit, loquat, orange, tangerine. Horseradish	<i>Ceratitis capitata</i> <i>Baris lepidii</i>	CT T107-a. MB T101-1-2.
	Kiwi	<i>Ceratitis capitata</i>	CT T107-a.
	Lettuce (above ground parts)	External feeders and leafminers	MB T101-n-2.
	Ortanique (fruit)	<i>Ceratitis capitata</i>	CT T107-a.
	Persimmon (fruit)	<i>Ceratitis capitata</i>	CT T107-a.
Suriname	Bean (pod or shelled) Okra (pod)	<i>Cydia fabivora, Epinotia aporema, Maruca testulalis, and leafminers.</i> <i>Pectinophora gossypiella</i>	MB T101-k-2. MB T101-p-2.

Location	Commodity	Pest	Treatment schedule ¹
Sweden	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-l-2.
Switzerland	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata, Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Syrian Arab Republic	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-l-2.
	Ethrog	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&T T108-a-1 or T108-a-2 or T108-a-3.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata, Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Taiwan	Carambola	<i>Bactrocera cucurbitae, B. dorsalis, Eutetranychus orientalis.</i>	CT T107-f.
	Horseradish (to Hawaii)	<i>Baris lepidii</i>	MB T101-l-2.
	Litchi (including clusters of fruit attached to a stem).	<i>Bactrocera dorsalis, B. cucurbitae, Conopomorpha sinensis.</i>	CT T107-h.
Tajikistan	Mango	<i>Bactrocera dorsalis</i>	VH T106-d.
	Horseradish	<i>Baris lepidii</i>	MB T101-l-2.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata, Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Thailand	Asparagus (shoot)	<i>Scirtothrips dorsalis</i>	MB T101-b-1-1.
Trinidad and Tobago	Bean (shelled), pigeon pea (shelled).	<i>Cydia fabivora, Epinotia aporema, Maruca testulalis, and leafminers.</i>	MB T101-k-2.
	Grapefruit, orange, tangerine	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>).	CT T107-c.
Tunisia	Okra, roselle	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Ethrog	<i>Ceratitis capitata</i>	CT T107-a
		<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata, Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grapefruit, orange, tangerine	<i>Ceratitis capitata</i>	CT T107-a.
	Peach, pear, plum	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Turkey	Ethrog	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-h-2-1.
		<i>Ceratitis capitata, Lobesia botrana</i>	MB T101-h-2-1.
		<i>Bactrocera cucurbitae, B. dorsalis, B. tryoni, Brevipalpus chilensis, Ceratitis capitata, Lobesia botrana.</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Turkmenistan	Orange	<i>Ceratitis capitata</i>	CT T107-a.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.

Location	Commodity	Pest	Treatment schedule ¹
Ukraine	Horseradish	<i>Ceratitidis capitata</i>	CT T107-a or MB T101-h-2-1.
	Grape	<i>Ceratitidis capitata, Lobesia botrana</i> <i>Bactrocera cucurbitae, B. dorsalis,</i> <i>B. tryoni, Brevipalpus chilensis,</i> <i>Ceratitidis capitata, Lobesia</i> <i>botrana.</i> <i>Baris lepidii</i>	MB T101-h-2-1. MB&CT T108-a-1 or T108-a-2 or T108-a-3. MB T101-1-2.
United Kingdom (includes Channel Islands, Shetland Island).	Horseradish	<i>Lobesia botrana</i>	MB T101-h-2.
	Horseradish (to Hawaii)	<i>Ceratitidis capitata</i>	CT T107-a or MB T101-h-2-1.
Uruguay	Apple, nectarine, peach pear, plum.	<i>Ceratitidis capitata, Lobesia botrana</i> <i>Bactrocera cucurbitae, B. dorsalis,</i> <i>B. tryoni, Brevipalpus chilensis,</i> <i>Ceratitidis capitata, Lobesia</i> <i>botrana.</i> <i>Baris lepidii</i>	MB T101-h-2-1. MB&CT T108-a-1 or T108-a-2 or T108-a-3. MB T101-1-2.
	Grape	<i>Baris lepidii</i>	MB T101-1-2.
Uzbekistan	Apple, nectarine, peach pear, plum.	Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitidis capitata.</i>	CT T107-a-1.
	Grape	<i>Lobesia botrana</i>	MB T101-h-2.
Venezuela	Horseradish	<i>Ceratitidis capitata, Lobesia botrana</i> <i>Lobesia botrana</i>	CT T107-a or MB T101-h-2-1. MB T101-h-2-1.
	Bean (pod or shelled), pigeon pea (pod or shelled).	<i>Ceratitidis capitata</i>	CT T107-a or MB T101-h-2-1.
Zimbabwe	Grape, grapefruit, orange, tangerine.	<i>Ceratitidis capitata, Lobesia botrana</i> <i>Bactrocera cucurbitae, B. dorsalis,</i> <i>B. tryoni, Brevipalpus chilensis,</i> <i>Ceratitidis capitata, Lobesia</i> <i>botrana.</i> <i>Baris lepidii</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3. MB T101-h-2-1. MB T101-h-2-1.
	Mango	<i>Cyatia fabivora, Epinotia aporema,</i> <i>Maruca testulalis.</i> Species of <i>Anastrepha</i> (other than <i>Anastrepha ludens</i>), <i>Ceratitidis capitata.</i>	MB T101-k-2 or MB T101-k-2-1. CT T107-a-1.
Zimbabwe	Okra	<i>Ceratitidis capitata, Anastrepha</i> <i>spp., Anastrepha ludens.</i>	HWD T102-a.
	Apple, kiwi, pear	<i>Pectinophora gossypiella</i>	MB T101-p-2.
Zimbabwe	Apricot, nectarine, peach, plum	<i>Ceratitidis capitata</i>	CT T107-a.
		<i>Cryptophlebia leucotreta</i> and <i>Pterandrus rosa.</i>	CT T107-e.

¹Treatment by irradiation in accordance with §305.31 may be substituted for other approved treatments for the mango seed weevil *Sternochetus mangiferae* (Fabricus) or for one or more of the following 11 species of fruit flies: *Anastrepha fraterculus*, *A. ludens*, *A. obliqua*, *A. serpentina*, *A. suspensa*, *Bactrocera cucurbitae*, *B. dorsalis*, *B. tryoni*, *B. jarvisi*, *B. latifrons*, and *Ceratitidis capitata*.

(ii) Treatment for shipments from U.S. quarantine localities.

Location	Commodity	Pest	Treatment schedule
Areas in the United States under Federal quarantine for the listed pest.	Fruit of the genera Citrus and Fortunella and of the species <i>Clausena lansium</i> and <i>Poncirus trifoliata</i> .	<i>Xanthomonas axonopodis</i> pv. <i>citri</i>	CMisc. CC1 or CMisc. CC2.
	Any fruit listed in §301.64-2(a) of this chapter.	<i>Anastrepha ludens</i>	IR.
Apple	Any article listed in §301.78-2(a) of this chapter.	<i>Ceratitidis capitata</i>	IR.
		<i>Anastrepha ludens</i>	CT T107-b.
Apricot		<i>Anastrepha</i> spp. (other than <i>A. ludens</i>).	CT T107-a-1 or CT T107-c.
		<i>Bactrocera cucurbitae, B. dorsalis,</i> <i>Ceratitidis capitata.</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
Avocado		<i>Ceratitidis capitata</i>	CT T107-a or MB&CT T108-b.
		<i>Anastrepha ludens</i>	CT T107-b.
Avocado		<i>Bactrocera dorsalis, Ceratitidis capitata.</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
		<i>Ceratitidis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae, B. dorsalis,</i> <i>Ceratitidis capitata.</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.

Location	Commodity	Pest	Treatment schedule
	Bell pepper	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	VH T106-b-1.
	Cherry	<i>Bactrocera dorsalis</i> , <i>Ceratitis capitata</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Citrons	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Anastrepha ludens</i>	CT T107-b.
		<i>Ceratitis capitata</i>	CT T107-a.
	Citrus	<i>Anastrepha ludens</i>	FHA T103-a-1.
		<i>Anastrepha</i> spp. (other than <i>A. ludens</i>).	CT T107-a-1, CT T107-c.
		<i>Bactrocera dorsalis</i>	MB&CTOFF or CT&MBOFF.
		<i>Ceratitis capitata</i>	CT T107-a or MB T101-w-1-2.
		<i>Ceratitis capitata</i>	MB&CTMedfly or CTMedfly.
	Citrus fruit regulated under §301.78-2(a) of this chapter.		
	Citrus fruit regulated under §301.99-2(b) of this chapter.	<i>Anastrepha serpentina</i>	MBSFF.
	Eggplant	<i>Bactrocera cucurbitae</i> , <i>Ceratitis capitata</i> .	VH T106-b-2.
	Grape	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	CT T107-f or MB&CT T108-a-1 or T108-a-2 or T108-a-3.
		<i>Bactrocera dorsalis</i>	MB&CTOFF or CT&MBOFF.
		<i>Ceratitis capitata</i>	MB T101-h-2-1 or CT T107-a or MB&CT T108-b.
	Grapefruit	<i>Anastrepha ludens</i>	CT T107-b or MB T101-j-2-1 or FHA T103-a-1.
		<i>Ceratitis capitata</i>	CT T107-a.
	Kiwi	<i>Ceratitis capitata</i>	CT T107-a or MB T101-m-2-1 or MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Litchi	<i>Anastrepha ludens</i>	CT T107-b.
	Longan	<i>Anastrepha ludens</i>	CT T107-b.
		<i>Bactrocera dorsalis</i>	CT T107-h.
	Loquat	<i>Ceratitis capitata</i>	CT T107-a.
	Nectarine	<i>Bactrocera dorsalis</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
		<i>Ceratitis capitata</i>	CT T107-a or CT T107-c or MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Okra	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Orange	<i>Anastrepha ludens</i>	CT T107-b MB T101-j-2-1 or FHA T103-a-1.
		<i>Ceratitis capitata</i>	CT T107-a or CT T107-c.
	Optunia cactus (<i>Optunia</i> spp.)	<i>Ceratitis capitata</i>	MB T101-d-3.
	Papaya	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	VH T106-c VH T106-b-4 or.
	Peach	<i>Anastrepha ludens</i>	CT T107-b.
		<i>Anastrepha</i> spp. (other than <i>A. ludens</i>).	CT T107-a-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
		<i>Ceratitis capitata</i>	CT T107-a or T107-c.
	Pear	<i>Anastrepha ludens</i>	CT T107-b.
		<i>Anastrepha</i> spp. (other than <i>A. ludens</i>).	CT T107-a-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
		<i>Ceratitis capitata</i>	CT T107-a or CT T107-c or MB&CT T108-b.
	Pepper, bell	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	VH T106-b-1.
	Persimmons	<i>Anastrepha ludens</i>	CT T107-b.
	Pineapple (other than smooth Cayenne).	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	VH T106-b-5.
	Plum	<i>Anastrepha ludens</i>	CT T107-b.
		<i>Bactrocera dorsalis</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
		<i>Ceratitis capitata</i>	CT T107-a or CT T107-c or MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Pomegranate	<i>Anastrepha ludens</i>	CT T107-b.
		<i>Ceratitis capitata</i>	CT T107-a or CT T107-c.
	Pummelo	<i>Ceratitis capitata</i>	CT T107-a.
	Quince	<i>Anastrepha ludens</i>	CT T107-b.

Location	Commodity	Pest	Treatment schedule
Hawaii	Squash	<i>Anastrepha</i> spp. (other than <i>A. ludens</i>).	CT T107-a-1.
		<i>Bactrocera dorsalis</i>	MB&CT T108-a-1 or T108-a-2 or T108-a-3.
	Tomato	<i>Ceratitis capitata</i>	CT T107-a.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	VH T106-b-6. VH T106-b-7.
	White sapote	<i>Bactrocera dorsalis</i>	MBOFF.
		<i>Ceratitis capitata</i>	MB T101-c-3.
	Abiu	<i>Anastrepha ludens</i>	CT T107-b.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.
	Atemoya	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.
	Avocado	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	MB T101-c-1.
		<i>Ceratitis capitata</i>	CT T107-a.
	Bell pepper	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	CT T108-a-1 or T108-a-2 or T108-a-3.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR or VH T106-b-1.
	Carambola	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.
	Citrus	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	FHA T103-b-1.
	Eggplant	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR or VH T106-b-2.
	Litchi	<i>Bactrocera</i> or <i>dorsalis</i> , <i>Ceratitis capitata</i> .	HWI T102-d or VH T106-f.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.
	Longan	<i>Bactrocera dorsalis</i> , <i>Ceratitis capitata</i> .	HWI T102-d-1.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.
	Mango	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.
	Papaya	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	VH T106-b-4 or VH T106-c or FHA T103-d-2 or IR.
		<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR or VH T106-b-5.
Pineapple (other than smooth Cayenne).	<i>Bactrocera dorsalis</i> , <i>Ceratitis capitata</i> .	FHA T103-e or VH T106-g.	
Rambutan	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.	
	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR.	
Squash, Italian	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR or VH T106-b-6.	
Sweet potato	<i>Euscepes postfasciatus</i> , <i>Omphisa anastomosalis</i> , <i>Elytrotreinus subtruncatus</i> .	MB T101-b-3-1 or IR.	
	<i>Ceratitis capitata</i>	VH T106-b-5 or MB T101-c-3.	
Tomato	<i>Bactrocera cucurbitae</i> , <i>B. dorsalis</i> , <i>Ceratitis capitata</i> .	IR or VH T106-b-7.	
	Beans (string, lima, faba) and pigeon peas (fresh shelled or in the pod).	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , <i>Melanagromyza obtusa</i> , and leafminers.	MB T101-k-2 or MB T101-k-2-1.
Citrus fruits (orange, grapefruit, lemon, citron, and lime).		<i>Anastrepha obliqua</i>	CT T107-c.
Mango	<i>Anastrepha</i> spp., <i>Ceratitis capitata</i> .	HWD T102-a.	
Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.	
Sweet potato	External and internal feeders	MB T101-b-3-1.	
Pigeon pea (pod or shelled)	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2.	
Virgin Islands	Beans (string, lima, faba) and pigeon peas, in the pod.	<i>Cydia fabivora</i> , <i>Epinotia aporema</i> , <i>Maruca testulalis</i> , and leafminers.	MB T101-k-2 or MB T101-k-2-1.

Location	Commodity	Pest	Treatment schedule
	Citrus fruits (orange, grapefruit, lemon, citron, and lime).	<i>Anastrepha obliqua</i>	CT T107-c.
	Mango	<i>Anastrepha</i> spp., <i>Ceratitis capitata</i> .	HWD T102-a.
	Okra (pod)	<i>Pectinophora gossypiella</i>	MB T101-p-2.
	Sweet potato	External and internal feeders	MB T101-b-3-1.

(i) *Garbage*. For treatment of garbage, see § 305.33.

for which administration instructions are not provided are in § 305.6 for methyl bromide (MB) fumigation,

§ 305.23 for steam sterilization (SS), and § 305.25 for dry heat (DH).

(j) *Grains and seeds not intended for propagation*. The treatment schedules

Plant material	Pest	Treatment schedule
Acorns	<i>Cydia splendana</i> and <i>Curculio</i> spp	MB T302-g-1 or MB T302-g-2.
Corn seed (commercial lots)	Various corn-related diseases	SS T510-1.
Ear corn	Borers	MB T302-a-1-1 or DH T302-a-1-2.
Grains and seeds (guar "gum")	<i>Trogoderma granarium</i>	MB T302-c-1 or MB T302-c-3.
Grains and seeds	<i>Trogoderma granarium</i>	MB T302-c-2.
Grains and seeds contaminated with cotton seed.	<i>Pectinophora</i> spp	MB T301-a-1-1 or MB T301-a-1-2.
Grains and seeds	Insects other than <i>Trogoderma granarium</i>	MB T302-e-1 or MB T302-e-2.
Grains and seeds excluding <i>Rosmarinus</i> seed	Snails	T302-f: Remove snails through separation by screening or hand removal. If not feasible, an inspector will deny entry or treat with appropriate schedule (See miscellaneous cargo in paragraph (m) of this section.)
Shelled corn contaminated with cottonseed. (Do not use shelled corn treated with T301 for food or feed.)	<i>Pectinophora</i> spp	MB T302-b-1-2 (See MB T301-a-1-1 or MB T301-a-1-2.)

(k) *Hay, baled*. For treatment of baled hay for *Mayetiola destructor*, see the phosphine treatment schedule T311 in § 305.7.

beetle, see treatment schedule T307-a in § 305.26.

(m) *Miscellaneous (nonfood, nonfeed commodities or articles)*. The treatment schedules for which administration instructions are not provided are in § 305.6 for methyl bromide (MB) fumigation, § 305.8 for sulfuryl fluoride, § 305.16 for cold treatment (CT), and § 305.23 for steam sterilization (SS).

(l) *Khapra beetle*.

(1) For the heat treatment of feeds and milled products that are heated as a part of the processing procedure, or for other commodities that can be subjected to heat, and that are infested with khapra

(2) See treatment schedule T306-c-1 in § 305.6 for finely ground oily meals and flour.

(3) See also specific articles where the pest is *Trogoderma granarium* (khapra beetle).

(4) See treatment schedule T302-g-1 in § 305.6 for sorptive materials.

Material	Pest	Treatment schedule
Brassware from Bombay (Mumbai), India	<i>Trogoderma granarium</i>	MB T413-a or MB T413-b.
Inanimate, nonfood articles	Gypsy moth egg masses	MB T414.
Miscellaneous cargo (nonfood, nonfeed commodities).	Quarantine significant snails of the family Achatinidae, including <i>Achatina</i> , <i>Archachatina</i> , <i>Lignus</i> , <i>Limicolaria</i> .	MB T402-a-1 or CT T403-a-6-3.
	Quarantine significant snails of the family Hygromiidae, including the following genera: <i>Canidula</i> , <i>Cernuella</i> , <i>Cochlicella</i> , <i>Helicella</i> , <i>Helicopsis</i> , <i>Monacha</i> , <i>Platytheba</i> , <i>Pseudotrichia</i> , <i>Trochoidea</i> , <i>Xerolenta</i> , <i>Xeropicta</i> , <i>Xerosecta</i> , <i>Xerotricha</i> .	MB T403-a-2-1 or MB T403-a-2-2 or CT T403-a-2-3.
	Quarantine significant slugs of the families Agriolimacidae, Arionidae, Limacidae, Milacidae, Philomycidae, Veronicellidae, including the following genera: <i>Agriolimax</i> , <i>Arion</i> , <i>Colosius</i> , <i>Deroceras</i> , <i>Diplosolenodes</i> , <i>Leidyula</i> , <i>Limax</i> , <i>Meghimatium</i> , <i>Milax</i> , <i>Pallifera</i> , <i>Pseudoveronicella</i> , <i>Sarasinula</i> , <i>Semperula</i> , <i>Vaginulus</i> , <i>Veronicella</i> .	MB T403-a-3.
	Quarantine significant snails of the family Helicidae, including the following genera: <i>Caracollina</i> , <i>Cepaea</i> , <i>Cryptomphalus</i> , <i>Helix</i> , <i>Otala</i> , <i>Theba</i> .	MB T403-a-4-1 or MB T403-a-4-2 or CT T403-a-4-3.

Material	Pest	Treatment schedule
	Quarantine significant snails of the families Bradybaenidae and Succineidae, including the following genera: <i>Bradybaena</i> , <i>Cathaica</i> , <i>Helicostyla</i> , <i>Omalonyx</i> , <i>Succinea</i> , <i>Trishoplita</i> .	MB T403-a-5-1 or MB T403-a-5-2, or CT T403-a-5-3.
	Quarantine significant snails sensitive to cold treatment. Members of the families Bradybaenidae, Helicidae, Helicellidae, Hygromiidae, and Succineidae, including the following genera: <i>Bradybaena</i> , <i>Candidula</i> , <i>Cepaea</i> , <i>Cathaica</i> , <i>Cernuella</i> , <i>Cochlicella</i> , <i>Helicella</i> , <i>Helicostyla</i> , <i>Theba</i> , <i>Trishoplita</i> , <i>Trochoidea</i> , <i>Xerolenta</i> , <i>Xeropicta</i> , <i>Xerosecta</i> , <i>Xerotricha</i> .	CT T403-a-6-1.
	Quarantine significant snails sensitive to cold treatment, certain members of the family Helicidae, including the genera <i>Helix</i> and <i>Otala</i> .	CT T403-a-6-2.
	Quarantine significant snails sensitive to cold treatment of the family Achatinidae, including the genera <i>Achatina</i> , <i>Archachatina</i> , <i>Lignus</i> , <i>Limicolaria</i> .	CT T403-a-6-3.
	<i>Globodera rostochiensis</i>	MB T403-c.
	<i>Trogoderma granarium</i>	MB T401-b or MB T402-b-2.
	Wood borers or termites	See treatments for wood products in paragraph (y) of this section.
	<i>Pieris</i> spp. (all life stages of cabbageworms) and all other Lepidoptera, hitchhiking insects, including other than Lepidoptera.	MB T403-f.
Miscellaneous cargo (nonfood, nonfeed commodities) that is sorptive or difficult to penetrate.	Quarantine significant insects not specifically provided for elsewhere in nonfood or nonfeed commodities.	MB T403-e-1-1 or MB T403-e-1-2.
Miscellaneous cargo (nonfood, nonfeed commodity) that is not sorptive or difficult to penetrate.	Quarantine significant pests other than insects (including snails of the families Helicarionidae, Streptacidae, Subulinidae, and Zonitidae, as well as other noninsect pests).	MB T403-e-2.
Nonfood materials	Ticks	MB T310-a or MB T310-b or sulfuryl fluoride T310-d.
Nonplant articles	Potato cyst nematode	MB T506-2-1 or SS T506-2-3.
Nonplant products	Ants	MB T411.

(n) *Plants, bulbs, corms, tubers, rhizomes, and roots.* The treatment schedules for which administration

instructions are not provided are in § 305.6 for methyl bromide (MB) fumigation, § 305.10 for combination

(COM), and § 305.42(c) for miscellaneous (Misc.).

Plant material	Pest	Treatment schedule
<i>Anchusa</i> , <i>Astilbe</i> , <i>Clematis</i> , <i>Dicentra</i> , <i>Gardenia</i> , <i>Helleborus</i> , <i>Hibiscus</i> , <i>Kniphofia</i> , <i>Primula</i> .	Lesion nematodes (<i>Pratylenchus</i> spp.)	T553-2: Hot water dip at 118 °F for 30 minutes.
<i>Acalypha</i>	<i>Pratylenchus</i> spp	T570-1: Hot water dip at 110 °F for 50 minutes.
<i>Aconitum</i>	<i>Aphelenchoides fragariae</i> spp	T570-2: Hot water dip at 110 °F for 50 minutes.
<i>Allium</i> , <i>Amaryllis</i> , and bulbs	Bulb nematodes: <i>Ditylenchus dipsaci</i> , <i>D. destructor</i> .	T552-1: Presoak bulbs in water at 75 °F for 2 hours, then at 110-111 °F for 4 hours.
<i>Amaryllis</i>	<i>Ditylenchus destructor</i>	T565-1: Hot water dip at 110 °F for 4 hours immediately after digging.
Aquatic plants	Snails of the families: Ampullariidae, Bulinidae, Lymnaeidae, Planorbidae, Viviparidae.	T201-q: Hot water treatment at 112 °F for 10 minutes. (<i>Elodea</i> , <i>Danes</i> , and <i>Cabomba caroliniana</i> plants not tolerant to this treatment.)
<i>Armoracea</i> (horseradish roots), bulbs (not specifically provided for).	<i>Globodera rostochiensis</i> and <i>G. pallida</i>	T553-3: Hot water dip at 118 °F for 30 minutes.
<i>Astilbe</i> , <i>Bletilla hyacinthina</i> , <i>Cimicifuga</i> , <i>Epimedium pinnatum</i> , <i>Hosta</i> , <i>Paeonia</i> .	<i>Aphelenchoides besseyi</i>	T564-1: Presoak in water at 68 °F for 1 hour followed by hot water soak at 110 °F for 1 hour. Then dip in cold water and let dry.
<i>Astilbe</i> roots	<i>Brachyrhinus</i> larvae	MB T202-b.
<i>Azalea</i>	<i>Chrysomyxa</i> spp	T501-1: Remove infested parts and treat all plants of same species in shipment with 4-4-50 Bordeaux dip or spray.

Plant material	Pest	Treatment schedule
<i>Azalea</i> hybrid	<i>Chrysomyxa</i> spp	T501-2: Remove infested parts and treat all plants of same species in shipment with 4-4-50 Bordeaux dip or spray; or T505-1-1: Treat with mancozeb or other approved fungicide of equal effectiveness according to the label.
Banana roots	External feeders	T202-c: Pretreatment at 110 °F for 30 minutes. Then, hot water dip at 120 °F for 60 minutes.
<i>Begonia</i>	<i>Aphelenchoides fragariae</i>	T559-1: Dip in hot water at 118 °F for 5 minutes.
<i>Bletilla hyacinthina</i>	<i>Aphelenchoides fragariae</i>	T553-4: Dip in hot water at 118 °F for 30 minutes.
Bromeliads	External feeders	MB T201-e-1.
	Internal feeders such as borers and miners	MB T201-e-2.
	<i>Phyllosticta bromeliae</i> <i>Uredo</i> spp	T507-1: Remove infested leaves and treat all plants of same species in shipment with Captan following label directions.
Cacti and other succulents	External feeders (other than soft scales) infesting collected dormant and nondormant plant material.	MB T201-f-1.
	Borers and soft scales	MB T201-f-2.
<i>Calla</i> (rhizomes)	<i>Meloidogyne</i> spp	T556-1: Dip in hot water at 122 °F for 30 minutes.
<i>Camellia</i> (light infestation)	<i>Cylindrosporium camelliae</i>	<i>Light infestation:</i> T509-1-1: Remove infested leaves and dip or spray plant with 4-4-50 Bordeaux. Dry quickly and thoroughly. <i>Heavy infestation:</i> An inspector will refuse entry.
Christmas tree	<i>Phoma chrysanthemi</i>	T501-5: Remove infested parts and treat all plants of same species in shipment with 4-4-50 Bordeaux dip or spray.
<i>Chrysanthemum</i>	<i>Phoma chrysanthemi</i>	T501-4: Remove infested parts and treat all plants of same species in shipment with 4-4-50 Bordeaux dip or spray.
<i>Chrysanthemum</i> rooted and unrooted cuttings ..	Aphids	MB T201-g-1.
	External feeders	COM T201-g-2.
	Leafminers, aphids, mites, etc. (<i>Chrysanthemum</i> spp. from Dominican Republic and Colombia when infested with Agromyzid leafminers requires no treatment unless destined to Florida.)	T201-g-3: Dip in hot water at 110-111 °F for 20 minutes.
<i>Chrysanthemum</i> (not including Pyrethrum)	<i>Meloidogyne</i> spp. and <i>Pratylenchus</i> spp	T557-1: Dip in hot water at 118 °F for 25 minutes.
Commodities infested with	Slugs of the families Agriolimacidae, Arionidae, Limacidae, Milacidae, Philomycidae, Veronicellidae, including the following genera: <i>Agriolimax</i> , <i>Arion</i> , <i>Colosius</i> , <i>Deroceras</i> , <i>Diplosolenodese</i> , <i>Leidyula</i> , <i>Limax</i> , <i>Meghimatium</i> , <i>Milax</i> , <i>Pallifera</i> , <i>Pseudoveronicella</i> , <i>Sarasinula</i> , <i>Semperula</i> , <i>Vaginulus</i> , <i>Veronicella</i> .	MB T201-l.
	<i>Globodera rostochiensis</i> and <i>G. pallida</i>	
<i>Convallaria</i>		T551-1: Keep the pips frozen until time for treatment. Then thaw enough to separate bundles just before treatment begins. Without preliminary warmup, immerse in hot water at 118 °F for 30 minutes.
<i>Crocus</i>	<i>Aphelenchoides subtenuis</i> , <i>Ditylenchus destructor</i> .	T565-2: Hot water at 110 °F for 4 hours immediately after digging.
Cycads (except <i>Dioon edule</i>)	External feeders	MB T201-h-1.
Deciduous woody plants (dormant)	External feeders	MB T201-a-1.
	Gypsy moth egg masses	MB T313-a or MB T313-b.
	Mealybugs	MB T305-c.
	Borers, Citrus whitefly hosts	MB T201-a-2 or MB T201-k-1.
Deciduous woody plants (dormant), root cuttings, scion wood cuttings, and nonfoliated citrus whitefly host: <i>Acer</i> , <i>Berberis</i> , <i>Fraxinus</i> , <i>Philadelphus</i> , <i>Rosa</i> , <i>Spiraea</i> , <i>Syringa</i> .		
<i>Dioon edule</i>	External feeders	MB T201-h-2.
<i>Dieffenbachia</i> , <i>Dracaena</i> , <i>Philodendron</i> (plants and cuttings).	External feeders	MB T201-i-1.
	Internal feeders	MB T201-i-2.
Evergreens (<i>Azalea</i> , <i>Berberis</i> , <i>Camellia</i> , <i>Cedrus</i> , <i>Cupressus</i> , <i>Ilex</i> , <i>Juniperus</i> , <i>Photinia</i> , <i>Podocarpus</i> , <i>Thuja</i> , and <i>Taxus</i>).	External feeders	MB T201-b-1.

Plant material	Pest	Treatment schedule
<i>Exceptions:</i>		
<i>Araucaria</i>	External feeders	MB T201-c-1.
<i>Azalea indica</i>	External feeders	MB T201-c-2.
Cycads	External feeders	MB T201-i.
Hosts	<i>Dialeurodes citri</i>	MB T201-k-1.
<i>Daphne</i>	External feeders	MB T201-c-1.
<i>Lavandula</i>	External feeders	Misc. T201-p-1.
<i>Osmanthus americanus</i>	External feeders	COM T201-p-2.
<i>Pinus</i> (Canada to certain States) .....	.....	MB T201-j.
Peanuts	Gypsy moth egg masses	MB T313-a.
Foliated host plants of <i>Dialeurodes citri</i> , excluding <i>Osmanthus americanus</i> .	<i>Dialeurodes citri</i>	MB T201-k-1.
<i>Fragaria</i> (strawberry)	<i>Aphelenchoides fragariae</i>	T569-1: Hot water at 121 °F for 7 minutes.
	<i>Pratylenchus</i> spp.	T558-1: Dip in hot water at 127 °F for 2 minutes.
Garlic (see § 319.37-6(c))	<i>Brachycerus</i> spp. and <i>Dyspessa ulula</i>	MB T202-j.
<i>Gentiana</i>	<i>Septoria gentianae</i>	T507-2: Remove infested leaves and treat all plants of same species in shipment with Captan following label directions.
<i>Gladiolus</i>	<i>Taeniothrips simplex</i>	MB T202-e-1 or MB 202-e-2.
	<i>Ditylenchus destructor</i>	T565-3: Hot water at 110 °F for 4 hours immediately after digging.
Greenhouse-grown plants, herbaceous plants and cuttings, greenwood cuttings of woody plants.	External feeders, leafminers, thrips	MB T201-c-1.
	Borers and soft scales	MB T201-c-2.
<i>Exceptions:</i>	External feeders	MB T201-e-3-1.
Bromeliads	External feeders	MB T201-j.
Cacti and other succulents	External feeders	MB T201-g-1.
<i>Chrysanthemum</i>	External feeders	MB T201-1.
Cycads	External feeders	MB T201-a-2.
<i>Cyclamen</i>	Mites	MB T201-i-1.
<i>Dieffenbachia</i> , <i>Dracaena</i> , and <i>Philodendron</i> .	External feeders	
<i>Kalanchoe synsepala</i>	Quarantine pests, excluding scale insects	Misc. T201-p-1.
<i>Lavandula</i>	Quarantine pests	COM T201-p-2.
Orchids	<i>Dialeurodes citri</i>	MB T201-k-2.
<i>Osmanthus americanus</i>	Quarantine pests	Misc. T201-p-1.
<i>Pelargonium</i>	Quarantine pests	Misc. T201-p-1.
<i>Sedum adolphii</i>	Quarantine pests	Misc. T201-p-1.
Plants infested with	<i>Succinea horticola</i>	T201-o-1: Use a high-pressure water spray on the foliage to flush snails from the plants. The run-off drain must be screened to catch snails before drainage into the sewer system.
Plants infested with	<i>Veronicella</i> or other slugs	MB T201-1.
Horseradish roots from the countries of Armenia, Azerbaijan, Belarus, Bosnia, Herzegovina, Croatia, Czech Republic, Estonia, Georgia, Germany, Hungary, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Macedonia, Moldova, Poland, Russia, Serbia and Montenegro, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.	External feeders	MB T202-f.
Host plants of <i>Aleurocanthus woglumi</i>	<i>Aleurocanthus woglumi</i>	MB T201-n.
Host plants of <i>Omalonyx unguis</i> and <i>Succinea</i>	<i>Omalonyx unguis</i> and <i>Succinea</i> spp. (snails)	T201-o-1: Use a high-pressure water spray on the foliage to flush snails from the plants. The run-off drain must be screened to catch snails before drainage into the sewer system; or T201-o-2: Dip plants with solution prepared by adding 3 level tablespoons of 25 percent Malathion wettable powder and 6 level teaspoons of 50 percent carbaryl wettable powder per gallon of water with a sticker-spreader formulation.
<i>Humulus</i>	<i>Heterodera humuli</i>	T553-5: Hot water at 118 °F for 30 minutes.
<i>Hyacinthus</i> (bulbs), <i>Iris</i> (bulbs and rhizomes), <i>Tigridia</i> .	<i>Ditylenchus dipsaci</i> and <i>D. destructor</i>	T554-1-1: Presoak in water at 70-80 °F for 2.5 hours followed by hot water immersion at 110-111 °F for 1 hour; or T554-1-2: Hot water immersion at 110-111 °F for 3 hours with no presoaking.
<i>Lilium</i> (bulbs)	<i>Aphelenchoides fragariae</i>	T566-3: Completely submerge in hot water at 102 °F.

Plant material	Pest	Treatment schedule
Lily bulbs packed in subsoil <i>Lycoris</i> <i>Muscari, Ornithogalum, Polianthes</i> (tuberose) ... <i>Narcissus</i>	Internal feeders <i>Taeniothrips eucharii</i> <i>Ditylenchus dipsaci</i> <i>Steneotarsonemus laticeps</i>	MB T202-g. MB T202-h. T567-1: Dip in hot water at 113 °F for 4 hours. MB T202-i-1; or MB T202-i-2; or T202-i-3: Hot water at 110-111 °F for 1 hour after bulbs reach 110 °F pulp temperature. Apply hot water within 1 month after normal harvest as injury to flower bud may occur. T555-1: Presoak in water at 70-80 °F for 2 hours; then at 110-111 °F until all bulbs reach that temperature and hold for 4 hours.
Nonfoliated host plants of <i>Dialeurodes citri</i> , excluding <i>Osmanthus americanus</i> . Orchids	<i>Dialeurodes citri</i>	MB T201-k-2.
Orchids Orchids, plants and cuttings (see MB T305-c for mealybugs). Orchids, plants and cuttings	<i>Ascochyta</i> spp <i>Cercospora</i> spp <i>Hemileia</i> spp., <i>Leptosphaeria</i> spp., <i>Mycosphaerella</i> spp., <i>Ophiodothella orchidearum</i> , <i>Phomopsis orchidophila</i> , <i>Phyllachora</i> spp., <i>Phyllosticta</i> spp., <i>Sphenospora</i> spp., <i>Sphaerodothis</i> spp., <i>Uredo</i> spp. (except <i>U. scabies</i>). External feeders (other than soft scales)	T513-1: Defoliate if leaf-borne only; inspector will refuse entry if pseudo-bulbs infested. T501-3: Remove infested parts and treat all plants of same species in shipment with 4-4-50 Bordeaux dip or spray. <i>Light infestation</i> : T509-2-1: Remove infested leaves and treat plant with 4-4-50 Bordeaux dip or spray. Dry quickly and thoroughly. <i>Heavy infestation</i> : An inspector will refuse entry.
Orchids to Florida	External feeders (other than soft scales) infesting greenhouse grown plant material. Borers, cattleya fly, <i>Mordellistena</i> spp., soft scales, <i>Vinsonia</i> spp. <i>Cecidomyid galls</i> Leaf miner, <i>Eurytoma</i> spp. infesting <i>Rhynchoslylis</i> . Rusts	MB T201-d-1. MB T201-d-2. MB T201-d-3. T201-d-4: Excise all galls. T201-d-5: Hot water dip at 118 °F for ½ hour followed by a cool water bath.
Orchids to Florida	Rusts	T508-1: An inspector will refuse entry of all infested plants and all other plants of the same species or variety in the shipment. Other orchid species in the shipment that may have become contaminated must be treated with Captan. Repackage treated orchids in clean shipping containers.
<i>Oryza</i> (paddy rice)	<i>Aphelenchoides fragariae</i>	T559-2: Dip in hot water at 132.8 °F for 15 minutes.
Pineapple slips	Various	MB T201-e-3-1 or MB T201-e-3-2.
Pines (<i>Pinus</i> spp.) from Canada and destined to California, Idaho, Oregon, or Utah. Precautionary treatment for pine trees and twigs and branches of all <i>Pinus</i> spp., except that Christmas trees and other pine decorative materials are exempt from treatment from November 1-December 31. Plant cuttings: Scion wood Greenwood cuttings of woody plants and herbaceous plant cuttings. Root cuttings Exceptions to plant cuttings: Avocado <i>Chrysanthemum</i> <i>Dieffenbachia</i> <i>Dracaena</i> <i>Lavandula</i> Orchids <i>Philodendron</i>	<i>Rhyacionia buoliana</i> External feeders External feeders External feeders External feeders External feeders External feeders External feeders External feeders External feeders	MB T201-m-1. MB T201-m-2. MB T201-m- or MB T201-m-4. COM T201-p-1. MB T201-g-1. MB T201-i-1. MB T201-i-2. COM T201-p-1. MB T201-k-2. MB T201-i-1. COM T201-p-1.
Plant material not tolerant to fumigation <i>Rhododendron</i>	Actionable pests <i>Chrysomyxa</i> spp.	T501-6: Remove infested parts and treat all plants of same species in shipment with 4-4-50 Bordeaux dip or spray; or T505-2-1: Treat with mancozeb or other approved fungicide of equal effectiveness according to the label instructions.
<i>Rosa</i> (except multiflora)	<i>Meloidogyne</i> spp.	T560-1: Dip in hot water at 123 °F for 10 minutes.

Plant material	Pest	Treatment schedule
<i>Selaginella</i>	External feeders	MB T202-a-1 or MB T202-a-2.
	Internal feeders	MB T202-a-3.
<i>Senecio</i> (Lingularis)	<i>Aphelenchoides fragariae</i>	T568-1: Treat with hot water at 110 °F for 1 hour.
<i>Scilla</i>	<i>Ditylenchus dipsaci</i>	T565-4: Hot water at 110 °F for 4 hours immediately after digging.
<i>Solanum</i> (potato tubers)	<i>Globodera rostochiensis</i> , <i>G. pallida</i>	T565-5: Hot water at 110 °F for 4 hours immediately after digging.
Various plant commodities	<i>Meloidogyne</i> spp.	T553-1: Hot water at 118 °F for 30 minutes.
Yams and sweet potatoes		MB T202-d.

(o) *Railroad cars (empty)*. The treatment schedules for which administration instructions are not

provided are in § 305.6 for methyl bromide (MB) fumigation.

Pest	Treatment schedule
<i>Globodera rostochiensis</i>	T406-c, steam cleaning: Steam at high pressure until all soil is removed. Treated surfaces must be thoroughly wet and heated.
<i>Pectinophora gossypiella</i>	MB T401-a.
<i>Trogoderma granarium</i>	MB T401-b.
Nematode cysts	T401-c, high pressure steam cleaning; or formaldehyde wetting spray (one part 40 percent commercial formalin to 9 parts water).

(p) *Rice straw and hulls*. The treatment schedules for which administration instructions are not

provided are in § 305.25 for dry heat (DH), § 305.6 for methyl bromide (MB)

fumigation, and § 305.23 for steam sterilization (SS).

Plant material	Pest	Treatment schedule
Articles made with rice straw	Fungal diseases of rice or internal feeders	DH T303-d-1 or SS T303-b-1 or SS T303-d-2.
Articles made with rice straw for indoor use only.	Internal feeders	MB T303-d-2-2 or MB T303-d-2-3.
Brooms made of rice straw	Various rice-related diseases	DH T518-1.
Closely packed rice straw and hulls	Various rice-related diseases	SS T519-1.
Loose rice straw and hulls	Various rice-related diseases	SS T519-2.
Novelties made of rice straw	Various rice-related-diseases	DH T518-2-1 or SS T518-2-2.
Rice straw and hulls imported for purposes other than approved processing.	Fungal diseases of rice	SS T303-b-1 or SS T303-b-2.
Rice straw and hulls imported in small lots of 25 pounds or less.	Fungal diseases of rice	DH T303-c-1.

(q) *Seeds*. The treatment schedules for which numbers are specified and administration instructions are not provided are in § 305.10 for

combination (COM) treatments, § 305.25 for dry heat (DH), § 305.6 for methyl bromide (MB) fumigation, § 305.7 for

phosphine (PH), and § 305.24 for vapor heat (VH).

(1) Seeds other than noxious weed seeds.

Type of seeds	Pest	Treatment schedule
Alfalfa (<i>Medicago sativa</i>) from Europe	<i>Verticillium albo-atrum</i>	T520-1-1: Dust with 75 percent Thiram at the rate of 166 grams per 50 kilograms of seed (3.3g/kg); or T520-1-2: Treat with a slurry of Thiram 75 WP at a rate of 166 grams per 360 milliliters of water per 50 kilograms of seed (3.3 g pesticide/7.2 ml water/kg seed).
Avocado (no pulp)	<i>Conotrachelus</i> spp., <i>Heilipus lauri</i> , <i>Caulophilus latinasus</i> , <i>Copturus aguacatae</i> , <i>Stenomoma catenifer</i> .	MB T203-m.
<i>Casuarina</i>	<i>Bootonomyia</i> spp.	MB T203-o-1.
Chestnut and acorn	Internal feeders	MB T203-e.
Citrus (Rutaceae family)	Citrus canker	COM T203-p; or for seed from regions where citrus canker occurs, COM T511-1.
Conifer (species with small seeds, such as <i>Picea</i> spp., <i>Pinus sylvestris</i> , and <i>Pinus mugo</i>).	External feeders	MB T203-i-1.

Type of seeds	Pest	Treatment schedule
Conifer (species with small seeds, such as <i>Picea</i> spp., <i>Pinus sylvestris</i> , and <i>Pinus mugo</i> and nutlike seeds or tightly packed seeds so as to make fumigant penetration questionable).	Internal feeders	MB T203-i-2.
Corn (small lots for propagation but not for food, feed, or oil purposes).	Various corn-related diseases	T510-2: Treat seeds with a dry application of Mancozeb in combination with Captan. Disinfect small bags containing corn (bags weighing 60 pounds or less) only with: (1) Dry heat at 212 °F for 1 hour; or (2) steam at 10 pounds pressure at a minimum of 240 °F for 20 minutes. Note: Bags with plastic liners must be opened prior to treatment.
Cottonseed (bagged, packaged, or bulk)	External feeders	MB T203-f-1 or MB T203-f-2 or MB T203-f-3 or PH T203-f-4.
<i>Hevea brasiliensis</i>	Seed boring insects	MB T203-j.
Pods and seeds of kenaf, hibiscus, and okra ...	Internal feeders	MB T203-g-1 or MB T203-g-2 or PH T203-g-3.
Leguminosae=Fabaceae	<i>Bruchophagus</i> spp. and <i>Eurytoma</i> spp.	MB T203-o-3.
	<i>Caryedon</i> spp.	MB T203-c or MB T203-a-2.
	<i>Caryedon</i> spp. (in or with, etc.)	MB T203-o-4-1 or MB T203-o-4-2.
<i>Lonicera</i> and other seeds	<i>Rhagoletis cerasi</i> pupae (Diptera: Tephritidae)	MB T203-o-5.
Macadamia nut	<i>Cryptophlebia illepida</i>	MB T203-k.
<i>Rosmarinus</i>	Juvenile <i>Helicella</i> spp. (snails) or internal feeders.	MB T203-h.
<i>Umbelliferae</i>	<i>Systole</i> spp.	MB T203-o-2.
<i>Vicia</i> spp., excluding seeds of <i>Vicia faba</i>	Bruchidae	MB T203-d-1.
<i>Vicia</i> spp., including seeds of <i>Vicia faba</i>	Bruchidae	MB T203-d-2.
Seeds	<i>Trogoderma granarium</i>	MB T203-l.
Seeds (excluding seeds of <i>Vicia</i> spp.)	Bruchidae excluding <i>Caryedon</i> spp. at NAP ...	MB T203-b.
Seeds not specifically listed	External feeders	MB T203-a-1.
	Internal feeders	MB T203-a-2.
Seeds with infested pulp	Fruit flies and other pulp infesting insects	T203-n: Place seed in wire basket. Immerse in 118-125 °F water for 25 minutes. Remove pulp from seed under running tap water.

(2) Noxious weed seeds (devitalization treatment).

Weed seeds	Treatment schedule
<i>Asphodelus fistulosus</i> , <i>Digitaria</i> spp., <i>Oryza</i> spp., <i>Paspalum scrobiculatum</i> , <i>Prosopis</i> spp., <i>Solanum viarum</i> , <i>Striga</i> spp., <i>Urochloa panicoides</i> .	DH T412-a.
<i>Cuscuta</i> spp.	DH T412-b-1 or VH T412-b-2.

(r) Ships, containers, and surrounding area. The treatment schedules for which administration instructions are not provided are in § 305.6 for methyl bromide (MB) fumigation.

Product	Pest	Treatment schedule
Asphalt surfaces and asphalt-base painted surfaces.	<i>Trogoderma granarium</i>	T402-b-3-2: Prepare 3 percent spray by adding 1 pound of 25 percent malathion wettable powder to each gallon of water. Spray at 2 gal/1000 ft ² or to the point of runoff.
Piers and barges	<i>Globodera rostochiensis</i>	T406-c, steam cleaning: Steam at high pressure until all soil is removed. Treated surfaces must be thoroughly wet and heated.
Metal and wood surfaces such as decks, bulkheads, piers, and other areas not subject to fumigations.	<i>Trogoderma granarium</i>	T402-b-3-1: Prepare 3 percent spray by mixing ½ pint emulsifiable concentrate (57 percent premium grade malathion) per gallon of water. Spray at 2 gal/1000 ft ² or to the point of runoff.
Ship holds and any nonplant cargo material within holds.	Quarantine significant snails of the family Achatinidea, including the following genera: <i>Achatina</i> , <i>Archachatina</i> , <i>Lignus</i> , <i>Limicolaria</i> .	MB T402-a-1.

Product	Pest	Treatment schedule
Ship holds and any nonplant cargo material within holds.	Quarantine significant snails of the family Hygromiidae, including the following genera: <i>Canidula</i> , <i>Cernuella</i> , <i>Cochlicella</i> , <i>Helicella</i> , <i>Helicopsis</i> , <i>Monacha</i> , <i>Platytheba</i> , <i>Pseudotrachia</i> , <i>Trochoidea</i> , <i>Xerolenta</i> , <i>Xeropicta</i> , <i>Xerosecta</i> , <i>Xerotricha</i> .	MB T402-a-2.
Ship holds and any nonplant cargo material within holds.	Quarantine significant snails of the families Helicidae and Succineidae, including the following genera: <i>Caracollina</i> , <i>Cepaea</i> , <i>Cryptomphalus</i> , <i>Helix</i> , <i>Omalonyx</i> , <i>Otala</i> , <i>Succinea</i> , <i>Theba</i> .	MB T402-a-3.
Ship holds and storerooms with loosely packed material.	<i>Trogoderma granarium</i>	MB T402-b-1.
Ship holds and storerooms with tightly packed material.	<i>Trogoderma granarium</i>	MB T402-b-2.

(s) *Skins (goatskins, lambskins, and sheepskins)*. The treatment schedules for which administration instructions are not provided are in § 305.6 for methyl bromide (MB) fumigation.

Pest	Treatment schedule
<i>Trogoderma granarium</i>	MB T416-a-1 or MB T416-a-2 or MB T416-a-3.

(t) *Soil*. The treatment schedules for which numbers are specified and administration instructions are not provided are in § 305.6 for methyl bromide (MB) fumigation, § 305.23 for steam sterilization (SS), and § 305.25 for dry heat (DH).

Product	Pest	Treatment
Herbarium specimens of mosses and liverworts in soil and originating in golden nematode free countries.	Precautionary	MB T408-e-1.
Herbarium specimens of mosses and liverworts in soil and originating in golden nematode free countries.	<i>Globodera rostochiensis</i>	MB T408-e-2.
Soil	Potato cyst nematode	MB T502-3.
Soil	Various pests and pathogens found in soil (including <i>Striga</i>).	DH T408-a.
Soil (friable and moist, but not wet and not more than 12 inches in depth).	Various pests and pathogens found in soil	SS T408-b.
Soil	<i>Globodera rostochiensis</i>	MB T408-c-2.
Soil (friable and moist, but not wet and not more than 12 inches in depth) in containers with dimensions that do not exceed 24 inches.	Insects	T408-d-1: Screening through 16 mesh screens will remove most larvae and pupae, except smaller types; or T408-d-2: Freezing—0 °F for 5 days.
Soil on equipment	<i>Globodera rostochiensis</i>	MB T408-c-1.
Soil contaminated equipment (precautionary treatment).	Various pests and pathogens found in soil	T408-b-1 (steam cleaning): Steam at high pressure until all soil is removed. Treated surfaces must be thoroughly wet and heated.
Soil contaminated equipment (precautionary treatment).	Soil fungi, nematodes, and certain soil insects	T408-f, steam cleaning: Steam at high pressure until all soil is removed. Treated surfaces must be thoroughly wet and heated.
Soil contaminated non-food or non-feed commodities (soil must be friable and or moist, but not wet, and must not exceed 12 inches in dimension).	<i>Striga</i>	MB T408-g-1 or MB T408-g-2.

(u) *Sugarcane*.

Product	Pest	Treatment schedule
Saccharum (seed pieces)	<i>Xanthomonas albilineans</i> and <i>X. vasculorum</i> ..	T514-1: Presoak in water at room temperature for 24 hours. Then immerse in water at 122 °F for 3 hours.
Saccharum (true seed fuzz) .....	.....	T514-2: Immerse in 0.525 percent sodium hypochlorite solution for 30 minutes followed by at least 8 hours air drying before packaging (Dilute 1 part Clorox or similar solution containing 5.25 percent sodium hypochlorite; if using ultra strength chlorine bleach, use only 3/4 as much bleach).
Saccharum (bagasse) .....	.....	T514-3: Dry heat treatment for 2 hours at 158 °F.
Sugarcane (baled)	Various sugarcane-related diseases	T515-1: Introduce live steam into 25" vacuum until pressure reaches 15 to 20 pounds. Hold until center of bale is 220-230 °F and maintain for 30 minutes.
Sugarcane (loose) .....	.....	T515-2-1: Introduce steam into 25" vacuum (or if with initial vacuum, "bleed" air until steam vapor fills chamber). T515-2-3: Dry heat at 212 °F for 1 hour. T515-2-4: Remove the pulp in water at 190-205 °F, followed by drying at 212 °F for 1 hour. T515-2-5: Flash heated to 1,000 °F (Arnold dryer).

(v) *Wood articles including containers, oak logs and lumber, Christmas trees.* The treatment

schedules for which administration instructions are not provided are in § 305.6 for methyl bromide (MB)

fumigation, § 305.8 for sulfuryl fluoride (SF), and § 305.28 for kiln sterilization (KS).

Material	Pest	Treatment schedule
Cut conifer Christmas trees	<i>Lymantria dispar</i> egg masses	MB T313-a.
Cut pine Christmas trees and pine logs	<i>Tomocus piniperda</i>	MB T313-b.
Wood surfaces (can be combined with other surfaces such as metal or concrete).	.....	SF T404-c-2.
Wood surfaces (can be combined with other surfaces such as metal or concrete).	Borers (wood wasps, cerambycids, and <i>Dinoderus</i>).	T404-b-5-1: (1) The spray must be applied by or under the supervision of pest control operators or other trained personnel responsible for insect control programs; (2) prepare the spray by thoroughly mixing 79 ml (2 2/3 fluid ounces) of Dursban 4E with water for a total of 1 gallon of mixture (equivalent to 2.1 gallons in 100 gallons of water); and (3) apply as a 1 percent chlorpyrifos spray with suitable hand- or power-operated ground spray equipment to the point of runoff.
Oak logs	Oak wilt disease	MB T312-a.
Oak lumber	Oak wilt disease	MB T312-b.
Wood products including containers	Borers (wood wasps, cerambycids, and <i>Dinoderus</i>). <i>Globodera rostochiensis</i>	MB T404-b-1-1 or MB T404-b-1-2 or SF T404-b-2 or KS T404-b-4.
	Termites	MB T404-a.
	Borers and <i>Trogoderma granarium</i>	MB T404-c-1-1 or MB T404-c-1-2. MB T404-d.

§§ 305.3-305.4 [Reserved]

Subpart—Chemical Treatments

§ 305.5 Treatment requirements.

(a) *Certified facility.* The fumigation treatment facility must be certified by APHIS. Facilities are required to be inspected and recertified annually, or as often as APHIS directs, depending upon treatments performed, commodities handled, and operations conducted at

the facility. In order to be certified, a fumigation facility must:

(1) Be capable of administering the required dosage range for the required duration and at the appropriate temperature.

(2) Be adequate to contain the fumigant and be constructed from material that is not reactive to the fumigant.

(3) For vacuum fumigation facilities, be constructed to withstand required negative pressure.

(b) *Monitoring.* Treatment must be monitored by an official authorized by APHIS to ensure proper administration of the treatment, including that the correct amount of gas reaches the target organism and that an adequate number and placement of blowers, fans, sampling tubes, or monitoring lines are used in the treatment enclosure. An

official authorized by APHIS approves, adjusts, or rejects the treatment.

(c) *Treatment procedures.* (1) To kill the pest, all chemical applications must be administered in accordance with an Environmental Protection Agency (EPA) approved pesticide label and the APHIS-approved treatment schedule prescribed in this part. If EPA cancels approval for the use of a pesticide on a commodity, then the treatment schedule prescribed in this part is no longer authorized for that commodity. If the commodity is not listed on the pesticide label and/or a Federal quarantine or crisis exemption in accordance with FIFRA section 18, then no chemical treatment is available.

(2) Temperature/concentration readings must be taken for items known

to be sorptive or whose sorptive properties are unknown when treatment is administered in chambers at normal atmospheric pressure.

(3) The volume of the commodity stacked inside the treatment enclosure must not exceed 2/3 of the volume of the enclosure. Stacking must be approved by an official authorized by APHIS before treatment begins. All commodities undergoing treatment must be listed on the label.

(4) Recording and measuring equipment must be adequate to accurately monitor the gas concentration, to ensure the correct amount of gas reaches the pests, and to detect any leaks in the enclosure. At least three sampling tubes or monitoring

lines must be used in the treatment enclosure.

(5) An adequate number of blowers or fans must be used inside of the treatment enclosure to uniformly distribute gas throughout the enclosure. The circulation system must be able to recirculate the entire volume of gas in the enclosure in 3 minutes or less.

(6) The exposure period begins after all gas has been introduced.

(7) For vacuum fumigation: The vacuum pump must be able to reduce pressure in the treatment enclosure to 1–2 inches of mercury in 15 minutes or less.

§ 305.6 Methyl bromide fumigation treatment schedules.

(a) *Standard schedules.*

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
MBOFF	NAP ¹	70 or above	2	3.5
T101-a-1	NAP	80 or above	1.5	2
		70–79	2	2
		60–69	2.5	2
		50–59	3	2
		40–49	4	2
T101-a-2	15" vacuum	90 or above	2	2
		80–89	2.5	2
		70–79	3	2
		60–69	3	2.5
		50–59	3	3
		40–49	3	3.5
T101-a-3	See T101-a-1.			
T101-b-1	See T101-a-1.			
T101-b-1-1	NAP	80 or above	2.5	2
		70–79	3	2
		60–69	4	2
T101-b-2	NAP	70 or above	2	2
		60–69	2.5	2
		50–59	3	2
		45–49	3.5	2
		40–44	4	2
T101-b-3-1	NAP	90 or above	2.5	4
		80–89	3	4
		70–79	3.5	4
		60–69	4	4
T101-c-1	NAP	70 or above	2	4
T101-c-2	26" vacuum	70 or above	3	3.5
		60–69	3	4
		50–59	3	4.5
		40–49	3	5
T101-c-3	NAP	70 or above	2	3.5
		65–69	2	4
T101-c-3-1	NAP	70 or above	3	2
T101-d-1	See T101-a-1.			
T101-d-2	NAP	70 or above	3.5	11
		60–69	3.5	12
		50–59	3.5	13
		40–49	3.5	14
T101-d-3	NAP	70 or above	2	3.5
T101-e-1	NAP	70 or above	3	2.5
		60–69	3	3
		50–59	3	3.5
		40–49	3	4
T101-e-2	15" vacuum	90 or above	2	1.5
		80–89	2	2
		70–79	2.5	2
		60–69	3	2

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
		50-59	3	3
		40-49	3	4
T101-e-3	See T101-a-1.			
T101-f-2	15" vacuum	90 or above	2	3
		80-89	2.5	3
		70-79	3	3
		60-69	3	3.5
T101-f-3	See T101-b-3-1.			
T101-g-1	See T101-a-2.			
T101-g-1-1	NAP	90 or above	2	3
		80-89	2.5	3
		70-79	3	3
		60-69	3	3.5
		50-59	3	4
T101-g-2	NAP	90 or above	2	3
		80-89	2.5	3
		70-79	3	3
		60-69	3	3.5
T101-h-1	See T101-a-1.			
T101-h-2	See T101-a-1.			
T101-h-2-1	NAP	70 or above	2	3.5
		65-69	2	4
T101-h-3	NAP	80 or above	1.5	2
		70-79	2	2
		60-69	2.5	2
T101-i-1	NAP	80 or above	1.5	2
		70-79	2	2
T101-i-1-1	NAP	70 or above	2	3.5
T101-i-2	See T101-a-1.			
T101-i-2-1	See T101-a-1.			
T101-j-1	See T101-b-2.			
T101-j-2	NAP	80 or above	1.5	2
		70-79	1.5	2
		65-69	1.75	2
T101-j-2-1	NAP	70-85	2.5	2
T101-k-1	See T101-a-1.			
T101-k-2	15" vacuum	90 or above	0.5	1.5
		80-89	1	1.5
		70-79	1.5	1.5
		60-69	2	1.5
		50-59	2.5	1.5
		40-49	3	1.5
T101-k-2-1	NAP	80 or above	1.5	2
		70-79	2	2
		60-69	2.5	2
		50-59	3	2
T101-l-1	See 101-g-1-1.			
T101-l-2	15" vacuum	90 or above	2	2
		80-89	2.5	2
		70-79	3	2
T101-m-1	See T101-a-2.			
T101-m-2	See T101-a-1.			
T101-m-2-1	NAP	70 or above	2	3.5
		65-69	2	4
T101-n-1	See T101-g-2.			
T101-n-2	See T101-b-2.			
T101-n-2-1	See T101-k-2-1.			
T101-n-2-1-1	NAP	70 or above	2	16
		60-69	2	24
		50-59	3	16
		40-49	3	24
T101-o-1	See T101-a-1.			
T101-o-2	See T101-a-1.			
T101-p-1	See T101-a-1.			
T101-p-2	NAP	90 or above	1	2
		80-89	1.5	2
		70-79	2	2
		60-69	2.5	2
		50-59	3	2
		40-49	3.5	2

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T101-q-2	NAP	90 or above	2	2
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
		40-49	3	3.5
T101-r-1	See T101-a-1.			
T101-r-2	NAP	70 or above	2	6
T101-s-1	NAP	70 or above	2	2
		60-69	2.5	2
		50-59	3	2
		40-49	4	2
T101-s-2	See T101-a-1.			
T101-t-1	NAP	90 or above	4	3
		80-89	4	4
		70-79	5	4
		60-69	5	5
		50-59	6	5
		40-49	6	6
T101-t-2	See T101-a-1.			
T101-u-1	26" vacuum	80 or above	3	2
		70-79	4	2
		60-69	4	3
		50-59	4	4
		40-49	4	5
				5	5
T101-u-2	NAP	80 or above	2.5	2
		70-79	3	2
T101-v-1	See T101-b-2.			
T101-v-2	NAP	70 or above	2.75	2
T101-w-1	15" vacuum	80 or above	2	2
		70-79	3	2
		60-69	4	2
		50-59	4	3
		40-49	4	4
				4	4
T101-w-1-2	NAP	70 or above	2	2
T101-w-2	See T101-h-3.			
T101-x-1	See T101-h-3.			
T101-x-1-1	NAP	70 or above	2.5	2.5
T101-x-2	See T101-a-1.			
T101-y-1	See T101-k-2-1.			
T101-y-2	See T101-a-1.			
T101-z-1	NAP	90 or above	2	3
		80-89	2.5	3
		70-79	3	3
		60-69	3	3.5
		50-59	3	4
		40-49	4	4
T101-z-2	See T101-k-2-1.			
T104-a-1	See T101-a-1.			
T104-a-2	See T101-b-1-1.			
T201-a-1/T201-a-2 (except <i>Brachyrhinus</i> larvae).	NAP/26" vacuum	90-96	2	2
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
		40-49	3	3.5
T201-a-1/T201-a-2 (<i>Brachyrhinus</i> larvae) ...	NAP/26" vacuum	90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T201-b-1 (except <i>Brachyrhinus</i> larvae)	NAP	90-96	1.5	2
		80-89	2	2
		70-79	2.5	2
		60-69	2.5	2.5
		50-59	2.5	3
		40-49	2.5	3.5
T201-b-1 (<i>Brachyrhinus</i> larvae)	NAP	90-96	2	2.5

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T201-c-1 ²	NAP	80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T201-c-2 ³	15" vacuum	80-90	1.5	2
		70-79	2	2
		60-69	2.5	2
		50-59	3	2
		40-49	3.5	2
T201-d-1 (except <i>Brachyrhinus</i> larvae)	NAP	80-90	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
		40-49	3	3.5
T201-d-1 (<i>Brachyrhinus</i> larvae)	NAP	90-96	2	2
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
T201-d-2	NAP	40-49	3	3.5
		90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
T201-d-3	15" vacuum	50-59	3	3.5
		40-49	3	4
		90-96	1	2
		80-89	1.5	2
		70-79	2	2
T201-e-1/T201-e-2	NAP/15" vacuum	60-69	2.5	2
		50-59	3	2
		40-49	3.5	2
		90-96	3	1
		80-89	3	1.5
T201-e-3-1	NAP	70-79	3	2
		60-69	3	2.5
		50-59	3	3
		40-49	3	3.5
		90-96	2	1.5
T201-e-3-2	26" vacuum	80-89	2	2
		70-79	3	2
		60-69	3	2
		50-59	3	3
		40-49	3	3.5
T201-f-1/T201-f-2 (except <i>Brachyrhinus</i> larvae).	NAP/15" vacuum	90-96	2	1.5
		80-89	2.5	1.5
		70-79	2.5	1.5
		60-69	3	1.5
		50-59	3	1.5
T201-f-1/T201-f-2 (<i>Brachyrhinus</i> larvae)	NAP/15" vacuum	90-96	2	2
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
T201-g-1	NAP	40-49	3	3.5
		70 or above	0.75	2
T201-h-1/T201-h-2	15" vacuum/26" vacuum	90-96	2	2
		80-89	2.5	2
		60-79	3	2
		40-59	3	2.5

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T201-i-1/T201-i-2	NAP/26" vacuum	90-96	2	1.5
		80-89	2	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
T201-j	NAP	75	4	2
		74	4	2 hrs 1 min
		73	4	2 hrs 2 min
		72	4	2 hrs 4 min
		71	4	2 hrs 7 min
		70	4	2 hrs 9 min
		69	4	2 hrs 11 min
		68	4	2 hrs 14 min
		67	4	2 hrs 16 min
		66	4	2 hrs 19 min
		65	4	2 hrs 22 min
		64	4	2 hrs 25 min
		63	4	2 hrs 28 min
		62	4	2 hrs 31 min
		61	4	2 hrs 35 min
		60	4	2 hrs 38 min
		59	4	2 hrs 41 min
		58	4	2 hrs 43 min
		57	4	2 hrs 46 min
		56	4	2 hrs 49 min
		55	4	2 hrs 52 min
54	4	2 hrs 55 min		
53	4	2 hrs 58 min		
52	4	3 hrs 1 min		
51	4	3 hrs 5 min		
50	4	3 hrs 8 min		
49	4	3 hrs 12 min		
48	4	3 hrs 15 min		
47	4	3 hrs 19 min		
46	4	3 hrs 24 min		
45	4	3 hrs 28 min		
T201-k-1 (except <i>Brachyrhinus</i> larvae)	NAP	85-96	1	4
		80-84	2	2.5
		70-79	2	3.5
T201-k-1 (<i>Brachyrhinus</i> larvae)	NAP	85-96	1.5	4
		80-84	2.5	2.5
T201-k-2 (except <i>Brachyrhinus</i> larvae)	NAP	70-79	2	3.5
		90-96	2	2
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
T201-k-2 (<i>Brachyrhinus</i> larvae)	NAP	50-59	3	3
		40-49	3	3.5
		90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
T201-l	NAP	60-69	3	3
		50-59	3	3.5
		40-49	3	4
		90-96	1	2
		80-89	1.25	2
T201-m-1 (except <i>Brachyrhinus</i> larvae)	NAP	70-79	1.5	2
		60-69	1.75	2
		90-96	2	2
		80-89	2.5	2
		70-79	3	2
T201-m-1 (<i>Brachyrhinus</i> larvae)	NAP	60-69	3	2.5
		50-59	3	3
		40-49	3	3.5
		90-96	2	2.5
		80-89	2.5	2.5
T201-m-1 (<i>Brachyrhinus</i> larvae)	NAP	70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
		90-96	3	4

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T201-m-2	NAP	80-90	1.5	2
		70-79	2	2
		60-69	2.5	2
		50-59	3	2
		40-49	3.5	2
T201-m-3 (except <i>Brachyrhinus</i> larvae)	NAP	90-96	2	2
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
T201-m-3 (<i>Brachyrhinus</i> larvae)	NAP	40-49	3	3.5
		90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
T201-m-4	NAP	50-59	3	3.5
		40-49	3	4
		90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
T201-n	NAP	60-69	3	3
		50-59	3	3.5
		40-49	3	4
		85 or above	1	2
		80-85	1.25	2
T202-a-1 (except <i>Brachyrhinus</i> larvae)	NAP	70-79	1.5	2
		65-69	1.75	2
		90-96	2	2
		80-89	2.5	2
		70-79	3	2
T202-a-1 (<i>Brachyrhinus</i> larvae)	NAP	60-69	3	2.5
		50-59	3	3
		40-49	3	3.5
		90-96	2	2.5
		80-89	2.5	2.5
T202-a-2	NAP	70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
		90-96	2	2.5
T202-a-3 (except <i>Brachyrhinus</i> larvae)	26" vacuum	80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T202-a-3 (<i>Brachyrhinus</i> larvae)	26" vacuum	90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
T202-b	26" vacuum	40-49	3	4
		70-96	4	2
		60-69	4	2.5
		50-59	4	3
		40-49	4	4
T202-d	NAP	90-96	2.5	4
		80-89	3	4
		70-79	3.5	4
		60-69	4	4
		90-96	2	3
T202-e-1	NAP	80-89	2.5	3
		70-79	3	3
		60-69	3	3.5
		50-59	3	4
		90-96	2	3

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T202-e-2	26" vacuum	40-49	3	4.5
		90-96	2	2
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
T202-f (except <i>Brachyrhinus</i> larvae)	15" vacuum	40-49	3	3.5
		90-96	2	2
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
T202-f (<i>Brachyrhinus</i> larvae)	15" vacuum	40-49	3	3.5
		90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
T202-g	NAP	40-49	3	4
		90-96	2	3
		80-89	2.5	3
		70-79	3	3
		60-69	3	3.5
		50-59	3	4
T202-h (except <i>Brachyrhinus</i> larvae)	26" vacuum	40-49	3	4.5
		90-96	2	2
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
T202-h (<i>Brachyrhinus</i> larvae)	26" vacuum	40-49	3	3.5
		90-96	2	2.5
		80-89	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
T202-i-1	NAP	40-49	3	4
		90-96	3	2
		80-89	3.5	2
		70-79	4	2
		60-69	4	2.5
		50-59	4	3
T202-i-2	NAP	40-49	4	3.5
		90-96	2	2
		80-89	2.5	2
		70-79	3	2
		60-69	3	2.5
		50-59	3	3
T202-j	15" vacuum	40-49	3	3.5
		90-96	2	1.5
		80-89	2	2
		70-79	2.5	2
		60-69	3	2
		50-59	3	3
T203-a-1	NAP	40-49	3	4
		80-96	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T203-a-2	26" vacuum	80-96	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
		70-96	3	4
T203-b (except <i>Caryedon</i> spp.)	26" vacuum	70-96	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
		70-96	3	4
		60-69	3	4

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T203-b (<i>Caryedon</i> spp.)	26" vacuum	40-96	5	2
T203-c	NAP	50 or above	2	24
T203-d-1	NAP	70 or above	3.5	11
		60-69	3.5	12
		50-59	3.5	13
		40-49	3.5	14
T203-d-2 (except <i>Vicia faba</i>)	26" vacuum	70-96	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T203-d-2 (<i>Vicia faba</i>)	26" vacuum	70-96	3	3.5
		60-69	3	4
		50-59	3	4.5
		40-49	3	5
T203-e	26" vacuum	80-96	3	2
		70-79	4	2
		60-69	4	3
		50-59	4	4
		40-49	4	5
T203-f-1	NAP	60 or above	6	12
		60 or above	3	24
		40-59	7	12
		40-59	4	24
T203-f-2	NAP	60 or above	7	12
		60 or above	5	24
		40-59	8	12
		40-59	6	24
T203-f-3	NAP	40 or above	4	2
T203-g-1	NAP	60-96	2	12
		60-96	1	24
		40-59	3	12
		40-59	2	24
T203-g-2	26" vacuum	40 or above	4	2
		40 or above		
T203-h	26" vacuum	70 or above	4	4
T203-i-1	NAP	80-96	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T203-i-2	26" vacuum	80-96	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
		40-49	3	4
T203-j	NAP	80-96	2.5	2
		70-79	3	2
		60-69	3	2.5
T203-k	NAP	70 or above	2	2
		60-69	2.5	2
		50-59	3	2
		40-49	3.5	2
T203-l	NAP	90 or above	2.5	12
		80-89	3.5	12
T203-m 26" vacuum	90-96	2	2	
		80-89	3	2
		70-79	4	2
		60-69	4	3
		50-59	4	4
		40-49	4	5
T203-o-1	26" vacuum	70 or above	3.5	6
T203-o-2	26" vacuum	80-86	2.5	3.5
		70-79	3	3.5
		60-69	3	4
		50-59	3	4.5
		40-49	3	5
T203-o-3	26" vacuum	70 or above	4	4
T203-o-4-1	26" vacuum	50 or above	2	24
T203-o-4-2	26" vacuum	70 or above	3.5	3
T203-o-5	NAP	70 or above	4	8

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T301-a-1-1 (bulk shipments)	NAP	60 or above	6	12
		60 or above	4	24
		40-59	7	12
T301-a-1-1 (other than bulk shipments)	NAP	40-59	5	24
		60 or above	6	12
		60 or above	3	24
T301-a-1-2	26" vacuum	40-59	7	12
		40-59	4	24
		60 or above	8	3
T301-a-2	NAP	40-59	9	3
		40 or above	7	12
T301-a-3	NAP	40 or above	5	24
		40 or above	7	12
T301-a-4	NAP	40 or above	4	24
		40 or above	7	12
T301-a-5-1	NAP	40 or above	5	24
		40 or above	3	24
T301-a-5-2	26" vacuum	40 or above	4	2
T301-b-1-1	NAP	60 or above	8	24
		40-59	11	24
T301-b-1-2	26" vacuum	60 or above	8	3
		40-59	9	3
T301-b-2	NAP	90 or above	2.5	12
		80-89	3.5	12
T301-b-3	NAP	90 or above	4	24
		80-89	6	24
		70-79	8	24
T301-c	NAP	40 or above	8	16
		40 or above	10.5	12
T301-d-1-1	NAP	90 or above	2.5	2
		80-89	3	2
		70-79	4	2
		60-69	4	3
		55-59	5	3
		50-54	5.5	4
T302-a-1-1	NAP	40-49	6	8
		70 or above	2	6
T302-b-1-2	See T301-a-1-1 or T301-a-1-2.			
T302-c-1	NAP	90 or above	2.5	12
		80-89	3.5	12
		70-79	4.5	12
		60-69	6	12
		50-59	7.5	12
		40-49	9	12
T302-c-2	26" vacuum	60 or above	8	3
		40-59	9	3
T302-c-3	26" vacuum	90-96	2.5	12
		80-89	3.5	12
		70-79	4.5	12
		60-69	6	12
		50-59	7.5	12
		40-49	9	12
T302-e-1	NAP	60 or above	8	3
		40-49	9	3
		80-96	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
T302-e-2	26" vacuum	40-49	3	4
		80-96	2.5	2.5
		70-79	3	2.5
		60-69	3	3
		50-59	3	3.5
T302-g-1	NAP	40-49	3	4
		90-95	4	3
		80-89	4	4
		70-79	5	4
		60-69	5	5
		50-59	6	5
T302-g-2	26" vacuum	40-49	6	6
		80-96	3	2
		70-79	4	2

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T303-d-2-2	26" vacuum	60-69	4	3
		50-59	4	4
		40-49	4	5
		60 or above	2.5	2.5
T303-d-2-3	NAP	50-59	3.5	2.5
		40-49	5	2.5
		60 or above	2.5	24
		50-59	3	24
T304-a	NAP	40-49	4	24
		60 or above	2.5	32
		50-59	3.5	32
T304-b	26" vacuum	40-49	4.5	32
		60 or above	2.5	2.5
		50-59	3.5	2.5
		40-49	5	2.5
T305-a	NAP	80-89	1.5	2
		70-79	2	2
		60-69	2.5	2
		50-59	3	2
		40-49	3.5	2
		80-90	2.5	2
T305-b	15" vacuum	70-79	3	2
		60-69	3	2.5
		50-59	3	3
		40-49	3	3.5
		80 or above	2.5	2
		70-79	3	2
T305-c	NAP	60-69	4	2
		40 or above	8	16
		40 or above	10.5	12
		40 or above	16	8
		60 or above	6	12
		60 or above	4	24
T306-a	26" vacuum	40-59	7	12
		40-59	5	24
		60 or above	6	12
		60 or above	3	24
		40-59	7	12
		40-59	4	24
T306-b (bulk shipments)	NAP	90 or above	4	24
		80-89	8	24
		70-79	8	24
		60-69	12	24
		50-59	12	28
		40-49	12	32
T306-b (other than bulk shipments)	NAP	60 or above	8	3
		40-59	9	3
		90 or above	4	24
		80-89	6	24
T306-c-1	NAP	70-79	8	24
		60-69	12	24
		50-59	12	28
		40-49	12	32
		60 or above	8	3
		40-59	9	3
T306-c-2	26" vacuum	90 or above	4	24
		80-89	6	24
		70-79	8	24
		60-69	12	24
T306-d-1	NAP	50-59	12	28
		40-49	12	32
		60 or above	8	3
		40-59	9	3
		60 or above	2.5	2.5
		50-59	3.5	2.5
T306-d-2	26" vacuum	40-49	5	2.5
		60 or above	2.5	5
		50-59	3.5	5
		40-49	5	5
T309-a (except sawflies)	26" vacuum	60 or above	2.5	16
		50-59	3.5	16
		40-49	5	16
T309-a (sawflies)	26" vacuum	60 or above	2.5	16
		50-59	3.5	16
		40-49	5	16
T309-b-1	NAP	60 or above	2.5	24
		50-59	3.5	24
		40-49	4.5	24
T309-b-2	NAP	60 or above	3	24
		50-59	5	24
		40-49	7	24
T310-a	NAP	90 or above	4	3
		80-89	5	3
		70-79	6	4
		60-69	12	24

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
		60–69	7	5
		50–59	8	7
		40–49	8	16
T310–b	26" vacuum	80 or above	3	2.5
		70–79	3	3.5
		60–69	4	4
		50–59	5.5	5
T312–a	NAP	40 or above	15	72
T312–b	NAP	40 or above	15	48
T313–a	NAP	75 or above	1.5	2.5
		7–74	2	2.5
		60–69	2.5	3
		60–69	3	2.5
		50–59	3	4
		50–59	4	2.5
		40–49	3.5	4.5
		40–49	5	2.5
T313–b	NAP	60 or above	3	4
		60 or above	4	3
		50–59	3.5	4
		50–59	4	3.5
		40–49	4	4
T401–a	NAP	40 or above	4	12
		40 or above	8	3
T401–b	NAP	90 or above	2.5	12
		80–89	3.5	12
		70–79	4.5	12
		60–69	6	12
		50–59	7.5	12
		40–49	9	12
T402–a–1	NAP	55 or above	8	24
T402–a–2	NAP	55 or above	8	72
T402–a–3	NAP	80 or above	6	10
		55–79	6	16
		40–54	8	24
T402–b–1	NAP	90 or above	2.5	12
		80–89	3.5	12
		70–79	4.5	12
		60–69	6	12
		50–59	7.5	12
		40–49	9	12
T402–b–2	NAP	90–96	4	24
		80–89	6	24
		70–79	8	24
T403–a–2–1	NAP	55 or above	8	72
T403–a–2–2	26" vacuum	70 or above	8	16
T403–a–3	NAP	90–96	1	2
		80–89	1.25	2
		70–79	1.5	2
		60–69	1.75	2
T403–a–4–1	NAP	80 or above	6	10
		55–79	6	16
		40–54	8	24
T403–a–4–2	26" vacuum	7 or above	6	6
T403–a–5–1	NAP	80 or above	6	10
		40–79	6	16
T403–a–5–2	26" vacuum	40 or above	6	6
T403–b	Use T401–b or 402–b–2.			
T403–c	26" vacuum	40 or above	8	16
		40 or above	10.5	12
		40 or above	16	8
T403–e–1–1	NAP	90 or above	2.5	12
		80–89	3.5	12
		70–79	4.5	12
		60–69	6	12
		50–59	7.5	12
		40–49	9	12
T403–e–1–2	NAP	90–96	4	24
		80–89	6	24
		70–79	8	24

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
		60–69	12	24
		50–59	12	28
		40–49	12	32
T403–e–2	NAP	40 or above	10	48
T403–f	NAP	70 or above	3	3
		60–69	3.5	3
		50–59	4	3
		45–49	4.5	3
		40–44	5	3
T404–a	26" vacuum	40 or above	8	16
		40 or above	10.5	12
		40 or above	16	8
T404–b–1–1	NAP	70 or above	3	16
		40–69	5	16
T404–b–1–2	26" vacuum	70 or above	4	4
		40–69	4	5
T404–c–1–1	NAP	40 or above	3	24
T404–c–1–2	26" vacuum	70 or above	4	3
		40–69	4	4
T404–d	NAP	80 or above	3.5	24
		70–79	4.5	24
		60–69	6	24
		50–59	7.5	24
		40–49	9	24
T406–b	NAP	60 or above	15	24
T407	NAP	40 or above	4	12
		40 or above	8	3
T408–c–1	See T403–c for loose and friable material only.			
T408–c–2	NAP	60 or above	15	24
T408–e–1	26" vacuum	70 or above	2	3.5
T408–e–2	26" vacuum	40 or above	8	16
		40 or above	10.5	12
		40 or above	16	8
T408–g–1	Chamber	60 or above	10	24
		60 or above	20	15.5
T408–g–2	Tarpaulin	60 or above	15	24
T411	NAP	90–96	2	2.5
		80–89	2.5	2.5
		70–79	3	2.5
		60–69	3	3
		50–59	3	3.5
		40–49	3	4
T413–a	NAP	90 or above	2.5	12
		80–89	3.5	12
		70–79	4.5	12
		60–69	6	12
		50–59	7.5	12
		40–49	9	12
T413–b	26" vacuum	60 or above	8	3
		40–59	9	3
T414	NAP	50 or above	3.5	4
		50 or above	2.5	8
		50 or above	2	16
		40–49	4.5	4
		40–59	3.25	8
		40–49	2.25	16
T416–a–1	NAP	90 or above	2.5	12
		80–89	3.5	12
		70–79	4.5	12
		60–69	6	12
		50–59	7.5	12
		40–49	9	12
T416–a–2	26" vacuum	60 or above	8	3
		40–59	9	3
T416–a–3	26" vacuum	90–96	2.5	12
		80–89	3.5	12
		70–79	4.5	12
		60–69	6	12
		50–59	10	12

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T502-1, T502-2, T502-3	26" vacuum	40-49	12	12
T506-1, T506-2-1	26" vacuum	40 or above	8	16
		40 or above	8	16
		40 or above	10.5	12
		40 or above	16	8

¹ Normal atmospheric pressure.

² See T201-p-3 (§ 305.35(c)) for material not tolerant to fumigation.

³ See footnote 2.

(b) *MBSFF, fumigation with methyl bromide for sapote fruit fly.* Regulated citrus fruits originating inside an area quarantined for sapote fruit fly that are to be moved outside the quarantined area may be treated with methyl bromide fumigation in APHIS-approved chambers. Exposure period for this treatment is 2 hours. To enhance equal concentrations of methyl bromide throughout the chamber, a fan should be placed near the point of gas introduction, and allowed to run for at least 15 minutes. Fruit pulp temperature must be between 21.1 °C and 29.4 °C (70 °F and 85 °F). This temperature requirement refers to fruit pulp only and not to air temperature within the

chamber. Fruit taken from a cooling room may have to be prewarmed before fumigation is attempted. To determine fruit pulp temperature, stab several fruit to the center with a suitable thermometer that reads at least in whole degrees (F or C). The lowest temperature should be used, not the average. The methyl bromide dosage is set at a rate of 2.5 pounds of 100 percent pure, type "Q" (for quarantine use only) methyl bromide per 1,000 cubic feet of chamber space. Dosage is based upon chamber volume, not the volume of the fruit being treated. Fruit should be in cartons approved for fumigation. Cartons must be placed on pallets. There should be an air space of at least 1 foot between

adjacent pallet loads; at least 1 foot between chamber walls and the nearest carton of fruit; and at least 2 feet between the height of the stack and the ceiling of the chamber. The compressed liquid methyl bromide inside the cylinder must be put through a volatilizer prior to injection into the chamber. Water temperature in the volatilizer must never fall below 65.6 °C (150 °F) at any time during gas injection. However, if, prior to treatment, representative sampling reveals a level of infestation greater than 0.5 percent for the lot, then the fruit is ineligible for treatment.

§ 305.7 Phosphine treatment schedules.

Treatment schedule	Pressure	Temperature (°F)	Dosage rate	Exposure period (hours)
T203-f-4	NAP ¹	50 or above	2.1 grams/cubic meter	120
T203-g-3	NAP	50 or above	2.1 grams/cubic meter	120
T301-a-6	NAP	50 or above	60 grams/1000 ft ³	120
T301-d-1-2	NAP	50 or above	36 grams/1000 ft ³	72
T311	NAP	50 or above	60 grams/1000 ft ³	168

¹ Normal atmospheric pressure.

§ 305.8 Sulfuryl fluoride treatment schedules.

Treatment schedule	Pressure	Temperature (°F)	Dosage rate (lb/1000 cubic feet)	Exposure period (hours)
T310-d	NAP ¹	70 or above	2	24
		50-69	2.5	24
		40-49	3	24
DT404-b-2	NAP	70 or above	4	16
		60-69	4	24
		50-59	5	24
		40-49	6.5	24
T404-c-2	NAP		5	32
		70 or above	1	16
		60-69	1.5	24
		50-59	2.5	24

¹ Normal atmospheric pressure.

§ 305.9 Aerosol spray for aircraft treatment schedules.

(a) *Military aircraft.* Aerosol disinfection of U.S. military aircraft

must conform to requirements in the latest edition of “Quarantine Regulations of the Armed Forces”

(Army Reg. 40–12; SECNAVINST 6210.2A; AFR 161–4).

(b) *Aerosol schedules.*

Treatment schedule	Aerosol	Rate
T409–b	d-phenothrin (10%)	8g/1,000 ft ³ .
T409–c–1	Resmethrin (2%)	10g/1,000 ft ³ .
T409–c–3	Resmethrin (1.2%)	16.66/1,000 ft ³ .

§ 305.10 Treatment schedules for combination treatments.

(a) *Fumigation followed by cold treatment.* (1) Treatment requirements for chemical treatments in § 305.5 and

for cold treatment in § 305.15 must be followed.

(2) Normal atmospheric pressure must be used for the methyl bromide portion of the treatment.

(3) In the following table, CT represents cold treatment, and MB represents methyl bromide fumigation:

Treatment schedule	Type of treatment	Temperature (°F)	Dosage rate (lb/1000 ft ³)	Exposure period	
T108–a–1 ¹	MB	70 or above	2	2 hours.	
	CT	33–37		4 days.	
T108–a–2 ²	MB	38–47	2	11 days.	
	CT	70 or above		2.5 hours.	
		34–40		4 days.	
T108–a–3 ³	MB	41–47		6 days.	
		48–56		10 days.	
	CT	70 or above	2	3 hours.	
		43–47		3 days.	
T108–b	MB	48–56		6 days.	
		50 or above	1.5	2 hours.	
		40–49	2	2 hours.	
	CT	33 or below		21 days.	
		48–56		6 days.	
MB&CTMedfly	MB	70 or above	2	2 hours.	
		CT	33–37		4 days.
			38–47		11 days.
	MB	70 or above	2	2.5 hours.	
		CT	34–40		4 days.
	MB		41–47		6 days.
		CT	48–56		10 days.
			70 or above	2	3 hours.
	MB&CTOFF ⁴	CT	43–47		3 days.
			48–56		6 days.
70 or above			2	2 hours.	
MB		CT	33–37		4 days.
			38–47		11 days.
		70 or above	2	2.5 hours.	
CT		MB	34–40		4 days.
			41–47		6 days.
		CT	48–56		10 days.
			70 or above	2	3 hours.
MB	CT	43–47		3 days.	
		48–56		6 days.	
	70 or above	2	2 hours.		

¹ For Hawaiian-grown avocados only, a single transient heat spike of no greater than 39.6 °F (4.2 °C) and no longer than 2 hours, during or after 6 days of cold treatment, does not affect the efficacy of the treatment.

² See footnote 1.

³ See footnote 1.

⁴ Following fumigation, the fruit must be aerated 2 hours before refrigeration (but refrigeration must begin no more than 24 hours after fumigation is completed).

(b) *Cold treatment followed by fumigation.* (1) Treatment requirements for chemical treatments in § 305.5 and

for cold treatment in § 305.15 must be followed.

(2) Use normal atmospheric pressure for the methyl bromide portion of the treatment.

(3) In the following table, CT represents cold treatment, and MB represents methyl bromide fumigation:

Treatment schedule	Type of treatment	Temperature (°F)	Dosage rate (lb/1000 ft ³)	Exposure period
T109-a-1	CT	34 or below	3	40 days.
	MB	50 or above	3	2 hours.
T109-a-2	CT	34 or below	2 pounds 6 ounces	40 days.
	MB	59 or above	2 pounds 6 ounces	2 hours.
T109-d-1	CT	33 or below	2	21 days.
	MB	70 or above	2	2 hours.
CT&MBOFF	CT	60-69	2.5	21 days.
		40-59	3	
	MB	33	3	2 hours.
		40-59	3	2 hours.
		60-69	2.5	2 hours.
		70-79	2	2 hours.

(c) *T203-p and T511-1, hot water and chemical dip for citrus (Rutaceae) seeds for citrus canker.* (1) If any mucilaginous material, such as pulp, is adhering to the seed, the seed must be washed to remove it.

(2) The seed must be immersed in water heated to 125 °F or above for 10 minutes.

(3) Then the seed must be immersed for at least 2 minutes in a solution containing 200 parts per million sodium hypochlorite at a pH of 6.0 to 7.5.

(4) Seed from regions where citrus canker occurs must be drained, dried, and repacked near original moisture content.

(d) *T201-g-2 and T201-p-2, hand removal plus malathion-carbaryl chemical dip.* (1) Pests must be removed by hand from infested parts.

(2) The solutions must be prepared by adding 3 level tablespoons of 25 percent malathion wettable powder and 3 level tablespoons of 50 percent carbaryl wettable powder to each gallon of water. The addition of a sticker-spreader formulation may be required for hard to wet plants. Fresh chemicals must be used and the dip must be prepared for same day use. (For T201-p-2, when the actionable pests are scale insects or their immature crawlers and the label permits, the solution is prepared as indicated, except the 25 percent malathion wettable powder is increased to 4 level tablespoons.)

(3) The entire plant, including the roots, must be submerged in the chemical dip for 30 seconds.

§ 305.11 Miscellaneous chemical treatments.

(a) *CC1 for citrus canker.* The fruit must be thoroughly wetted for at least 2 minutes with a solution containing 200 parts per million sodium hypochlorite.

(b) *CC2 for citrus canker.* The fruit must be thoroughly wetted with a solution containing sodium o-phenyl phenate (SOPP) at a concentration of 1.86 to 2.0 percent of the total solution,

for 45 seconds if the solution has sufficient soap or detergent to cause a visible foaming action or for 1 minute if the solution does not contain sufficient soap to cause a visible foaming action.

§§ 305.12-305.14 [Reserved]

Subpart-Cold Treatments

§ 305.15 Treatment requirements.

(a) *Approved facilities and carriers.* Cold treatment facilities or carriers must be approved by APHIS. Reapproval is required annually, or as often as APHIS directs, depending on treatments performed, commodities handled, and operations conducted at the facility. In order to be approved, facilities and carriers must:

(1) Be capable of keeping treated and untreated fruits, vegetables, or other articles separate so as to prevent reinfestation of articles and spread of pests;

(2) Have equipment that is adequate to effectively perform cold treatment.

(b) *Cold treatment enclosures.* All enclosures in which cold treatment is performed, including refrigerated containers, must:

(1) Be capable of precooling, cooling, and holding fruit at temperatures less than or equal to 2.2 °C (36 °F).

(2) Maintain pulp temperatures according to treatment schedules with no more than a 0.3 °C (0.54 °F) variation in temperature.

(3) Be structurally sound and adequate to maintain required temperatures.

(c) *Monitoring.* Treatment must be monitored by an official authorized by APHIS to ensure proper administration of the treatment. An official authorized by APHIS must approve the recording devices and sensors used to monitor temperatures and conduct an operational check of the equipment before each use and ensure sensors are calibrated. An official authorized by APHIS approves, adjusts, or rejects the treatment.

(d) *Compliance agreements.* Facilities located in the United States must operate under a compliance agreement with APHIS. The compliance agreement must be signed by a representative of the cold treatment facility and APHIS. The compliance agreement must contain requirements for equipment, temperature, circulation, and other operational requirements for performing cold treatment to ensure that treatments are administered properly. Compliance agreements must allow officials of APHIS to inspect the facility to monitor compliance with the regulations.

(e) *Work plans.* Facilities located outside the United States must operate in accordance with a work plan. The work plan must be signed by a representative of the cold treatment facility, the national plant protection organization of the country of origin (NPPO), and APHIS. The work plan must contain requirements for equipment, temperature, circulation, and other operational requirements for performing cold treatment to ensure that cold treatments are administered properly. Work plans for facilities outside the United States may include trust fund agreement information regarding payment of the salaries and expenses of APHIS employees on site. Work plans must allow officials of the NPPO and APHIS to inspect the facility to monitor compliance with APHIS regulations.

(f) *Treatment procedures.* (1) All material, labor, and equipment for cold treatment performed on vessels must be provided by the vessel or vessel agent. An official authorized by APHIS monitors, manages, and advises in order to ensure that the treatment procedures are followed.

(2) Fruit that may be cold treated must be safeguarded to prevent cross-contamination or mixing with other infested fruit. Before loading in cold treatment containers, packages of fruit must be pre-cooled to a treatment temperature or to a uniform temperature

not to exceed 4.5 °C (40 °F) or precooled at the terminal to 2.2 °F (36 °F).

(3) Breaks, damage, etc., in the treatment enclosure that preclude maintaining correct temperatures must be repaired before use. An official authorized by APHIS must approve loading of compartment, number and placement of sensors, and initial fruit temperature readings before beginning the treatment.

(4) At least three temperature sensors must be used in the treatment compartment during treatment.

(5) The time required to complete the treatment begins when the temperature reaches the required temperature.

(6) Only the same type of fruit in the same type of package may be treated together in a container; no mixture of fruits in containers will be treated.

(7) Fruit must be stacked to allow cold air to be distributed throughout the enclosure, with no pockets of warmer air, and to allow random sampling of pulp temperature in any location in load. Temperatures must be recorded at intervals no longer than 1 hour apart. Gaps of longer than 1 hour may invalidate the treatment or indicate treatment failure.

(8) Cold treatment is not completed until so designated by an official authorized by APHIS or the certifying official of the foreign country;

shipments of treated commodities may not be discharged until full APHIS clearance has been completed, including review and approval of treatment record charts.

(9) Pretreatment conditioning (heat shock or 100.4 °F for 10 to 12 hours) of fruits is optional and is the responsibility of the shipper.

(10) Cold treatment of fruits in break-bulk vessels or containers must be initiated by an official authorized by APHIS if there is not a treatment technician who has been trained to initiate cold treatments for either break-bulk vessels or containers.

§ 305.16 Cold treatment schedules.

Treatment schedule	Temperature (°F)	Exposure period
T107-a ¹	34 or below	14 days.
	35 or below	16 days.
	36 or below	18 days.
T107-a-1	34 or below	15 days.
	35 or below	17 days.
T107-b	33 or below	18 days.
	34 or below	20 days.
	35 or below	22 days.
T107-c	32 or below	11 days.
	33 or below	13 days.
	34 or below	15 days.
T107-d	35 or below	17 days.
	32 or below	13 days.
	33 or below	14 days.
	34 or below	18 days.
T107-e	35 or below	20 days.
	36 or below	22 days.
T107-f	31 or below ²	22 days.
	32 or below	10 days.
	33 or below	11 days.
	34 or below	12 days.
	35 or below	14 days.
T107-g	0 or below	7 days.
T107-h	33.4 or below	13 days.
	33.8 or below	15 days.
	34.5 or below	18 days.
T107-j	33.8 or below	13 days.
	34.5 or below	18 days.
CTMedfly	34 or below	14 days.
	35 or below	16 days.
	36 or below	18 days.
T403-a-2-3 (for temperatures below 55 °F)	0	48 hours.
T403-a-4-3, T403-a-5-3, T403-a-6-1	0	48 hours.
T403-a-6-2	0	32 hours.
	10	48 hours.
T403-a-6-3	0	8 hours.
	10	16 hours.
	20	24 hours.

¹ For Hawaiian-grown avocados only, a single transient heat spike of no greater than 39.6 °F (4.2 °C) and no longer than 2 hours, during or after 6 days of cold treatment, does not affect the efficacy of the treatment.

² Commence when sensors are at 31 °F or below. If the temperature exceeds 31.5 °F, extend the treatment one-third of a day for each day, or part of a day, that the temperature is above 31.5 °F. If the exposure period is extended, the temperature during the extension period must be 34 °F or below. If the temperature exceeds 34 °F at any time, the treatment is nullified. Also, some freeze damage may occur if the pulp temperature drops below approximately 29.5 °F. This varies with the commodity.

Subpart—Quick Freeze Treatments**§ 305.17 Authorized treatments; exceptions.**

(a) Quick freeze is an authorized treatment for all fruits and vegetables imported into the United States or moved interstate from Hawaii or Puerto Rico, except for those fruits and vegetables listed in paragraph (b) of this section. Quick freeze for fruits and vegetables imported into the United States or moved interstate from Hawaii or Puerto Rico must be conducted in accordance with §§ 318.13–4a, 318.58–4a, and 319.56–2c, respectively.

(b) Quick freeze is not an authorized treatment for:

(1) Avocados with seeds from South America, Central America, or Mexico.

(2) Citrus with peel from Afghanistan, Andaman Islands, Argentina, Bangladesh, Brazil, Cambodia, China (People's Republic of), Comoros, Cote d'Ivoire, Fiji Islands, Home Island in Cocos (Keeling) Islands, Hong Kong, India, Indonesia, Japan and adjacent islands, Korea, Laos, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Myanmar, Nepal, Oman, Pakistan, Palau, Papua New Guinea, Paraguay, Philippines, Reunion Islands, Rodrigues Islands, Ryukyu Islands, Saudi Arabia, Seychelles, Sri Lanka, Taiwan, Thailand, Thursday Island, United Arab Emirates, Uruguay, Vietnam, Yemen, and Zaire.

(3) Mangoes with seeds from Barbados, Dominica, French Guiana, Guadeloupe, Martinique, St. Lucia, and all countries outside of North, Central, and South America and their adjacent islands (which include the Caribbean Islands and Bermuda).

(4) Corn-on-the-cob from Albania, Algeria, Bosnia and Hercegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Macedonia, Morocco, Sardinia, Serbia and Montenegro, Slovenia, Spain, Syria, Tunisia, and Turkey.

(5) Black currants unless authorized in an import permit to specified areas.

(c) Quick freeze may damage commodities and is recommended for thick-skinned fruits and vegetables, such as durian and coconut, that will be processed into another form (e.g., for puree, juice, or mashed vegetables).

§ 305.18 Quick freeze treatment schedule.

(a) *T110*.

(1) Initially, lower the commodity's temperature to 0 °F or below.

(2) Hold the temperature of the commodity at 20 °F or below for at least 48 hours.

(3) The commodity may be transported during the 48-hour

treatment period, but the temperature must be maintained at 20 °F or below prior to release.

(4) The fruits and vegetables may not be removed from the vessel or vehicle transporting them until an inspector has determined that they are in a satisfactory frozen state upon arrival. If the temperature of the fruits or vegetables in any part of a shipment is found to be above 20 °F at the time of inspection upon arrival, the entire shipment must remain on board the vessel or vehicle under such safeguards as may be prescribed by the inspector until the temperature of the shipment is below 20 °F, or the shipment is transported outside the United States or its territorial waters, or is otherwise disposed of to the satisfaction of the inspector.

(b) [Reserved]

§ 305.19 [Reserved]**Subpart—Heat Treatments****§ 305.20 Treatment requirements.**

(a) *Certified facility*. The treatment facility must be certified by APHIS. Recertification is required annually, or as often as APHIS directs, depending upon treatments performed, commodities handled, and operations conducted at the facility. In order to be certified, a heat treatment facility must:

(1) Have equipment that is capable of adequately circulating air or water (as relevant to the treatment), changing the temperature, and maintaining the changed temperature sufficient to meet the treatment schedule parameters.

(2) Have equipment used to record, monitor, or sense temperature, maintained in proper working order.

(3) Keep treated and untreated fruits, vegetables, or articles separate so as to prevent reinfestation and spread of pests.

(b) *Monitoring*. Treatment must be monitored by an official authorized by APHIS to ensure proper administration of the treatment. An official authorized by APHIS approves, adjusts, or rejects the treatment.

(c) *Compliance agreements*. Facilities located in the United States must operate under a compliance agreement with APHIS. The compliance agreement must be signed by a representative of the heat treatment facilities located in the United States and APHIS. The compliance agreement must contain requirements for equipment, temperature, water quality, circulation, and other measures for performing heat treatments to ensure that treatments are administered properly. Compliance agreements must allow officials of

APHIS to inspect the facility to monitor compliance with the regulations.

(d) *Work plans*. Facilities located outside the United States must operate in accordance with a work plan. The work plan must be signed by a representative of the heat treatment facilities located outside the United States the national plant protection organization of the country of origin (NPPO), and APHIS. The work plan must contain requirements for equipment, temperature, water quality, circulation, and other measures to ensure that heat treatments are administered properly. Work plans for facilities outside the United States must include trust fund agreement information regarding payment of the salaries and expenses of APHIS employees on site. Work plans must allow officials of the NPPO and APHIS to inspect the facility to monitor compliance with APHIS regulations.

(e) *Treatment procedures*. (1) Before each treatment can begin, an official authorized by APHIS must approve the loading of the commodity in the treatment container.

(2) Sensor equipment must be adequate to monitor the treatment, its type and placement must be approved by an official authorized by APHIS, and the equipment must be tested by an official authorized by APHIS prior to beginning the treatment. Sensor equipment must be locked before each treatment to prevent tampering.

(3) Fruits, vegetables, or articles of substantially different sizes must be treated separately; oversized fruit may be rejected by an official authorized by APHIS.

(4) The treatment period begins when the temperature specified by the treatment schedule has been reached. An official authorized by APHIS may abort the treatment if the facility requires an unreasonably long time to achieve the required temperature.

§ 305.21 Hot water dip treatment schedule for mangoes.

Mangoes may be treated using schedule T102-a:

(a) Fruit must be presorted by weight class. Treatment of mixed loads is not allowed.

(b) The mangoes must be treated in the country of origin at a certified facility under the monitoring of an official authorized by APHIS. Prior to each use, an official authorized by APHIS must test and determine that the treatment tank, temperature recording device, and other monitoring equipment of the tank are adequate to conduct the treatment.

(c) Water in the treatment tank must be treated or changed regularly to prevent microbial contamination. Chlorinated water must be used.

(d) Pulp temperature must be 70 °F or above before starting the treatment.

(e) Fruit must be submerged at least 4 inches below the water's surface.

(f) Water must circulate constantly and be kept at 115 °F or above

throughout the treatment with the following tolerances:

(1) During the first 5 minutes of a treatment, temperatures below 113.7 °F are allowed if the temperature is at least 115 °F at the end of the 5-minute period.

(2) For treatments lasting 65–75 minutes, temperatures may fall no lower

than 113.7 °F for no more than 10 minutes under emergency conditions.

(3) For treatments lasting 90–110 minutes, temperatures may fall no lower than 113.7 °F for no more than 15 minutes under emergency conditions.

(g) Dip time is as follows:

(1)

Origin	Shape of mango ¹	Weight (grams)	Dip time ² (minutes)
Puerto Rico, U.S. Virgin Islands, or West Indies (excluding Aruba, Bonaire, Curacao, Margarita, Tortuga, or Trinidad and Tobago).	Flat, elongated varieties	Up to 400	65
		400–570	75
	Rounded varieties	Up to 500	75
		500–700	90
		701–900	110
Central America (north of and including Costa Rica) or Mexico	Flat, elongated varieties	Up to 375	65
		375–570	75
	Rounded varieties	Up to 500	75
		500–700	90
		701–900	110
Panama, South America, or West Indies islands of Aruba, Bonaire, Curacao, Margarita, Tortuga, or Trinidad and Tobago.	Flat, elongated varieties	Up to 375	65
		375–570	75
	Rounded varieties	Up to 425	75
		425–650	90

¹ Flat, elongated varieties include Frances, Carrot, Zill, Ataulfo, Carabao, Irwin, and Manila, and rounded varieties include Tommy Atkins, Kent, Hayden, and Keitt.

² See paragraph (g)(2) of this section for required dip times if the fruit is hydrocooled within 30 minutes of removal from the hot water immersion tank.

(2) Dip times in paragraph (g)(1) of this section are valid if the fruit is not hydrocooled within 30 minutes of removal from the hot water immersion tank. If hydrocooling starts immediately after the hot water immersion treatment, then the original dip time must be extended for an additional 10 minutes. Hydrocooling is optional but may be done only at temperatures of 70 °F or above.

§ 305.22 Hot water immersion treatment schedules.

(a) *T102-d*. (1) Fruit must be grown and treated in Hawaii.

(2) Fruit must be submerged at least 4 inches below the water's surface in a hot water immersion treatment tank certified by APHIS.

(3) The fruit must be submerged for 20 minutes after the water temperature reaches at least 120.2 °F in all locations of the tank. The water must circulate

continually and be kept at 120.2 °F or above for the duration of the treatment. Temperatures exceeding 121.1 °F can cause phytotoxic damage.

(4) Hydrocooling for 20 minutes at 75.2 °F is recommended to prevent injury to the fruit from the hot water immersion treatment.

(b) *T102-d-1*. (1) Fruit must be at ambient temperature before treatment begins.

(2) Fruit must be submerged at least 4 inches below the water's surface in a hot water immersion treatment tank certified by APHIS.

(3) The fruit must be submerged for 20 minutes after the water temperature reaches at least 120.2 °F in all locations of the tank. The water must circulate continually and be kept at 120.2 °F or above for the duration of the treatment. Temperatures exceeding 121.1 °F can cause phytotoxic damage.

(4) Hydrocooling for 20 minutes at 75.2 °F is recommended to prevent injury to the fruit from the hot water immersion treatment.

(c) *T102-e*. (1) Fruit must be submerged at least 4 inches below the water's surface in a hot water immersion treatment tank certified by APHIS.

(2) Water must circulate continually and be kept at 120.2 °F or above for 20 minutes. Treatment time begins when the water temperature reaches at least 120.2 °F in all locations of the tank. Temperatures exceeding 125.6 °F or treatment times significantly exceeding 20 minutes can cause phytotoxic damage.

(3) Cooling and waxing the fruit are both optional and are the sole responsibility of the processor.

§ 305.23 Steam sterilization treatment schedules.

Treatment schedule	Temperature (°F)	Pressure	Exposure period (minutes)	Directions
T303-b-1		10 lbs	20	Use 28" vacuum. Steam sterilization is not practical for treatment of bales with a density of greater than 30 pounds per cubic foot.
T303-b-2		10 lbs	20	
T303-d-2	260	20 lbs	15	Use 25&Prime vacuum.
	250	15 lbs	20	
T309-c	240	10 psi	20	

Treatment schedule	Temperature (°F)	Pressure	Exposure period (minutes)	Directions
T406-d	140	NAP ¹	60	Steam at NAP, tarpaulin or tent. For treatment enclosures of 4,000 ft ³ or less, the minimum air temperature must be 40 °F. For treatment enclosures greater than 4,000 ft ³ and less than or equal to 6,000 ft ³ , the minimum air temperature must be 60 °F. Treatment is not recommended for treatment enclosures greater than 6,000 ft ³ .
T408-b	250	15 psi	30	Preheat laboratory autoclaves. Restrict soil depth to 2 inches when treating quantities of soil in trays. Restrict each package weight to 5 pounds or less when treating individual packages. Load with adequate spacing. Large commercial steam facilities that operate at pressures up to 60 pounds psi will permit treatment of greater soil depth.
T503-1-3 or T503-2-3 (nonbaled)	240	NAP	10	Introduce live steam into a closed chamber containing the material to be treated until the required temperature and pressure are indicated. The temperature/pressure relationship must be maintained at or above this point for the required exposure period. No initial vacuum is needed, but air must be released until steam escapes. Exhaust the air in the chamber to a high vacuum, and then introduce live steam until the required positive pressure is reached. Live steam from jet of nozzle into loose masses of material until all parts reach 212 °F.
T503-1-3 or T503-2-3 (baled)	240	10 lbs	20	
T504-1-2, T504-2-2	242	10 lbs	20	
T506-2-3 Loose masses of material.	.....	20 lbs	10	
		15 lbs	15	
		10 lbs	20	
T506-2-3 Closely packed material (such as soil).	.....	.....	.....
T510-1	212	.....	.....
T518-2-2	260	20 lbs	15	Introduce steam into 28" vacuum.
	250	15 lbs	20	
T519-1 .....	.....	10 lbs	20	Introduce steam into 28" vacuum (or if without initial vacuum, "bleed" air until steam vapor escapes).
T519-2	259	20 lbs	10	
	240	10 lbs	20	

¹ Normal atmospheric pressure.

§ 305.24 Vapor heat treatment schedules.

(a) *T106-a-1, T106-a-2, T106-a-3, T106-a-4.* (1) The temperature of the fruit pulp must be increased gradually to 110 °F until the center of the fruit reaches that temperature in 8 hours.

(2) The fruit temperature must be held at 110 °F for 6 hours.

(b) *T106-a-1-1.* (1) The temperature of the fruit pulp must be increased to 110 °F until the center of fruit reaches that temperature in 6 hours. During the first 2 hours, the temperature must be increased rapidly. The increase over the next 4 hours must be gradual.

(2) The fruit temperature must be held at 110 °F for 4 hours.

(c) *T106-b-1, T106-b-2, T106-b-3, T106-b-4, T106-b-5, T106-b-6, T106-b-7, T106-b-8.* The temperature of the article must be increased using saturated water vapor at 112 °F until the approximate center of the fruit reaches 112 °F. The fruit temperature must be held at 112 °F for 8.75 hours; then immediately cooled.

(d) *T106-c (Quick run-up).* (1) The temperature of the article must be increased until the approximate center of fruit reaches 117 °F in a time period of at least 4 hours.

(2) During the last hour of treatment, the relative humidity in the chamber

must be maintained at 90 percent or greater.

(e) *T106-d.* (1) The fruit must be sized before treatment. Temperature probes must be placed in the center of the largest fruits. The temperature of the fruit must be increased using saturated water vapor at 117.5 °F until the pulp temperature near the seed reaches 115.7 °F. The pulp temperature must be held at 115.7 °F or above for 30 minutes; then immediately cooled.

(f) *T106-d-1.* (1) The fruit must be sized before the treatment. Temperature probes must be placed in the center of the largest fruits.

(2) The temperature of the fruit must be increased using saturated water vapor at 117.5 °F until the center of the fruit reaches 114.8 °F in a minimum of 4 hours.

(3) The fruit temperature must be maintained at 114.8 °F for 10 minutes.

(g) *T106-e.* (1) Raise temperature of the fruit using saturated water vapor at 116.6 °F until the approximate center of the fruit reaches 114.8 °F within a minimum time period of 4 hours.

(2) Hold fruit temperature at 114.8 °F or above for 20 minutes. If post-treatment cooling is conducted, wait 30 minutes after the treatment to start the forced cooling process.

(h) *T106-f.* (1) The temperature probes must be placed in the

approximate center of the largest fruits at the seed's surface.

(2) The temperature of the fruit must be increased to 117 °F. The total runup time for all sensors must take at least 60 minutes.

(3) The fruit temperature must be held at 117 °F or above for 20 minutes. During the treatment, the relative humidity must be maintained at 90 percent or greater.

(4) The fruit must be hydrocooled under a cool water spray until the fruit sensors reach ambient temperature.

(5) Inspectors will examine the fruit for live quarantine pests. If pests are found, the inspector will reject the treatment.

(i) *T106-g.* (1) The internal temperature of the fruit must be increased using saturated water vapor until the approximate center of fruit reaches 117 °F in a minimum time of 1 hour or longer.

(2) The fruit temperature must be held at 117 °F or above for 20 minutes. During the treatment, the relative humidity must be maintained at 90 percent or greater.

(j) *T412-b-2.* The commodity must be heated to 212 °F for 15 minutes.

§ 305.25 Dry heat treatment schedules.

Treatment schedule	Temperature (°F)	Time	Directions
T302-a-1-2	168 minimum	At least 2 hours	Spread the ears of corn in single layers on slats or wire shelves.
T303-c-1	212	1 hour.	Spread soil in layers 0.5 inches in depth to ensure uniform heat penetration.
T303-d-1	180-200	2 hours.	
T408-a	230-249	16 hours	
	250-309	2 hours.	
	310-397	30 minutes.	
	380-429	4 minutes.	
T412-a	430-450	2 minutes.	Start timing when the entire mass reaches 248 °F. ¹
	248	15 minutes	
T412-b-1	212	15 minutes.	Treat small bales only.
T503-1-4, T503-2-4, T504-1-1, T504-2-1.	212	1 hour	
T518-1	170	4.5 hours	May take 2 hours to reach temperature.
T518-2-1	180-200	2 hours.	

¹ A minimum of two temperature probes must be placed in the heat treating equipment in order to determine that all niger seed being treated reaches the target temperature. The treatment temperature must be recorded accurately, precisely, and regularly during treatment. The monitoring equipment must be locked before each treatment begins to prevent tampering. Seed processing equipment must have the capability to divert for retreatment any nontreated seeds or treated seeds that do not meet treatment standards.

§ 305.26 Khapra beetle treatment schedule for feeds and milled products.

Feeds and milled products may be treated for khapra beetle using schedule T307-a. The temperature must be 180 °F in any part of the products, or the temperature must be at 150 °F for a total of 7 minutes. All parts of the commodity being moved through or manipulated in the heated area must meet the time and temperature requirements. This treatment must be specifically authorized in each case by the Director of Plant Health Programs, PPQ, APHIS.

§ 305.27 Forced hot air treatment schedules.

(a) *T103-a-1.* (1) The temperature probes must be placed into the center of the largest fruit in the load. The number and placement of temperature probes must be approved by APHIS' Center for Plant Health Science and Technology (CPHST) before APHIS can authorize treatment. CPHST grants approval of treatment equipment and facilities through a chamber certification procedure.

(2) APHIS may reject the treatment if the size of an individual fruit exceeds the maximum size authorized by APHIS.

(3) Fruit can be sized before or after the heat treatment. The largest fruit in a load can be identified by either sizing all fruit prior to heating and selecting the largest size class in the load or acquiring fruit of the largest permitted maximum commercial size class.

(4) The fruit containing the temperature probes must be placed inside the hot air chamber at chamber

locations specified by APHIS during the chamber certification.

(5) Fruit temperature must be increased within specifications:

(i) The fruit center temperature must be increased to 111.2 °F within 90 minutes or more (minimum approach time is 90 minutes) for all temperature probes.

(ii) The fruit center temperature must be kept at 111.2 °F or hotter for 100 minutes.

(iii) The temperature of the fruit center must be recorded every 2 minutes for the duration of the treatment.

(iv) The total treatment time will vary with the time required to reach 111.2 °F.

(v) Fruit must be cooled after the treatment is completed.

(b) *T103-b-1, T103-d-1, and T103-d-2.* Temperature sensors must be inserted into the centers of the largest fruits. The number of sensors must be approved in advance by APHIS. Sensors must be physically placed in various parts of the load so that high, middle, and low areas are all represented.

(2) Fruit (placed in open trays, bulk bins, or ventilated boxes) must be loaded into the treatment chamber, and sensors must be attached to the recorder monitor.

(3) The monitor must be set to record temperatures from all sensors at least once every 5 minutes.

(4) The fruit in the chamber must be heated using forced hot air, until the fruit center temperature (all sensors) reaches at least 117 °F. Treatment time may vary, but in every case, it must be at least 4 hours in duration, which includes the lead-up time. The total

time required for the fruit to reach 117 °F is counted as part of the 4-hour minimum treatment time.

(5) The temperature of the forced air used to heat the fruit in the chamber may be constant or increased in a series of two or more steps or ramped over the treatment duration.

(6) The fruit may be cooled by forced air or hydrocooling. Cooling can be initiated immediately after all sensors reach at least 117 °F.

(c) *T103-c-1.* (1) Size and weight of fruit: Standard fruit size 8-14; must not exceed 1½ pounds.

(2) At least three of the largest mangoes must be probed at the seed's surface. Sensors must be inserted into the thickest portion of the fruit's pulp.

(3) The temperature must be recorded at least once every 2 minutes until the treatment is concluded.

(4) Air heated to 122 °F must be introduced in the chamber.

(5) The treatment must be concluded once the temperature at the seed's surface reaches 118 °F.

(d) *T103-e.* (1) The temperature of the fruit must be raised using forced hot air until the fruit center temperature (all sensors) reaches at least 117 °F in a minimum time of 1 hour. Heat the fruit in the chamber.

(2) The fruit temperature must be held at 117 °F or above for 20 minutes. During the treatment, the relative humidity must be maintained at 90 percent or greater.

§ 305.28 Kiln sterilization treatment schedule.

T404-b-4

Dry bulb temperature (°F)	Wet bulb depression (°F)	Percent relative humidity	Percent moisture content	Thickness of lumber (inches)	Exposure (hours)
140	7	82	13.8	1	3
				2	5
				3	7
130	16	60	9.4	1	10
				2	12
				3	14
125	15	61	9.7	1	46
				2	48
				3	50

§§ 305.29–305.30 [Reserved]

Subpart—Irradiation Treatments

§ 305.31 Irradiation treatment of imported fruits and vegetables for certain fruit flies and mango seed weevils.

(a) *Approved doses.* Irradiation at the following doses for the specified fruit flies and seed weevils, carried out in accordance with the provisions of this section, is approved as a treatment for all fruits and vegetables:

IRRADIATION FOR FRUIT FLIES AND SEED WEEVILS IN IMPORTED FRUITS AND VEGETABLES

Scientific name	Common name	Dose (Gray)
(1) <i>Bactrocera dorsalis.</i>	Oriental fruit fly	250
(2) <i>Ceratitis capitata.</i>	Mediterranean fruit fly.	225
(3) <i>Bactrocera cucurbitae.</i>	Melon fly	210
(4) <i>Anastrepha fraterculus.</i>	South American fruit fly.	150
(5) <i>Anastrepha suspensa.</i>	Caribbean fruit fly.	150
(6) <i>Anastrepha ludens.</i>	Mexican fruit fly	150
(7) <i>Anastrepha obliqua.</i>	West Indian fruit fly.	150
(8) <i>Anastrepha serpentina.</i>	Sapote fruit fly ...	150
(9) <i>Bactrocera tryoni.</i>	Queensland fruit fly.	150
(10) <i>Bactrocera jarvisi.</i>	(No common name).	150
(11) <i>Bactrocera latifrons.</i>	Malaysian fruit fly.	150
(12) <i>Sternochetus mangiferae</i> (Fabricus).	Mango seed weevil.	300

(b) *Location of facilities.* Where certified irradiation facilities are available, an approved irradiation treatment may be conducted for any fruit or vegetable either prior to shipment to the United States or in the United States. Irradiation facilities certified under this section may be located in any State on the mainland United States except Alabama, Arizona,

California, Florida, Georgia,¹ Kentucky, Louisiana, Mississippi,¹ Nevada, New Mexico, North Carolina,¹ South Carolina, Tennessee, Texas, and Virginia. Prior to treatment, the fruits and vegetables to be irradiated may not move into or through any of the States listed in this paragraph, except that movement is allowed through Dallas/Fort Worth, Texas, as an authorized stop for air cargo, or as a transloading location for shipments that arrive by air but that are subsequently transloaded into trucks for overland movement from Dallas/Fort Worth into an authorized State by the shortest route.

(c) *Compliance agreement with importers and facility operators for irradiation in the United States.* If irradiation is conducted in the United States, both the importer and the operator of the irradiation facility must sign compliance agreements with the Administrator. In the facility compliance agreement, the facility operator must agree to comply with any additional requirements found necessary by the Administrator to prevent the escape, prior to irradiation, of any fruit flies that may be associated with the articles to be irradiated. In the importer compliance agreement, the importer must agree to comply with any additional requirements found necessary by the Administrator to ensure the shipment is not diverted to a destination other than an approved treatment facility and to prevent escape of plant pests from the articles to be

¹ Irradiation facilities may be located at the maritime ports of Gulfport, MS, or Wilmington, NC, or the airport of Atlanta, GA, if the following special conditions are met: The articles to be irradiated must be imported packaged in accordance with paragraph (g)(2)(i)(A) of this section; the irradiation facility and APHIS must agree in advance on the route by which shipments are allowed to move between the vessel on which they arrive and the irradiation facility; untreated articles may not be removed from their packaging prior to treatment under any circumstances; blacklight or sticky paper must be used within the irradiation facility, and other trapping methods, including Jackson/methyl eugenol and McPhail traps, must be used within the 4 square miles surrounding the facility; and the facility must have contingency plans, approved by APHIS, for safely destroying or disposing of fruit.

irradiated during their transit from the port of first arrival to the irradiation facility in the United States.

(d) *Compliance agreement with irradiation facilities outside the United States.* If irradiation is conducted outside the United States, the operator of the irradiation facility must sign a compliance agreement with the Administrator and the plant protection service of the country in which the facility is located. In this agreement, the facility operator must agree to comply with the requirements of this section, and the plant protection service of the country in which the facility is located must agree to monitor that compliance and to inform the Administrator of any noncompliance.

(e) *Certified facility.* The irradiation treatment facility must be certified by the Administrator. Recertification is required in the event of an increase or decrease in the amount of radioisotope, a major modification to equipment that affects the delivered dose, or a change in the owner or managing entity of the facility. Recertification also may be required in cases where a significant variance in dose delivery has been measured by the dosimetry system. In order to be certified, a facility must:

- (1) Be capable of administering the minimum absorbed ionizing radiation doses specified in paragraph (a) of this section to the fruits and vegetables;²
- (2) Be constructed so as to provide physically separate locations for treated and untreated fruits and vegetables, except that fruits and vegetables traveling by conveyor directly into the irradiation chamber may pass through an area that would otherwise be separated. The locations must be separated by a permanent physical barrier such as a wall or chain link fence 6 or more feet high to prevent transfer of cartons, or some other means approved during certification to prevent reinfestation of articles and spread of pests;

² The maximum absorbed ionizing radiation dose and the irradiation of food is regulated by the Food and Drug Administration under 21 CFR part 179.

(3) If the facility is located in the United States, the facility will only be certified if the Administrator determines that regulated articles will be safely transported to the facility from the port of arrival without significant risk that plant pests will escape in transit or while the regulated articles are at the facility.

(f) *Monitoring and interagency agreements.* Treatment must be monitored by an inspector. This monitoring will include inspection of treatment records and unannounced inspections of the facility by an inspector, and may include inspection of articles prior to or after irradiation. Facilities that carry out irradiation operations must notify the Director of Preclearance, PPQ, APHIS, 4700 River Road Unit 140, Riverdale, MD 20737-1236, of scheduled operations at least 30 days before operations commence, except where otherwise provided in the facility preclearance work plan. To ensure the appropriate level of monitoring, before articles may be imported in accordance with this section, the following agreements must be signed:

(1) *Irradiation treatment framework equivalency work plan.* The plant protection service of a country from which articles are to be imported into the United States in accordance with this section must sign a framework equivalency work plan with APHIS. In this plan, both the foreign plant protection service and APHIS will specify the following items for their respective countries:

(i) Citations for any requirements that apply to the importation of irradiated fruits and vegetables;

(ii) The type and amount of inspection, monitoring, or other activities that will be required in connection with allowing the importation of irradiated fruits and vegetables into that country; and

(iii) Any other conditions that must be met to allow the importation of irradiated fruits and vegetables into that country.

(2) *Facility preclearance work plan.* Prior to commencing importation into the United States of articles treated at a foreign irradiation facility, APHIS and the plant protection service of the country from which articles are to be imported must jointly develop a preclearance work-plan that details the activities that APHIS and the foreign plant protection service will carry out in connection with each irradiation facility to verify the facility's compliance with the requirements of this section. Typical activities to be described in this work plan may include frequency of visits to

the facility by APHIS and foreign plant protection inspectors, methods for reviewing facility records, and methods for verifying that facilities are in compliance with the requirements for separation of articles, packaging, labeling, and other requirements of this section. This facility preclearance work plan will be reviewed and renewed by APHIS and the foreign plant protection service on an annual basis.

(3) *Trust fund agreement.* Irradiated articles may be imported into the United States in accordance with this section only if the plant protection service of the country in which the irradiation facility is located has entered into a trust fund agreement with APHIS. That agreement requires the plant protection service to pay, in advance of each shipping season, all costs that APHIS estimates it will incur in providing inspection and treatment monitoring services at the irradiation facility during that shipping season. Those costs include administrative expenses and all salaries (including overtime and the Federal share of employee benefits), travel expenses (including per diem expenses), and other incidental expenses incurred by APHIS in performing these services. The agreement will describe the general nature and scope of APHIS services provided at irradiation facilities covered by the agreement, such as whether APHIS inspectors will monitor operations continuously or intermittently, and will generally describe the extent of inspections APHIS will perform on articles prior to and after irradiation. The agreement requires the plant protection service to deposit a certified or cashier's check with APHIS for the amount of those costs, as estimated by APHIS. If the deposit is not sufficient to meet all costs incurred by APHIS, the agreement further requires the plant protection service to deposit with APHIS a certified or cashier's check for the amount of the remaining costs, as determined by APHIS, before any more articles irradiated in that country may be imported into the United States. After a final audit at the conclusion of each shipping season, any overpayment of funds would be returned to the plant protection service or held on account until needed, at the option of the plant protection service.

(g) *Packaging.* Fruits and vegetables that are irradiated in accordance with this section must be packaged in cartons in the following manner:

(1) All fruits and vegetables treated with irradiation must be shipped in the same cartons in which they are treated. Irradiated fruits and vegetables may not

be packaged for shipment in a carton with nonirradiated fruits and vegetables.

(2) For all fruits and vegetables irradiated prior to arrival in the United States:

(i) The fruits and vegetables to be irradiated must be packaged either:

(A) In insect-proof cartons that have no openings that will allow the entry of fruit flies. The cartons must be sealed with seals that will visually indicate if the cartons have been opened. The cartons may be constructed of any material that prevents the entry of fruit flies and prevents oviposition by fruit flies into the articles in the carton³; or

(B) In noninsect-proof cartons that are stored immediately after irradiation in a room completely enclosed by walls or screening that completely precludes access by fruit flies. If stored in noninsect-proof cartons in a room that precludes access by fruit flies, prior to leaving the room each pallet of cartons must be completely enclosed in polyethylene, shrink-wrap, or another solid or netting covering that completely precludes access to the cartons by fruit flies.

(ii) To preserve the identity of treated lots, each pallet-load of cartons containing the fruits and vegetables must be wrapped before leaving the irradiation facility in one of the following ways:

(A) With polyethylene shrink wrap;

(B) With net wrapping; or

(C) With strapping so that each carton on an outside row of the pallet load is constrained by a metal or plastic strap.

(iii) Packaging must be labeled with treatment lot numbers, packing and treatment facility identification and location, and dates of packing and treatment. Pallets that remain intact as one unit until entry into the United States may have one such label per pallet. Pallets that are broken apart into smaller units prior to or during entry into the United States must have the required label information on each individual carton.

(h) *Containers or vans.* Containers or vans that will transport treated commodities must be free of pests prior to loading the treated commodities.

(i) *Phytosanitary certificate.* For each shipment treated in an irradiation facility outside the United States, a phytosanitary certificate, with the treatment section completed and issued by the national plant protection

³ If there is a question as to the adequacy of a carton, send a request for approval of the carton, together with a sample carton, to the Animal and Plant Health Inspection Service, Plant Protection and Quarantine, Center for Plant Health Inspection and Technology, 1017 Main Campus Drive, suite 2500, Raleigh, NC 27606.

organization, must accompany the shipment.

(j) *Dosimetry systems at the irradiation facility.* (1) Dosimetry mapping must indicate the doses needed to ensure that all the commodity will receive the minimum dose prescribed.

(2) Absorbed dose must be measured using an accurate dosimetry system that ensures that the absorbed dose meets or exceeds the absorbed dose required by paragraph (a) of this section (150, 210, 225, 250, or 300 gray, depending on the target species of fruit fly or seed weevil).

(3) When designing the facility's dosimetry system and procedures for its operation, the facility operator must address guidance and principles from American Society for Testing and Materials (ASTM) standards⁴ or an equivalent standard recognized by the Administrator.

(k) *Records.* An irradiation processor must maintain records of each treated lot for 1 year following the treatment date and must make these records available for inspection by an inspector during normal business hours (8 a.m. to 4:30 p.m., Monday through Friday, except holidays). These records must include the lot identification, scheduled process, evidence of compliance with the scheduled process, ionizing energy source, source calibration, dosimetry, dose distribution in the product, and the date of irradiation.

(l) *Request for certification and inspection of facility.* Persons requesting certification of an irradiation treatment facility must submit the request for approval in writing to the Animal and Plant Health Inspection Service, Plant Protection and Quarantine, Center for Plant Health Inspection and Technology, 1017 Main Campus Drive, suite 2500, Raleigh, NC 27606. The initial request must identify the owner, location, and radiation source of the facility, and the applicant must supply additional information about the facility construction, treatment protocols, and operations upon request by APHIS if APHIS requires additional information to evaluate the request. Before the Administrator determines whether an irradiation facility is eligible for certification, an inspector will make a personal inspection of the facility to determine whether it complies with the standards of this section.

(m) *Denial and withdrawal of certification.* (1) The Administrator will withdraw the certification of any

irradiation treatment facility upon written request from the irradiation processor.

(2) The Administrator will deny or withdraw certification of an irradiation treatment facility when any provision of this section is not met. Before withdrawing or denying certification, the Administrator will inform the irradiation processor in writing of the reasons for the proposed action and provide the irradiation processor with an opportunity to respond. The Administrator will give the irradiation processor an opportunity for a hearing regarding any dispute of a material fact, in accordance with rules of practice that will be adopted for the proceeding. However, the Administrator will suspend certification pending final determination in the proceeding if he or she determines that suspension is necessary to prevent the spread of any dangerous insect. The suspension will be effective upon oral or written notification, whichever is earlier, to the irradiation processor. In the event of oral notification, written confirmation will be given to the irradiation processor within 10 days of the oral notification. The suspension will continue in effect pending completion of the proceeding and any judicial review of the proceeding.

(n) *Department not responsible for damage.* This treatment is approved to assure quarantine security against the listed fruit flies. From the literature available, the fruits and vegetables authorized for treatment under this section are believed tolerant to the treatment; however, the facility operator and shipper are responsible for determination of tolerance. The Department of Agriculture and its inspectors assume no responsibility for any loss or damage resulting from any treatment prescribed or monitored. Additionally, the Nuclear Regulatory Commission is responsible for ensuring that irradiation facilities are constructed and operated in a safe manner. Further, the Food and Drug Administration is responsible for ensuring that irradiated foods are safe and wholesome for human consumption.

(Approved by the Office of Management and Budget under control number 0579-0155)

§ 305.32 Irradiation treatment of regulated fruit to be moved interstate from areas quarantined for Mexican fruit fly.

Irradiation, carried out in accordance with the provisions of this paragraph, is approved as a treatment for any fruit listed as a regulated article in § 301.64-2(a) of this chapter.

(a) *Approved facility.* The irradiation treatment facility and treatment protocol

must be approved by the Animal and Plant Health Inspection Service. In order to be approved, a facility must:

(1) Be capable of administering a minimum absorbed ionizing radiation dose of 150 Gray (15 krad) to the fruit;⁵

(2) Be constructed so as to provide physically separate locations for treated and untreated fruit, except that fruit traveling by conveyor directly into the irradiation chamber may pass through an area that would otherwise be separated. The locations must be separated by a permanent physical barrier such as a wall or chain link fence 6 or more feet high to prevent transfer of cartons;

(3) Complete a compliance agreement with the Animal and Plant Health Inspection Service as provided in § 301.64-6 of this chapter; and

(4) Be certified by Plant Protection and Quarantine for initial use and annually for subsequent use. Recertification is required in the event that an increase or decrease in radioisotope or a major modification to equipment that affects the delivered dose. Recertification may be required in cases where a significant variance in dose delivery is indicated.

(b) *Treatment monitoring.* Treatment must be carried out under the monitoring of an inspector. This monitoring must include inspection of treatment records and unannounced inspection visits to the facility by an inspector. Facilities that carry out continual irradiation operations must notify an inspector at least 24 hours before the date of operations. Facilities that carry out periodic irradiation operations must notify an inspector of scheduled operations at least 24 hours before scheduled operations.⁶

(c) *Packaging.* Fruits and vegetables that are treated within a quarantined area must be packaged in the following manner:

(1) The cartons must have no openings that will allow the entry of fruit flies and must be sealed with seals that will visually indicate if the cartons have been opened. They may be constructed of any material that prevents the entry of fruit flies and prevents oviposition by fruit flies into the fruit in the carton.⁷

(2) The pallet-load of cartons must be wrapped before it leaves the irradiation facility in one of the following ways:

- (i) With polyethylene sheet wrap;
- (ii) With net wrapping; or

⁵ See footnote 2 of this subpart.

⁶ Inspectors are assigned to local offices of the Animal and Plant Health Inspection Service, which are listed in telephone directories.

⁷ See footnote 3 of this subpart.

⁴ Designation ISO/ASTM 51261-2002(E), "Standard Guide for Selection and Calibration of Dosimetry Systems for Radiation Processing," American Society for Testing and Materials, *Annual Book of ASTM Standards*.

(iii) With strapping so that each carton on an outside row of the pallet load is constrained by a metal or plastic strap.

(3) Packaging must be labeled with treatment lot numbers, packing and treatment facility identification and location, and dates of packing and treatment.

(d) *Dosage*. The fruits and vegetables must receive a minimum absorbed ionizing radiation dose of 150 Gray (15 krad).⁸

(e) *Dosimetry systems*. (1) Dosimetry mapping must indicate the dose needed to ensure the fruit will receive the minimum dose prescribed.

(2) Absorbed dose must be measured using an accurate dosimetry system that ensures that the absorbed dose meets or exceeds 150 Gray (15 krad).

(3) When designing the facility's dosimetry system and procedures for its operation, the facility operator must address guidance and principles from American Society for Testing and Materials (ASTM) standards.⁹

(f) *Records*. Records or invoices for each treated lot must be made available for inspection by an inspector during normal business hours (8 a.m. to 4:30 p.m., Monday through Friday, except holidays). An irradiation processor must maintain records as specified in this section for a period of time that exceeds the shelf life of the irradiated food product by 1 year, and must make these records available for inspection by an inspector. These records must include the lot identification, scheduled process, evidence of compliance with the scheduled process, ionizing energy source, source calibration, dosimetry, dose distribution in the product, and the date of irradiation.

(g) *Request for approval and inspection of facility*. Persons requesting approval of an irradiation treatment facility and treatment protocol must submit the request for approval in writing to the Animal and Plant Health Inspection Service, Plant Protection and Quarantine, Oxford Plant Protection Center, 901 Hillsboro St., Oxford, NC 27565. Before the Administrator determines whether an irradiation facility is eligible for approval, an inspector will make a personal inspection of the facility to determine whether it complies with the standards of paragraph (a) of this section.

(h) *Denial and withdrawal of approval*. (1) The Administrator will withdraw the approval of any irradiation treatment facility when the

irradiation processor requests in writing the withdrawal of approval.

(2) The Administrator will deny or withdraw approval of an irradiation treatment facility when any provision of this section is not met. Before withdrawing or denying approval, the Administrator will inform the irradiation processor in writing of the reasons for the proposed action and provide the irradiation processor with an opportunity to respond. The Administrator will give the irradiation processor an opportunity for a hearing regarding any dispute of a material fact, in accordance with rules of practice that will be adopted for the proceeding. However, the Administrator will suspend approval pending final determination in the proceeding, if he or she determines that suspension is necessary to prevent the spread of any dangerous insect infestation. The suspension will be effective upon oral or written notification, whichever is earlier, to the irradiation processor. In the event of oral notification, written confirmation will be given to the irradiation processor within 10 days of the oral notification. The suspension will continue in effect pending completion of the proceeding and any judicial review of the proceeding.

(i) *Department not responsible for damage*. This treatment is approved to assure quarantine security against Mexican fruit fly. From the literature available, the fruits authorized for treatment under this section are believed tolerant to the treatment; however, the facility operator and shipper are responsible for determination of tolerance. The Department of Agriculture and its inspectors assume no responsibility for any loss or damage resulting from any treatment prescribed or supervised. Additionally, the Nuclear Regulatory Commission is responsible for ensuring that irradiation facilities are constructed and operated in a safe manner. Further, the Food and Drug Administration is responsible for ensuring that irradiated foods are safe and wholesome for human consumption.

(Approved by the Office of Management and Budget under control number 0579-0215)

§ 305.33 Irradiation treatment of regulated articles to be moved interstate from areas quarantined for Mediterranean fruit fly.

Irradiation, carried out in accordance with the provisions of this section, is approved as a treatment for any berry, fruit, nut, or vegetable listed as a regulated article in § 301.78-2(a) of this chapter.

(a) *Approved facility*. The irradiation treatment facility and treatment protocol

must be approved by the Animal and Plant Health Inspection Service. In order to be approved, a facility must:

(1) Be capable of administering a minimum absorbed ionizing radiation dose of 225 Gray (22.5 krad) to the fruits and vegetables;¹⁰

(2) Be constructed so as to provide physically separate locations for treated and untreated fruits and vegetables, except that fruits and vegetables traveling by conveyor directly into the irradiation chamber may pass through an area that would otherwise be separated. The locations must be separated by a permanent physical barrier such as a wall or chain link fence 6 or more feet high to prevent transfer of cartons;

(3) Complete a compliance agreement with the Animal and Plant Health Inspection Service as provided in § 301.78-6 of this chapter; and

(4) Be certified by Plant Protection and Quarantine for initial use and annually for subsequent use. Recertification is required in the event that an increase or decrease in radioisotope or a major modification to equipment that affects the delivered dose. Recertification may be required in cases where a significant variance in dose delivery is indicated.

(b) *Treatment monitoring*. Treatment must be carried out under the monitoring of an inspector. This monitoring must include inspection of treatment records and unannounced inspection visits to the facility by an inspector. Facilities that carry out continual irradiation operations must notify an inspector at least 24 hours before the date of operations. Facilities that carry out periodic irradiation operations must notify an inspector of scheduled operations at least 24 hours before scheduled operations.¹¹

(c) *Packaging*. Fruits and vegetables that are treated within a quarantined area must be packaged in the following manner:

(1) The cartons must have no openings that will allow the entry of fruit flies and must be sealed with seals that will visually indicate if the cartons have been opened. They may be constructed of any material that prevents the entry of fruit flies and prevents oviposition by fruit flies into the fruit in the carton.¹²

(2) The pallet-load of cartons must be wrapped before it leaves the irradiation facility in one of the following ways:

- (i) With polyethylene sheet wrap;
- (ii) With net wrapping; or

⁸ See footnote 2 of this subpart.

⁹ See footnote 4 of this subpart.

¹⁰ See footnote 2 of this subpart.

¹¹ See footnote 6 of this subpart.

¹² See footnote 3 of this subpart.

(iii) With strapping so that each carton on an outside row of the pallet load is constrained by a metal or plastic strap.

(3) Packaging must be labeled with treatment lot numbers, packing and treatment facility identification and location, and dates of packing and treatment.

(d) *Dosage.* The fruits and vegetables must receive a minimum absorbed ionizing radiation dose of 225 Gray (22.5 krad).¹³

(e) *Dosimetry systems.* (1) Dosimetry must demonstrate that the absorbed dose, including areas of minimum and maximum dose, is mapped, controlled, and recorded.

(2) Absorbed dose must be measured using a dosimetry system that can accurately measure an adsorbed dose of 225 Gray (22.5 krad).

(3) The utilization of the dosimetry system, including its calibration and the number and placement of dosimeters used, must be in accordance with the American Society for Testing and Materials (ASTM) standards.¹⁴

(f) *Records.* Records or invoices for each treated lot must be made available for inspection by an inspector during normal business hours (8 a.m. to 4:30 p.m., Monday through Friday, except holidays). An irradiation processor must maintain records as specified in this section for a period of time that exceeds the shelf life of the irradiated food product by 1 year, and must make these records available for inspection by an inspector. These records must include the lot identification, scheduled process, evidence of compliance with the scheduled process, ionizing energy source, source calibration, dosimetry, dose distribution in the product, and the date of irradiation.

(g) *Request for approval and inspection of facility.* Persons requesting approval of an irradiation treatment facility and treatment protocol must submit the request for approval in writing to the Animal and Plant Health Inspection Service, Plant Protection and Quarantine, Oxford Plant Protection Center, 901 Hillsboro St., Oxford, NC 27565. Before the Administrator determines whether an irradiation facility is eligible for approval, an inspector will make a personal inspection of the facility to determine whether it complies with the standards of paragraph (a) of this section.

(h) *Denial and withdrawal of approval.* (1) The Administrator will withdraw the approval of any irradiation treatment facility when the

irradiation processor requests in writing the withdrawal of approval.

(2) The Administrator will deny or withdraw approval of an irradiation treatment facility when any provision of this section is not met. Before withdrawing or denying approval, the Administrator will inform the irradiation processor in writing of the reasons for the proposed action and provide the irradiation processor with an opportunity to respond. The Administrator will give the irradiation processor an opportunity for a hearing regarding any dispute of a material fact, in accordance with rules of practice that will be adopted for the proceeding. However, the Administrator will suspend approval pending final determination in the proceeding, if he or she determines that suspension is necessary to prevent the spread of any dangerous insect infestation. The suspension will be effective upon oral or written notification, whichever is earlier, to the irradiation processor. In the event of oral notification, written confirmation will be given to the irradiation processor within 10 days of the oral notification. The suspension will continue in effect pending completion of the proceeding and any judicial review of the proceeding.

(i) *Department not responsible for damage.* This treatment is approved to assure quarantine security against Mediterranean fruit fly. From the literature available, the fruits and vegetables authorized for treatment under this section are believed tolerant to the treatment; however, the facility operator and shipper are responsible for determination of tolerance. The Department of Agriculture and its inspectors assume no responsibility for any loss or damage resulting from any treatment prescribed or supervised. Additionally, the Nuclear Regulatory Commission is responsible for ensuring that irradiation facilities are constructed and operated in a safe manner. Further, the Food and Drug Administration is responsible for ensuring that irradiated foods are safe and wholesome for human consumption.

(Approved by the Office of Management and Budget under control number 0579-0088)

§ 305.34 Administrative instructions prescribing methods for irradiation treatment of certain fruits and vegetables from Hawaii.

(a) *Approved irradiation treatment.* Irradiation, carried out in accordance with the provisions of this section, is approved as a treatment for the following fruits and vegetables at the specified dose levels:

IRRADIATION FOR PLANT PESTS IN HAWAIIAN FRUITS AND VEGETABLES

Commodity	Dose (Gray)
Abiu	250
Atemoya	250
Bell pepper	250
Carambola	250
Eggplant	250
Litchi	250
Longan	250
Mango	300
Papaya	250
Pineapple (other than smooth Cayenne)	250
Rambutan	250
Sapodilla	250
Italian squash	250
Sweetpotato	400
Tomato	250

(b) *Conditions of movement.* Fruits and vegetables from Hawaii may be authorized for movement in accordance with this section only if the following conditions are met:

(1) *Location.* The irradiation treatment must be carried out at an approved facility in Hawaii or on the mainland United States. Fruits and vegetables authorized under this section for treatment on the mainland may be treated in any State on the mainland United States except Alabama, Arizona, California, Florida, Georgia, Kentucky, Louisiana, Mississippi, Nevada, New Mexico, North Carolina, South Carolina, Tennessee, Texas, or Virginia. Prior to treatment, the fruits and vegetables may not move into or through Alabama, Arizona, California, Florida, Georgia, Kentucky, Louisiana, Mississippi, Nevada, New Mexico, North Carolina, South Carolina, Tennessee, Texas, or Virginia, except that movement is allowed through Dallas/Fort Worth, Texas, as an authorized stop for air cargo, or as a transloading location for shipments that arrive by air but that are subsequently transloaded into trucks for overland movement from Dallas/Fort Worth into an authorized State by the shortest route.

(2) *Approved facility.* The irradiation treatment facility and treatment protocol must be approved by the Animal and Plant Health Inspection Service. In order to be approved, a facility must:

(i) Be capable of administering the minimum absorbed ionizing radiation doses specified in paragraph (a) of this section to the fruits and vegetables;¹⁵

(ii) Be constructed so as to provide physically separate locations for treated and untreated fruits and vegetables, except that fruits and vegetables traveling by conveyor directly into the

¹³ See footnote 2 of this subpart.

¹⁴ See footnote 4 of this subpart.

¹⁵ See footnote 2 of this subpart.

irradiation chamber may pass through an area that would otherwise be separated. The locations must be separated by a permanent physical barrier such as a wall or chain link fence six or more feet high to prevent transfer of cartons. Untreated fruits and vegetables shipped to the mainland United States from Hawaii in accordance with this section may not be packaged for shipment in a carton with treated fruits and vegetables;

(iii) Complete a compliance agreement with the Animal and Plant Health Inspection Service as provided in § 318.13-4(d) of this chapter; and

(iv) Be certified by Plant Protection and Quarantine for initial use and annually for subsequent use. Recertification is required in the event that an increase or decrease in radioisotope or a major modification to equipment that affects the delivered dose. Recertification may be required in cases where a significant variance in dose delivery is indicated.

(3) *Treatment monitoring.* Treatment must be carried out under the monitoring of an inspector. This monitoring must include inspection of treatment records and unannounced inspectional visits to the facility by an inspector. Facilities that carry out continual irradiation operations must notify an inspector at least 24 hours before the date of operations. Facilities that carry out periodic irradiation operations must notify an inspector of scheduled operations at least 24 hours before scheduled operations.¹⁶

(4) *Packaging.* (i) Fruits and vegetables that are treated in Hawaii must be packaged in the following manner:

(A) The cartons must have no openings that will allow the entry of fruit flies and must be sealed with seals that will visually indicate if the cartons have been opened. They may be constructed of any material that prevents the entry of fruit flies and prevents oviposition by fruit flies into the fruit in the carton.¹⁷

(B) The pallet-load of cartons must be wrapped before it leaves the irradiation facility in one of the following ways:

(1) With polyethylene sheet wrap;

(2) With net wrapping; or

(3) With strapping so that each carton on an outside row of the pallet load is constrained by a metal or plastic strap.

(C) Packaging must be labeled with treatment lot numbers, packing and treatment facility identification and location, and dates of packing and treatment.

(ii) Cartons of untreated fruits and vegetables that are moving to the mainland United States for treatment must be shipped in shipping containers sealed prior to interstate movement with seals that will visually indicate if the shipping containers have been opened.

(iii) Litchi and longan from Hawaii may not be moved interstate into Florida. All cartons in which litchi or longan are packed must be stamped "Not for importation into or distribution in FL."

(5) *Dosage.* The fruits and vegetables must receive the minimum absorbed ionizing radiation dose specified in paragraph (a) of this section.¹⁸

(6) *Dosimetry systems.* (i) Dosimetry must demonstrate that the absorbed dose, including areas of minimum and maximum dose, is mapped, controlled, and recorded.

(ii) Absorbed dose must be measured using a dosimeter that can accurately measure the absorbed doses specified in paragraph (a) of this section.

(iii) The number and placement of dosimeters used must be in accordance with American Society for Testing and Materials (ASTM) standards.¹⁹

(7)(i) *Certification on basis of treatment.* A certificate shall be issued by an inspector for the movement of fruits and vegetables from Hawaii that have been treated and handled in Hawaii in accordance with this section. To be certified for interstate movement under this section, litchi from Hawaii must be inspected in Hawaii and found free of the litchi fruit moth (*Cryptophlebia* spp.) and other plant pests by an inspector before undergoing irradiation treatment in Hawaii for fruit flies, and sweetpotato from Hawaii must be inspected in Hawaii and found free of the gray pineapple mealybug (*Dysmicoccus neobrevipes*) and the Kona coffee-root knot nematode (*Meloidogyne konaensis*) by an inspector before undergoing irradiation treatment in Hawaii.

(ii) *Limited permit.* A limited permit shall be issued by an inspector for the interstate movement of untreated fruits and vegetables from Hawaii for treatment on the mainland United States in accordance with this section. To be eligible for a limited permit under this section, untreated litchi from Hawaii must be inspected in Hawaii and found free of the litchi fruit moth

(*Cryptophlebia* spp.) and other plant pests by an inspector, and untreated sweetpotato from Hawaii must be inspected in Hawaii and found to be free of the gray pineapple mealybug

(*Dysmicoccus neobrevipes*) and the Kona coffee-root knot nematode (*Meloidogyne konaensis*) by an inspector.

(8) *Records.* Records or invoices for each treated lot must be made available for inspection by an inspector during normal business hours (8:00 a.m. to 4:30 p.m., Monday through Friday, except holidays). An irradiation processor must maintain records as specified in this section for a period of time that exceeds the shelf life of the irradiated food product by 1 year, and must make these records available for inspection by an inspector. These records must include the lot identification, scheduled process, evidence of compliance with the scheduled process, ionizing energy source, source calibration, dosimetry, dose distribution in the product, and the date of irradiation.

(c) *Request for approval and inspection of facility.* Persons requesting approval of an irradiation treatment facility and treatment protocol must submit the request for approval in writing to the Animal and Plant Health Inspection Service, Plant Protection and Quarantine, Center for Plant Health Science and Technology, 1017 Main Campus Drive, suite 2500, Raleigh, NC 27606. Before the Administrator determines whether an irradiation facility is eligible for approval, an inspector will make a personal inspection of the facility to determine whether it complies with the standards of paragraph (b)(2) of this section.

(d) *Denial and withdrawal of approval.* (1) The Administrator will withdraw the approval of any irradiation treatment facility when the irradiation processor requests in writing the withdrawal of approval.

(2) The Administrator will deny or withdraw approval of an irradiation treatment facility when any provision of this section is not met. Before withdrawing or denying approval, the Administrator will inform the irradiation processor in writing of the reasons for the proposed action and provide the irradiation processor with an opportunity to respond. The Administrator will give the irradiation processor an opportunity for a hearing regarding any dispute of a material fact, in accordance with rules of practice that will be adopted for the proceeding. However, the Administrator will suspend approval pending final determination in the proceeding, if he or she determines that suspension is necessary to prevent the spread of any dangerous insect infestation. The suspension will be effective upon oral or written notification, whichever is earlier, to the irradiation processor. In

¹⁶ See footnote 6 of this subpart.

¹⁷ See footnote 3 of this subpart.

¹⁸ See footnote 2 of this subpart.

¹⁹ See footnote 4 of this subpart.

the event of oral notification, written confirmation will be given to the irradiation processor within 10 days of the oral notification. The suspension will continue in effect pending completion of the proceeding and any judicial review of the proceeding.

(e) *Department not responsible for damage.* This treatment is approved to assure quarantine security against the Trifly complex and other plant pests. From the literature available, the fruits and vegetables authorized for treatment under this section are believed tolerant to the treatment; however, the facility operator and shipper are responsible for determination of tolerance. The Department of Agriculture and its inspectors assume no responsibility for any loss or damage resulting from any treatment prescribed or supervised. Additionally, the Nuclear Regulatory Commission is responsible for ensuring that irradiation facilities are constructed and operated in a safe manner. Further, the Food and Drug Administration is responsible for ensuring that irradiated foods are safe and wholesome for human consumption.

(Approved by the Office of Management and Budget under control number 0579-0198)

§§ 305.35–305.39 [Reserved]

Subpart—Treatments for Garbage

§ 305.40 Garbage treatment schedules for insect pests and pathogens.

(a) *T415-a, heat treatment.* Incinerate to ash. Caterers under compliance agreement using an incinerator for garbage must comply with the following conditions:

(1) Incinerator must be capable of reducing garbage to ash.

(2) Incinerator must be maintained adequately to ensure operation.

(b) *T415-b, dry heat or steam.* The garbage must be heated to an internal temperature of 212 °F for 30 minutes followed by burial in a landfill.

(1) The sterilizer used to perform the treatment must be capable of heating garbage to an internal temperature of 212 °F and maintaining it at that temperature for a minimum of 30 minutes.

(2) The sterilization cycle must be reevaluated and adjusted twice a year using thermocouple to recalibrate the temperature recording device. Adjusting the sterilization cycle semiannually will ensure that all garbage processed is heated to a minimum internal temperature of 212 °F for at least 30 minutes and that the temperature recording device accurately reflects the internal temperature of the sterilizer.

(3) The caterer administering the treatment under a compliance

agreement must comply with the following conditions:

(i) The operator must date and initial time/temperature records for each batch of garbage sterilized. The supervisor must review and sign each time/temperature record. The facility must retain records for 6 months for review by APHIS.

(ii) The drain in the bottom of the sterilizer must be cleaned between each cycle to ensure proper heat circulation.

(4) All reevaluations and adjustments must be observed by APHIS.

(c) *T415-c, grinding and discharge into a sewage system.* The sewage system must be approved by the Administrator upon his/her determination that the system is designed and operated in such a way as to preclude the discharge of sewage effluents onto land surface or into lagoons or other stationary waters and otherwise is adequate to prevent the spread of plant pests and livestock or poultry diseases.

§ 305.41 [Reserved]

Subpart—Miscellaneous Treatments

§ 305.42 Miscellaneous treatment schedules.

(a) *T102-b, T102-b-1, T102-b-2, soapy water and wax.* (1) The fruit must be immersed in a soapy water bath of one part soap solution (such as Deterfruit) to 3,000 parts water for 20 seconds.

(2) The soapy bath must be followed with a pressure shower rinse to remove all excess soap.

(3) The fruit must be immersed for 20 seconds in an undiluted wax coating (such as Johnson's Wax Primafresh 31 Kosher fruit coating). The wax coating must cover the entire surface of the fruit.

(b) *T102-c, warm, soapy water and brushing for durian and other large fruits such as breadfruit.* (1) Detergent (such as Deterfruit) must be added to warm water (110–120 °F) at the rate of one part detergent or soap to 3,000 parts water.

(2) The fruit must be immersed for at least 1 minute in the warm detergent water.

(3) The fruit must be scrubbed with a brush with stiff bristles to remove any insects.

(4) The fruit must be rinsed with a pressure shower to rinse the fruit free of residue (detergent and dead insects).

(5) An inspector will inspect each brushed and cleaned fruit. If any insects remain, the fruit must be retreated or destroyed.

(c) *Three alternative treatments for plant material not tolerant to*

fumigation. Treatments are based on the character of the plant material and the type of pests that may be found.

(1) T201-p-1: For plant pests, except scale insects, hand removal of pests or infested parts of plants followed by a detailed inspection to ensure plants are pest free may be employed;

(2) See hand removal plus malathion-carbaryl chemical dip T201-p-2 (§ 305.10(d)) for alternative treatment; or

(3) T201-p-3: Following the hand removal of the visible plant pests or infested plant parts, the plant material must be treated with hot water at 112 °F for 20 minutes. This treatment is not effective against mature scale insects.

PART 318—HAWAIIAN AND TERRITORIAL QUARANTINE NOTICES

■ 26. The authority citation for part 318 continues to read as follows:

Authority: 7 U.S.C. 7701–7772; 7 CFR 2.22, 2.80, and 371.3.

■ 27. Section 318.13–4a is amended as follows:

■ a. By removing paragraphs (a) and (e).

■ b. By redesignating paragraphs (b) through (d) as paragraphs (a) through (c), respectively.

■ c. By revising newly redesignated paragraph (a) to read as set forth below.

§ 318.13–4a Administrative instructions authorizing the movement from Hawaii of frozen fruits and vegetables.

(a) The Administrator of the Animal and Plant Health Inspection Service, pursuant to the authority contained in §§ 318.13–2(b) and 318.13–4(b), approves the process of quick freezing in accordance with part 305 of this chapter as a treatment for all fruits and vegetables described in § 318.13, except as otherwise provided in paragraph (c) of this section. Such frozen fruits and vegetables may be certified for movement from Hawaii into or through any other Territory, State, or District of the United States.¹

* * * * *

§ 318.13–4b [Amended]

■ 28. Section 318.13–4b is amended as follows:

■ a. In paragraph (b), by removing the words “the Plant Protection and Quarantine (PPQ) Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place.

■ b. In paragraph (f), by removing the words “the PPQ Treatment Manual” and

¹ Applications for certificates to move frozen fruits and vegetables from Hawaii under this subpart may be made to Plant Protection and Quarantine Programs, P.O. Box 9067, Honolulu, HI 96820.

adding the words “part 305 of this chapter” in their place.

§ 318.13–4f [Amended]

■ 29. Section 318.13–4f, paragraph (c), is amended by removing the address “Oxford Plant Protection Center, 901 Hillsboro St., Oxford, NC 27565” and adding the address “Center for Plant Health Science and Technology, 1017 Main Campus Drive, suite 2500, Raleigh, NC 27606” in its place.

§ 318.13–11 [Amended]

■ 30. Section 318.13–11 is amended by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place; and by removing the last sentence.

§ 318.58 [Amended]

■ 31. In § 318.58, paragraph (b) is amended by removing the word “Deputy” and the words “of the Plant Protection and Quarantine Programs”; and by removing the word “he” and adding the words “the Administrator” in its place, both times it occurs.

§ 318.58–2 [Amended]

■ 32. Section 318.58–2 is amended as follows:

■ a. In paragraph (b)(1), in the entry for mangoes, by removing the words “the Plant Protection and Quarantine Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place; and in footnote 1, by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place.

■ b. In paragraph (b)(2), by removing the word “him” and adding the words “the inspector” in its place; and by removing the word “he” and adding the words “the inspector” in its place.

■ c. In paragraph (b)(4), by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place.

§ 318.58–4 [Amended]

■ 33. Section § 318.58–4 is amended as follows:

■ a. In paragraph (a), by removing the word “he” and adding the words “the inspector” in its place.

■ b. In paragraph (b), first sentence, by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place; and by removing the second sentence.

■ 34. Section § 318.58–4a is amended as follows:

■ a. By removing paragraphs (a) and (e).

■ b. By redesignating paragraphs (b) through (d) as paragraphs (a) and (c), respectively.

■ c. In newly redesignated paragraph (c), by removing the words “Deputy Administrator of the Plant Protection and Quarantine Programs” and by adding the word “Administrator” in their place.

§ 318.58–4a Administrative instructions authorizing the movement from Puerto Rico of frozen fruits and vegetables.

(a) The Administrator of the Animal and Plant Health Inspection Service, pursuant to the authority contained in §§ 318.58–2 and 318.58–3, approves the process of quick freezing in accordance with part 305 of this chapter as a treatment for all fruits and vegetables described in § 318.58–2, except as otherwise provided in paragraph (c) of this section. Such frozen fruits and vegetables may be certified for movement from Puerto Rico into or through any other Territory, State, or District of the United States in accordance with § 318.58–3.²

* * * * *

§ 318.58–11 [Amended]

■ 35. Section 318.58–11 is amended by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place, and by removing the last sentence.

§ 318.82 [Amended]

■ 36. In § 318.82, paragraph (b) is amended by adding the words “or she” immediately after the word “he”, both times it occurs.

PART 319—FOREIGN QUARANTINE NOTICES

■ 37. The authority citation for part 319 continues to read as follows:

Authority: 7 U.S.C. 450 and 7701–7772; 21 U.S.C. 136 and 136a; 7 CFR 2.22, 2.80, and 371.3.

§ 319.8 [Amended]

■ 38. In § 319.8(a), the second sentence is amended by adding the words “or she” immediately after the word “he”, both times it occurs.

§ 319.8–3 [Amended]

■ 39. In § 319.8–3, paragraphs (a) and (b) are amended by adding the words “or she” immediately after the word “he”.

² Further information concerning the movement of frozen fruits and vegetables from Puerto Rico may be obtained from the Plant Protection and Quarantine Programs, Room 4, Post Office Bldg., P.O. Box 3386, San Juan, PR 00901.

§ 319.8–6 [Amended]

■ 40. In § 319.8–6, the third sentence is amended by removing the word “him” and adding the words “the inspector” in its place.

§ 319.8–24 [Amended]

■ 41. In § 319.8–24, paragraphs (a), (b), and (c) are amended by adding the words “or her” immediately after the word “his”.

§ 319.37–4 [Amended]

■ 42. In § 319.37–4, paragraph (b) is amended by removing the words “the Plant Protection and Quarantine Treatment Manual” and by adding the words “part 305 of this chapter” in their place, and by removing footnote 6.

§ 319.37–5 [Amended]

■ 43. In § 319.37–5, paragraph (e) is amended by redesignating footnote 7 as footnote 6.

■ 44. Section 319.37–6 is amended as follows:

■ a. In paragraph (a), by removing footnote 8.

■ b. In paragraphs (a), (b), (c), and (f), by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place.

■ c. In paragraph (d)(1), by removing the words “the PPQ Treatment Manual” and adding the words “part 305 of this chapter” in their place.

■ d. In paragraph (d)(2), by redesignating footnote 9 as footnote 8, and by revising newly redesignated footnote 8 to read as follows:

§ 319.37–6 Specific treatment and other requirements.

*	*	*	*	*
(d)	*	*	*	
(2)	*	*	*3	
*	*	*	*	*

§ 319.37–7 [Amended]

■ 45. In § 319.37–7, paragraph (e), footnote 10 is redesignated as footnote 9.

§ 319.37–8 [Amended]

■ 46. In § 319.37–8, paragraph (e), footnote 11 is redesignated as footnote 10.

§ 319.37–13 [Amended]

■ 47. In § 319.37–13, paragraph (a), footnote 12 is redesignated as footnote 11.

§ 319.40–1 [Amended]

■ 48. Section 319.40–1 is amended by removing the definition of *Treatment Manual*.

³ Criteria for the approval of heat treatment facilities are contained in part 305 of this subpart.

§ 319.40–5 [Amended]

■ 49. Section 319.40–5 is amended as follows:

■ a. In paragraph (g)(1), by removing the words “the Plant Protection and Quarantine Treatment Manual, which is incorporated by reference at § 300.1” and by adding the words “part 305” in their place.

■ b. In paragraph (g)(2)(i) and paragraph (i), by removing the words “the Plant Protection and Quarantine Treatment Manual,” and adding the words “part 305 of this chapter,” in their place.

■ 50. Section 319.40–7 is amended as follows:

■ a. In paragraphs (f)(1)(i) and (f)(3)(i), by removing the words “the Treatment Manual” and adding the words “part 305 of this chapter” in their place.

■ b. By revising paragraphs (f)(1)(ii), (f)(2), and (f)(3)(ii) to read as set forth below.

§ 319.40–7 Treatments and safeguards.

* * * * *

(f) * * *

(1) * * *

(ii) *T–404 schedule*. The entire log and the ambient air must be at a temperature of 5 °C or more above throughout fumigation. The fumigation must be conducted using schedule T–404 contained in part 305 of this chapter.

(2) *Lumber*. The lumber and the ambient air must be at a temperature of 5 °C or more above throughout fumigation. The fumigation must be conducted using schedule T–404 contained in part 305 of this chapter.

(3) * * *

(ii) If the ambient air and the regulated articles other than logs or lumber are at a temperature of 4.5–20.5 °C throughout fumigation, the fumigation must be conducted using schedule T–404 contained in part 305 of this chapter.

* * * * *

§ 319.40–8 [Amended]

■ 51. In § 319.40–8, paragraph (a) is amended by removing the words “the Treatment Manual” and adding the words “part 305 of this chapter” in their place.

§ 319.40–9 [Amended]

■ 52. In § 319.40–9, paragraph (b)(2) is amended by removing the words “the Treatment Manual” and adding the words “part 305 of this chapter” in their place.

§ 319.56–2 [Amended]

■ 53. In § 319.56–2, paragraph (k) is amended by removing the citation “§ 305.2(a)” and adding the citation “§ 305.31(a)” in its place; and by

removing the words “or the Plant Protection and Quarantine Treatment Manual”.

■ 54. Section 319.56–2c is revised to read as follows:

§ 319.56–2c Administrative instructions authorizing the importation of frozen fruits and vegetables.

(a) The Administrator, under authority contained in § 319.56–2, prescribes quick freezing in accordance with part 305 of this chapter as a satisfactory treatment for all fruits and vegetables enterable under permit under § 319.56. Such frozen fruits and vegetables may be imported from any country under permit and in compliance with §§ 319.56–1 through 319.56–7 (exclusive of non-related administrative instructions), at such ports as authorized in the permits.

(b) The importation from foreign countries of frozen fruits and vegetables is not authorized when such fruits and vegetables are subject to attack in the area of origin, by plant pests that may not, in the judgment of the Administrator, be destroyed by quick freezing.

§ 319.56–2d [Amended]

■ 55. In § 319.56–2d, paragraph (a) is amended by removing the words “the Plant Protection and Quarantine (PPQ) Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place; and by removing the words “the PPQ Treatment Manual” and adding the words “part 305 of this chapter” in their place.

§ 319.56–2e [Amended]

■ 56. In § 319.56–2e, paragraph (b), is amended by removing the words “assure himself of” and adding the word “ensure” in their place.

§ 319.56–2g [Amended]

■ 57. In § 319.56–2g, paragraph (a), is amended by removing the words “the Plant Protection and Quarantine Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place.

§ 319.56–2h [Amended]

■ 58. Section 319.56–h is amended as follows:

■ a. In paragraph (a)(2), by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place.

■ b. In paragraph (b), by removing the words “the Plant Protection and Quarantine Treatment Manual, which is incorporated by reference at § 300.1” and

adding the words “part 305” in their place.

■ c. In paragraph (d), by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305” in their place.

§ 319.56–2i [Amended]

■ 59. Section 319.56–2i is amended as follows:

■ a. In paragraph (a), by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place, and by removing the last sentence.

■ b. In paragraph (b), by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place.

§ 319.56–2j [Amended]

■ 60. Section 319.56–2j is amended as follows:

■ a. In paragraph (a)(2), by removing the words “the PPQ Treatment Manual, which is incorporated by reference in § 300.1 of this chapter” and adding the words “part 305 of this chapter” in their place.

■ b. In paragraph (a)(4), by removing the words “the PPQ Treatment Manual” the first time they occur and adding the words “part 305 of this chapter must” in their place.

■ c. In paragraph (a)(6), by removing the words “the PPQ Treatment Manual” and adding the words “part 305 of this chapter” in their place.

■ 61. In § 319.56–2k, paragraph (a), is revised to read as follows:

§ 319.56–2k Administrative instructions prescribing method of fumigation of field-grown grapes from specified countries.

* * * * *

(a) *Continental countries of southern and middle Europe, North Africa, and the Near East*. As used in this section, the term “continental countries of southern and middle Europe, North Africa, and the Near East” means Algeria, Armenia, Austria, Azerbaijan, Belarus, Bulgaria, Cyprus, Egypt, Estonia, France, Georgia, Germany, Greece, Hungary, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Libya, Lithuania, Luxembourg, Portugal, Republic of Moldova, Russian Federation, Spain, Switzerland, Syria, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

* * * * *

§ 319.56–2n [Amended]

■ 62. In § 319.56–2n, the introductory text is amended by removing the citation

“319.56–2n” and adding the citation “319.56–2m” in its place.

§ 319.56–2p [Amended]

■ 63. In § 319.56–2p, paragraph (f) is amended by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place, and by removing the second and third sentences.

§ 319.56–2q [Amended]

■ 64. In § 319.56–2q, paragraph (b) is amended by removing the words “the Plant Protection and Quarantine Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place.

§ 319.56–2r [Amended]

■ 65. Section 319.56–2r is amended as follows:

■ a. In paragraphs (c)(3)(iii) and (d)(1)(ii) by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place, each time they occur.

■ b. In paragraph (g)(2), by removing the words “the Plant Protection and Quarantine Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place.

§ 319.56–2s [Amended]

■ 66. Section 319.56–2s is amended as follows:

■ a. In paragraph (d)(1)(i), by removing the words “the Plant Protection and Quarantine Treatment Manual” and adding the words “part 305 of this chapter” in their place each time they occur.

■ b. In paragraph (f)(2), by removing the words “the Plant Protection and Quarantine Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place.

§ 319.56–2v [Amended]

■ 67. In § 319.56–2v, paragraph (c) is amended by removing the citation “§ 319.56–2d(f)” and adding the citation “§ 319.56–2(f)” in its place; by removing the words “the Plant Protection and

Quarantine (PPQ) Treatment Manual” and “PPQ Treatment Manual” and adding the words “part 305 of this chapter” in their place; and by removing the words “the PPQ Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place.

§ 319.56–2x [Amended]

■ 68. In § 319.56–2x, paragraph (a), introductory text, is amended by removing the words “the Plant Protection and Quarantine Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place; and by removing the last sentence.

§§ 319.56–2cc, 319.2dd, 319.56–2ee, and 319.56–2jj [Amended]

§ 319.56–2cc [Amended]

■ 69. In § 319.56–2cc, paragraph (a) is amended by removing the words “the Plant Protection and Quarantine Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place.

§ 319.56–2dd [Amended]

■ 70. In § 319.56–2dd, paragraph (d)(1) is amended by removing the words “the PPQ Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place.

§ 319.56–2ee [Amended]

■ 71. In § 319.56–2ee, paragraph (b) is amended by removing the words “the Plant Protection and Quarantine Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place.

§ 319.56–2jj [Amended]

■ 72. In § 319.56–2jj, paragraph (g) is amended by removing the words “the Plant Protection and Quarantine (PPQ) Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place.

§ 319.56–2mm [Amended]

■ 73. Section 319.56–2mm is amended as follows:

■ a. In paragraph (b), by removing the words “the Plant Protection and Quarantine (PPQ) Treatment Manual, which is incorporated by reference at § 300.1 of this chapter” and adding the words “part 305 of this chapter” in their place.

■ b. In paragraph (d)(4)(ii)(B), by removing the words “the PPQ Treatment Manual” and adding the words “part 305 of this chapter” in their place.

■ c. In paragraph (e), by removing the words “PPQ Treatment Manual, which is incorporated by reference in § 300.1 of this chapter” and adding the words “part 305 of this chapter” in their place.

§ 319.56–5 [Amended]

■ 74. In § 319.56–5, paragraphs (a) and (b) are amended by adding the words “or her” immediately after the word “his” both times it occurs.

§ 319.69–4 [Amended]

■ 75. Section 319.69–4 is amended by removing the word “he” and adding the words “the inspector” in its place each time it occurs.

§ 319.75–4 [Amended]

■ 76. Section 319.75–4 is amended as follows:

■ a. By removing footnote 6.

■ b. In the introductory paragraph, by removing the words “under the supervision of an inspector”; and by removing the words “as set forth below” and adding the words “in accordance with part 305 of this chapter” in their place.

■ c. By removing paragraphs (a), (b), and (c).

§ 319.77–4 [Amended]

■ 77. In § 319.77–4, paragraphs (a)(2)(i) and (b)(2)(i)(A) are amended by removing the words “the Plant Protection and Quarantine Treatment Manual, which is incorporated by reference at § 300.1” and adding the words “part 305” in their place.

Done in Washington, DC, this day 5th of May 2005.

Administrator, Animal and Plant Health Inspection Service.

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