Work Plan for Export of Fresh Fruits from Viet Nam to Japan

1. Objective

The purpose of this Work Plan is to clarify the requirements and responsibilities of the National Plant Protection Organization of Viet Nam and Japan regarding the export of Vietnamese fresh fruits destined for Japan (hereinafter referred to as "fresh fruits") for which the application of disinfestation treatment is the primary quarantine measure. The detail of the requirements is specified in the check sheets attached to this work plan.

2. Category of fresh fruits and disinfestation treatment method

The combination of the category of fresh fruits and corresponding disinfestation treatment methods subject to this work plan is as follows.

Category of Fresh fruits	Disinfestation treatment method	Quarantine pest(s) subject to disinfestation treatment
Mango (Variety of "Cat Chu" only)	Vapour Heat Treatment (VHT)	*Bactrocera dorsalis* species complex
Dragon fruit (*Hylocereus undatus and Hybrid of Hylocereus undatus and Hylocereus costaricensis* only)		*Bactrocera cucurbitae*
Lychee (Variety of "Thieu" only)	Methyl bromide fumigation	*Bactrocera dorsalis* species complex
Longan	Cold treatment (CT)	*Bactrocera dorsalis* species complex

3. Responsibility

3.1 Ministry of Agriculture and Rural Development, Socialist Republic of Viet Nam (MARD)

-to register orchards, disinfestation treatment facilities and storage and packing areas, and to instruct the manager(s) of each facility and storage and packing area.

- to supervise disinfestation treatment and packing work

- to conduct export inspection

- to confirm the labelling of packages

- to issue phytosanitary certificates

-to provide information regarding the compliance status of export requirements to MAFF

- to request audit by MAFF inspector, to cooperate with the audit and born the cost for audit
- to keep relevant documents and records

3.2 Ministry of Agriculture, Forestry and Fisheries, Japan (MAFF)

- to dispatch MAFF inspector for audit
- to provide information to MARD when significant problem is identified

4. Identity preserved handling

In order to prevent the species or varieties subject to this work plan being mixed with other species or varieties, as well as to identify the relevant orchards when the other species or varieties are found in the consignment exported to Japan, MARD registers the orchards of the fresh fruits, assigns a registration code to each orchard, and ensures that this code is distributed with the fresh fruits harvested in the orchard.

5. Registration

(1) MARD inspector annually confirms that disinfestation treatment facilities and storage and packing areas (limited to those used for post-disinfestation packing) of fresh fruits meet the conditions specified in the check sheets (Annex 1). If confirms, MARD inspector signs the check sheet and keeps it until the next audit by MAFF inspector.

(2) MARD then registers these facilities and areas, assigns a registration code to each of them, compiles them into a form in Annex 2, and submits it to MAFF at least one month prior to the start of the audit.

(3) MARD revokes the registration if it confirms that registered facility or area no longer meets the conditions for registration.

(4) In case of additional registration of the facility or area, or revocation of them after the submission of the form in Annex 2, MARD immediately informs MAFF of the case.

(5) When registering a new disinfestation treatment facility, MARD provides MAFF its relevant information including the layout of the facility, specification of disinfestation treatment equipment, etc. at least one month prior to the start of its operation.

6. Disinfestation treatment

(1) MARD inspector supervises disinfestation treatment, confirms that it is properly performed according to the conditions specified in the check sheets (Annex 3), and signs the check sheet when it is properly performed.

(2) MARD inspector hands over the check sheet, along with the record of disinfestation treatment, to the facility manager and instructs them to keep it until the next audit by MAFF inspector.

(3) If the disinfestation treatment is not properly performed, MARD should not approve the export of fresh fruits that have been disinfested.

7. Packing work

(1) MARD inspector supervises the packing work, confirms that the work meets the conditions specified in the check sheet in Annex 4 (in case of pre-disinfestation packing) or Annex 5 (in case of post-disinfestation packing), and signs the check sheet when it is properly performed.

(2) MARD inspector hands over the check sheet to the storage and packing area manager and instructs them to keep it until the next audit by MAFF inspector.

(3) If the packing is not properly performed, MARD should not approve the export of fresh fruits that have been packed.

8. Export inspection

(1) MARD inspector conducts export inspection according to the check sheet in Annex 6 and signs the check sheet after confirming all items in the check sheet have been addressed.

(2) In case live quarantine pests specified by MAFF are not detected in the consignment, MARD inspector issues phytosanitary certificates with additional declaration that disinfestation treatment is carried out and the fresh fruit is free from quarantine pests (*B. dorsalis* and/or *B. cucurbitae*) . In addition, MARD inspector prepares a ledger containing information related to the issued phytosanitary certificate (its number, place of production, plant name, quantity, date of its issuance, etc.), and keeps it together with the record of export inspections until the next audit by MAFF inspector.

(3) If live *B. dorsalis* or *B. cucurbitae* is detected, MARD suspends export inspection for all consignments containing the fresh fruits of the same category, as well as for all consignments containing the fresh fruits derived from the same disinfestation treatment facility, and investigates the cause of the detection.

(4) The suspension continues until the cause is identified and MAFF confirms that appropriate corrective actions have been taken. In case MAFF confirms that the cause is attributable to a particular registered disinfestation treatment facility, the export inspection to the consignments derived from the other registered disinfestation treatment facilities resumes without delay, even though the cause is not clearly revealed.

(5) If live quarantine pests specified by MAFF are detected in the consignment, MARD should not approve the export of the consignment to Japan.

9. Import inspection

(1) The consignment is allowed to be imported into Japan when it is confirmed by MAFF's import inspection that there are neither any live quarantine pests nor

problems with packages and labels in the consignment.

(2) If live *B. dorsalis* or *B. cucurbitae* is detected in the consignment, MAFF returns or destroys the consignment and informs MARD of the detection. MARD then suspends export inspection for all consignments containing the fresh fruit of the same category , as well as for all consignments containing the fresh fruits derived from the same disinfestation treatment facility.

(3) The suspension continues until the cause is identified and MAFF confirms that appropriate corrective actions have been taken. In case MAFF confirms that the cause is attributable to a particular registered disinfestation treatment facility, the export inspection to the consignments derived from the other registered disinfestation treatment facilities resumes without delay, even though the cause is not clearly revealed.

(4) If live quarantine pests other than *B. dorsalis* or *B. cucurbitae* are detected, the consignment is returned, destroyed or disinfested.

10. Audit

10.1 Timing and dispatch request

(1) MAFF conducts audit once a year in principle, during the export season. Its timing and duration is determined upon consultation between MARD and MAFF.

(2) MARD requests MAFF in writing to dispatch MAFF inspector at least 30 days before the dispatch. The request includes theschedule which have been agreed by both side in advance. Cost for audit is born by Viet Nam side.

10.2 Method

Audit is conducted according to the following method.

- Verification of registered disinfestation treatment facilities and storage and packing areas and their equipment.
- Confirmation of check sheets and other documents specified in this work plan.
- Interview to managers of registered disinfestation treatment facilities, storage and packing areas and MARD inspectors.
- The number of registered disinfestation treatment facilities and storage and packing areas to be visited for each category of fresh fruit is one-third or less (if the number of one-third is not more than three, the number is three) of all registered facilities and areas respectively. Regarding newly registered disinfestation treatment facilities and registered disinfestation treatment facilities that MAFF has requested to improve, MAFF inspector will supervise their treatment process.
- MARD cooperates with MAFF inspector so that audit is conducted safely and smoothly, by ensuring security, transportation and communication etc. during his/her stay.
- MAFF inspector explains the result of audit before leaving Viet Num.

10.3 Contingency plan

MAFF inspector immediately informs MARD any problem if he/she considers it to be significant. In case MARD considers the problem is significant, MARD suspends the exports from related registered disinfestation treatment facility or registered storage and packing area and resumes them after MAFF confirms that corrective action has been undertaken.

11. Revision

This work plan is revised under mutual agreement, based on a proposal in writing from either MARD or MAFF.

Signature (date)

Annex 1 Check sheet for registration of disinfestation treatment facility and storage and packing area

Annex 2 List of registered disinfestation treatment facility, storage and packing area

Annex 3 Check sheet for disinfestation treatment

Annex 4 Check sheet for management of packing area and packing work (Longan and Lychee (in case of Lychee, when packing before disinfestation treatment))

Annex 5 Check sheet for management of packing area and packing work (Mango, Dragon fruit and Lychee (in case of Lychee, when packing after disinfestation treatment))

Annex 6 Check sheet for export inspection

*Different forms can be used as long as they have the same contents.

Annex 1

Check sheet for registration of disinfestation treatment facility and storage and packing area

Check Sheet for Vapor Heat Treatment Facility

Name of Vapor Heat Treatment (VHT) facility:
Address:
Inspection date:

Inspection Items	Results	Remarks
Inspection of vapor heat treatment (VHT) facilities are conducted by MARD every year before the operation of facilities start (if facilities are being used all year around, at least once a year), when the facilities upgraded or repaired or MARD/MAFF deem it necessary.		
I. VHT facility conditions		
1. Automatic temperature and humidity recording device installed.		
2. Measuring room temperature and room humidity.		
3. Capable of measuring the following temperatures of the loaded fresh fruits. <In the case of VHT facility that has a differential pressure fan for each unit that loads pallets on which crates are placed> - The center temperature of the fresh fruit of each unit <In the case of VHT facility equipped with a differential pressure fan for multiple units on which pallets are loaded> - The center temperature of the upper, middle and lower levels of loaded fresh fruits <In the case of VHT facility equipped with a horizonal air stream type chamber> - The center temperature of the upper, middle and lower levels of loaded fresh fruits		
II. Inspection items		
A. Thermal sensor calibration (Conduct in accordance with the Attachment)		
B. Chamber test The test is performed to confirm the capacity of the VHT chamber to maintain the regulated temperature and humidity. The test is conducted without fresh fruits.		
1. Empty crates are loaded to the maximum in the VHT chamber. <In the case of VHT facility that has a differential pressure fan for each unit that loads pallets on which crates are placed> - A fruit temperature sensor is installed in the crate closest to the warm air outlet (vent) for each unit. <In the case of VHT facility equipped with a differential pressure fan for multiple units on which pallets are loaded> - A fruit temperature sensor is installed in the crate closest to the warm air outlet (vent). <In the case of VHT facility equipped with a horizonal air stream type chamber> - A fruit temperature sensor is installed in the crate closest to the warm air outlet (vent).		
2. The temperature sensor is installed so that the temperature detection point does not touch the inner wall of the crate.		
3. The gauze covering the wet bulb temperature sensor is sufficiently immersed in water. The detection point of the wet bulb temperature sensor is not directly immersed in water. If the gauze has become old, replace it with a new one.		

	4. Thermo-hygrometer records are taken from when heating starts and confirms to meet the following conditions by heating the VHT facility. - The temperature sensors installed are higher than the following specific temperature. Temperature increases are stable and there is no abnormal difference of temperature increase among units. Facility only for dragon fruit: 46.5°C Facility for Mango: 47.0°C - Humidity within the chamber reaches and maintains 90% or higher when the specific temperature is attained.		

C. Running test

The test is performed to identify the cold spot, i.e. pint at which increase of fruit temperature is the slowest. The test is conducted for each type of fresh fruit (dragon fruits and mangoes) .A loaded quantity of fruits at this test is a maximum load quantity for commercial treatments. The tested fruits could be exported to Japan if it is confirmed after the test that the running test was and conducted in accordance with the prescribed treatment conditions.

The running test is conducted during either of the following times (check the period of the test).

- ☐ Before the export season starts (including before the new facility starts to be used)
- ☐ Annual testing during year-round use
- ☐ When the facility is upgraded or repaired
- ☐ When the maximum load quantity changes
- ☐ When the method of fruit loading changes
- ☐ When crates that had been used replace with a new model

1. Crate types are uniform, with no shock-absorbing mat or other material installed inside		
2. Fresh fruits with a fruit temperature sensor inserted are the largest and heaviest fruit available, and of the same size, hardness and other characteristics. Insert the sensor that the detection point is to be at the center of fruit. If there are seeds within the fruit, the sensor is inserted to make contact with the seeds where possible.		
3. The number of fruits inserted with the fruit temperature sensor and the installation position in the container are as follows. < In the case of VHT facility that has a differential pressure fan for each unit that loads pallets on which crates are placed and HP company HVT facility> －A total of 15 or more fruit temperature sensors are installed at the center of the fruit where the temperature rise is expected to be slow, including the four corners and the center of the top, middle, and bottom of the fruits loaded for each unit. < In the case of VHT facility equipped with a differential pressure fan for multiple units on which pallets are loaded (excluding HP company VHT facility) > －Fruits are loaded in crates, and a total of 15 fruit temperature sensors are installed at the four corners and center of each unit (stack) (top, middle, and bottom). (Depending on the type of the VHT camber, the arrangement may be different.) <In the case of VHT facility equipped with a horizonal air stream type chamber> －When fruits are loaded throughout the facility, temperature sensors are installed in the center of the fruit in areas where a slow temperature rise is expected.		
4. Record the arrangement of fresh fruits loaded in crates for each unit.		
5. Fruit temperatures are measured and recorded in 5 minutes intervals from when heating is started using saturated vapor until the following specific temperature has been attained and maintained for all fruits with a fruit temperature sensor inserted.		

- Dragon fruit: 46.5°C - Mango: 47.0°C		
6. Identify the cold spot for each unit and create a sensor location sheet.		
7. Record the quantity of fruits in which the test was conducted in the remarks column.		
【In case of extracting units and performing this test, enter the following:】 In the case that it is a VHT chamber that has a differential pressure fan for each unit accommodating crates, there is no problem with the temperature and humidity rise and the temperature distribution in the unit, and there is also no performance difference among the units*, all of which are indicated as a result of the chamber test, the unit (stack) can be extracted and a running test can be performed. Note:* "no performance difference among the units" means the following cases: In the chamber test, after the sensors of all the units reached the specified temperature, the constant value control operation was performed for 20 minutes, and the difference between the average values of the sensors of each unit during that period was within 1 °C.		
1. Extract more than 1/3 units so that they are even, and taking into account fluctuations in the chamber temperature, as well as position, when conducting the chamber test (note that if the number of 1/3 of the extracted units are less than three, extracts three units, and if the total number of units is 3 or less, extract them all). [When fresh fruits are used over for the running test] (1) The fruits temperature has returned to room temperature. (2) The fresh fruits to insert a thermal sensor is new or not be inserted before.		
2. Units not extracted are loaded pallets onto empty crates, and the pressure differential fan operates.		
III. Related data and information		
At the inspection of the VHT facility, MARD inspector requests the operator to submit documents of the following 1., in order to check for any discrepancies between the submitted documents and the actual conditions of the VHT facility (if there have been changes, the operator submits updated layout drawings and other diagrams without delay). After completing the inspection of the VHT facility, attach the following data and/or document of 1, 2, 3 and 4 to this check sheet and keep it until next audit by MAFF. 1. Layout drawings of VHT facility (floor plans, including fruit delivery /shipment doors, treating area, etc. photos for information) 2. Sensor location sheets at the chamber test and running test 3. Temperature record sheets (copy) at both the chamber test and running test 4. Sensor calibration records (copy) and check sheet for thermal sensor calibration (Annex)		

Signature: MARD Inspector

（Attachment）

Check sheet for Thermal Sensor Calibration

Name of Vapor Heat Treatment (VHT) facility:
Inspection date:

Inspection items	Results	Remarks
Calibration of thermal sensors is conducted before the export season starts, when upgrading or repairing a VHT facilities, MARD/MAFF deem it necessary or regularly once per month after start of the facilities use.		
I. Implementation timing		
1. Before the export season starts (include before the new facility start to be used)		
2. When upgrading or repairing a registered VHT facility		
3. When replacing or adjusting a temperature sensor (replaced or adjusted sensors only)		
4. When changing the connection with the thermo-hygrometer recorder, or temperature sensor		
5. Regular calibrations (once per month [generally 28 to 35-day intervals])		
II. Confirmation of a standard thermometer		
Confirm that a standard thermometer is provided with a calibration certificate that it has been inspected by an official agency or research institute, and that the period of the calibration certification is valid. Note that if the calibration certificate does not list the period of certification, the thermometer is required a recalibration 3 years after being calibrated previously.		
III. Calibration method		
1. Place the probe and standard thermometer together into water bath heated to the following temperature (specified temperature) and maintain the standard thermometer temperature at the target temperature by adjusting the temperature of the water bath. - Facility for Dragon fruit only: 46.5℃ - Facility for mango: 47.0℃		
2. After the temperature is stabilized for 30 minutes, measure and record the temperature of the temperature probe by a temperature logger, once every 5 minutes, repeatedly for 3 times 0, 5 and 10 minutes) and: (a) In the case the temperature sensor indicates the same value two or more times, calibrate the temperature sensor using the value. (b) If different values are obtained after conducting 3 measurements, conduct another 2 measurements and calibrate the thermal sensor using temperatures that with the same values acquired 2 times or more. In the case the temperature sensor indicates two different values twice each, calibrate the temperature sensor using the higher value.		
3. If temperature sensor readings exceed the specified temperature by more than ± 0.3 ° C or a sensor has all different readings in all the above measurements, the sensor is replaced.		
IV. Sealing the reading adjustment panel of the automatic temperature recording device		
Seal the reading adjustment panel after each calibration.		
V. Storage of the record of calibration		
MARD inspector records and signs each temperature sensor calibration record for each calibration, and the VHT facility operator keeps it.		

Signature: MARD Inspector

Check sheet for Methyl Bromide Fumigation Facility

Name of Fumigation facility:
Location:
Inspection date:

Inspection items	Results	Remarks
Inspection of fumigation facilities are conducted by MARD every year before the operation of facilities start , when the facilities upgraded or repaired, MARD/MAFF deem it necessary.		
I. Conditions for fumigation facility		
1. It is airtight enough to maintain a constant gas concentration during fumigation.	(Described in **II**)	
2. The structure is able to measure the gas concentration inside the fumigation chamber from the outside.	(Described in **III**)	
3. Equipped with a gas agitation device and a device that discharges gas immediately after disinfestation is completed in the fumigation chamber.		
4. Equipped with a methyl bromide dosing device.		
5. Equipped with a device that can measure the temperature inside the fumigation chamber from the outside at any time.		
6. (In the case of a facility where the airtightness of the fumigation chamber is confirmed by the pressure drop method (**II** -2 or 3)) Equipped with a device that can measure the pressure inside the fumigation chamber from the outside at any time.		
II. Confirmation of airtightness The airtightness of the fumigation chamber is confirmed by one of the following methods.		
1. When empty fumigation is performed using 10 g of methyl bromide per 1 m^3 of the internal volume of the fumigation chamber and the gas concentrations at the upper, middle, and lower points in the chamber space are measured 48 hours later, the average measured value is 70% or more of the amount used. In addition, the details of the survey is conducted as follows. -When calculating the volume of methyl bromide to be applied, the coefficient (ml / g) for converting weight to volume is be 0.577.		
2. After raising the pressure in the fumigation chamber to 500 pascals, it takes more than 22 seconds for it to drop to 50 pascals.		
3. After raising the pressure in the fumigation chamber to 250 pascals, it takes more than 60 seconds for it to drop to 25 pascals.		
III. Confirmation of gas concentration measuring equipment		
1. The pipes used to measure the gas concentration are as follows. ☐ The material with low adhesion. ☐ The measurement points are installed in the three spaces upper, middle, and lower the center of the fumigation chamber (the piping for measuring the gas concentration does not have to be in the center of the facility).		
2. Confirm that the gas concentration measuring devices properly calibrated by the calibration certificate.		
IV. Structural survey of facility and other equipment		
1. Equipment for measuring the temperatures inside the fumigation chamber and the fresh fruits is properly calibrated.		
2. (Only for facility where airtightness is confirmed by the pressure drop method) The pressure gauge that measures the pressure inside the fumigation chamber is properly calibrated.		
3. The dosage measuring device (dispenser or weigh scale) equipped with the methyl bromide dosing device properly operates.		
V. Related data and information		

	At the inspection of the fumigation treatment facility, MARD inspector requests the business operator to submit the following documents from 1. to 4. and in order to check for any discrepancy between the submitted documents and the actual condition of the fumigation treatment facility. (if there have been changes, the operator submits updated layout drawings and other diagrams without delay). In addition, after completing the inspection of the fumigation treatment facility, attach the following data and/or document of from 1. to 6. (from 1. to 4. are limited to those with changes in the facility's building, equipment, or devices) to this check sheet and keep it until next audit by MAFF. 1. Layout drawings of the fumigation treatment facility (a floor plan showing the placement of the dosing device, gas stirring device, gas discharge device, gas piping, gas measurement pipe and thermometer), the fruit loading / unloading outlet, the disinfestation area, and reference photos) 2. Specifications of gas dosing equipment (including peripheral equipment such as dispensers and vaporizers) 3. Specifications of gas agitator and gas discharge device, especially ventilation capacity 4. Specifications of gas concentration measuring device, thermometer, gas leak detector and pressure gauge, especially accuracy 5. Record of airtightness examination 6. Calibration records (copy) of measuring instruments		

Signature: MARD Inspector

Check sheet for Cold Treatment Facility

Name of Cold Treatment (CT) facility:
Address:
Inspection date:

Inspection Items	Results	Notes
Inspection of cold treatment (CT) facilities are conducted by MARD every year before the operation of facilities start (if facilities are being used all year around, at least once a year), when the facilities upgraded or repaired, MARD/MAFF deem it necessary.		
I. CT facility conditions		
1. Fresh fruit core temperature of Longan is able to be maintained at respective target temperature or lower.		
2. An automatic recording thermometer is installed in order to monitor from outside any time core temperature of each of fresh fruits which are placed at the following 4 points in a cold treatment room. (i) the central part of the consignment at the middle of the whole consignment (ii) the uppermost corner of the consignment at the middle of the whole consignment (iii) the central part of the consignment near the cooling air outlet (iv) the uppermost corner of the consignment near the cooling air outlet. (If there is no consignment near the cooling air outlet, the consignment of (iii) and (iv) above is those farthest from the cooling air inlet)		
3. An automatic recording thermometer is able to record in 0.1 degree Celsius increments every four hours and maintain an accuracy of ±0.1 degree Celsius for at least one month after calibration.		
II. Related data and information		
At the inspection of the CT facility, MARD inspector requests the operator to submit the following documents in order to check for any discrepancies between the submitted documents and the actual conditions of the CT facility (if there have been changes, the operator submits updated layout drawings and other diagrams without delay). In addition, after completing the inspection of the CT facility, attach the following data and/or document are attached to this check sheet and keep it until next audit by MAFF. Layout drawings of CT facility (floor plans, including fruit delivery/shipment doors, treating area, etc. photos for information)		

Signature: MARD Inspector

Check sheet for Storage and Packing area
(For Mango and Dragon fruit, and Lychee (In case of post-disinfestation packing))

Name of area:
Inspection date:

Inspection items	Results	Remarks
Inspection for storage and packing areas are conducted by MARD every year before the use of the areas (if the areas are being used all year around, at least once a year), when the areas upgraded or repaired or MARD/MAFF deem it necessary.		
I. Conditions for storage area		
1. Being connected to the registered packing area		
2. There are measures to prevent the entry of fruit flies, such as netting all the openings such as windows in the storage area and the connection area.		
3. The storage area are dedicated to fresh fruit that has been treated for Japan.		
4. Every year before use, the inside is disinfected with an insecticide, etc., and disinfected as necessary.		
II. Conditions for packing area		
1. Being connected to the VHT facility or fumigation facility		
2. The packing area meets the following conditions for preventing the entry of quarantine pests that are subject to treatment. - Screen (the holes of the screen are 1.6 mm or less in diameter) is attached to the all openings such as windows. - No gaps or other openings around pipes that (such as air-conditioning pipes) feed into the packaging area through walls, ceilings or other sections, or the gaps or other openings are screened (the holes of the screen are 1.6 mm or less in diameter). - Access points to and from outside have installed measures such as double-doors, air curtains or plastic (vinyl) curtains to prevent the entry of fruit flies.		
3. Disinfect the packing area with insecticide at least once a year before start of its use (before the export season start). Fill the type of insecticide and the date of treatment in the remarks column after the disinfection.		
4. The packing area are dedicated to fresh fruits that have been treated for Japan.		
III. Related data and information		
At the inspection of the storage area and packaging area, MARD inspector requests the operator to submit the following documents to check any discrepancies between the submitted documents and the actual conditions of the storage area and packaging area (if there have been changes, the operator submits updated layout drawings and other diagrams without delay). In addition, after completing the inspection of the storage area and packaging area, attach the following data and/or document to this check sheet and keep it until next audit by MAFF. - Layout drawings of storage area and packaging area (floor plan, including fruit delivery/shipment doors, item showing the packing area, and reference photos)		

Signature : MARD Inspector

Annex 2

List of registered disinfestation treatment facility, storage and packing area

Name of facility	Address	Disinfestation treatment	Fresh fruit	Registration date of disinfestation treatment facility (DD/MM/YY) /Registration code (TFC)	Registration date of packing area (DD/MM/YY) /Registration code (PAC)	Registration date of storage area (DD/MM/YY) /Registration code
ex) ●● Co., Ltd.		VHT	Mango	●/●/2024 /(TFC)	●/●/2024 /(PAC)	●/●/2024 / (Registration code)
			Dragon fruit	○/○/2024 /(TFC)		
		CT	Longan	×/×/2024 /(TFC)	-	-
		Methyl bromide	Lychee	□/□/2024 /(TFC)	●/●/2024 /(PAC)	●/●/2024 / (Registration code))

Annex 3

Check sheet for disinfestation treatment

－Mango fresh fruit (Variety: "Cut Chu")－

Name of facility for treatment (facility name, chamber name):
Date of treatment (start time/date, end time/date):
Treatment number attached to relevant treatment by facility supervisor:
Quantity for treatment (number of crates, weight (each variety) kg):
Place of production of fruit subject to treatment:
Name of variety:

Confirmation items	Results	Remarks
The treatment is carried out under the presence of MARD inspector.		
I. Items to confirm before treatment		
1. The fresh fruits to be treated are the Cut Chu variety of mango produced in Viet Nam and destined for Japan, and no mixed with other fresh fruits. Also, the fresh fruits are harvested by the orchards which are registered by Production Unit Code (PUC).		
2. The amount of fruits for treatment is to be within the range of the loading ratio (or quantity) in the running test. Arrangement of crates and fruits in the crates in each unit are same as those of the running test *Also state the following information: - Crate size (D x W x H, m^3) - Number of packages used and total volume (liter, m^3) - Facility's treatment capacity (liter, m^3) - Loading ratio (%) or quantity (kg) in running test - Loading ratio (%) or quantity (kg) at time of treatment		
3. The temperature and humidity sensors used are to be appropriately calibrated.		
4. Temperature sensors to measure air temperature inside a chamber are installed. Fruits that temperature sensors inserted are to be placed in the positions indicated in the sensor location sheet produced based on results from the running test.		
5. Temperature sensors of fruits are to be inserted in the largest, heaviest fruits of the fruits being treated. Also, they are to be inserted into the center of those fruits (to the extent possible, insert so that the sensor is touching the mango seed..) * Enter the size of the fruit and the weight (g) of the fruit with the sensor inserted.		
6. Check that the doors of the VHT chamber is completely closed.		
II. Commence of treatment After approval of commence of the treatment, MARD inspector signs on record sheet at the point of the treatment start through confirming VHT chamber operation and record of temperatures and humidity are ongoing properly.		
III. Items to confirm during treatment During the process, if MARD inspector is absent, MARD inspector locks or seals the door of the VHT chamber and takes measures to prevent falsification of the temperature and humidity records.		
IV. Items to confirm after treatment		
1. Having confirmed that temperature sensor is inserted into the fruit.		

2. Confirm the followings from the hygro-thermometer recording paper, and MARD inspector signs the recording paper.		
a. Immediately after the treatment started, the humidity in the chamber was 90% or more.		
b. Using saturated vapor, the center temperature of the fresh fruit was raised to 43.0 ° C at a constant rate.		
c. After the center temperature of the fresh fruit reaches 47.0 ° C, it is kept at that temperature for 20 minutes. During this time, the internal chamber temperature was 47.0 ° C or higher.		
d. At least during the holding time, the humidity in the chamber was 90% or more.		
V. Storage of treated fresh fruits destined for Japan If the fresh fruits after treatment are not packaged immediately, make sure that they are stored in the registered storage area. There are no other than fresh fruits that have been treated in the storage area. Also note the following: 1. Check the quantity of fresh fruits carrying-in, and seal or lock the door of the storage. 2. At the time of carrying-out, the doors are sealed or locked as stated in 1., and the number of stored fresh fruits is the same as at the time of carrying-out. 3. If the seal of the door is broken, unlocked, or the quantity is different at the time of carrying-out, stop exporting the fresh fruits to Japan and does not allow the subsequent storage of the fresh fruits. (If it is shown to MAFF that the cause of the problem is investigated and corrective action is taken by MARD, and MAFF confirms that the corrective action is appropriate, the use of the storage area is re-permitted.) 4. Treated fresh fruit destined for Japan is thoroughly separated from fruits destined for other countries.		
VI. Storage of check sheet After disinfestation treatment, the check sheet is kept until next audit by MAFF.		

Signature: MARD Inspector

－Fresh Dragon fruit－

Name of facility for treatment (facility name, chamber name):
Date of treatment (start time/date, end time/date):
Treatment number attached to relevant treatment by facility supervisor:
Quantity for treatment (number of crates, weight (each variety) kg):
Place of production of fruit subject to treatment:
Name of species:

Confirmation items	Results	Remarks
The treatment is carried out under the presence of MARD inspector.		
I. Items to confirm before treatment		
1. The fresh fruits to be treated are *Hylocereus undatus* and/or the hybrid of *Hylocereus undatus* and *Hylocereus costaricensis* produced in Viet Nam and destined for Japan, and no mixed with other fresh fruits. Also, the fresh fruits are harvested by the orchards which are registered by Production Unit Code(PUC).		
2. The amount of fruits for treatment is to be within the range of the loading ratio (or quantity) in the running test. Arrangement of crates and fruits in the crates in each unit are same as those of the running test *Also state the following information: - Crate size (D x W x H, m^3) - Number of packages used and total volume (liter, m^3) - Facility's treatment capacity (liter, m^3) - loading ratio (%) or quantity (kg) in running test - loading ratio (%) or quantity (kg) at time of treatment		
3. The temperature and humidity sensors used are to be appropriately calibrated.		
4. Temperature sensors to measure air temperature inside a chamber are installed. Fruits that temperature sensors inserted are to be placed in the positions indicated in the sensor location sheet produced based on results from the running test.		
5. Temperature sensors of fruits are to be inserted in the largest, heaviest fruits of the fruits being treated. Also, they are to be inserted into the center of those fruits. * Enter the size of the fruit and the weight (g) of the fruit with the sensor inserted		
6. Check that the doors of the VHT chamber is completely closed.		
II. Commence of treatment After approval of commence of the treatment, MARD inspector signs on record sheet at the point of the treatment start through confirming VHT chamber operation and record of temperatures and humidity are ongoing properly.		
III. Items to confirm during treatment During the process, if MARD inspector is absent, MARD inspector locks or seals the door of the VHT chamber and takes measures to prevent falsification of the temperature and humidity records.		
IV. Items to confirm after treatment		
1. Having confirmed that temperature sensor is inserted into the fruit		
2. Confirm the following from the hygro-thermometer recording paper, and MARD inspector signs the recording paper		

a.	Immediately after the treatment started, the humidity in the storage was 90% or more.		
b.	Using saturated vapor, the center temperature of the fresh fruit was raised to 43.0 ° C at a constant rate.		
c.	After the center temperature of the fresh fruit reaches 46.5 ° C, it is kept at that temperature for 40 minutes.		
d.	At least during the holding time, the humidity in the chamber was 90% or more.		
V. Storage of treated fresh fruits destined for Japan If the fresh fruits after treatment are not packaged immediately, make sure that they are stored in the registered storage area. There are no other than fresh fruits that have been treated in the storage area. Also note the following: 1. Check the quantity of fresh fruits carried-in, and seal or lock the door of the storage. 2. At the time of carrying-out, the doors are sealed or locked as stated in 1., and the number of stored fresh fruits is the same as at the time of carrying-out. 3. If the seal of the door is broken, unlocked, or the quantity is different at the time of carrying-out, stop exporting the fresh fruits to Japan and does not allow the subsequent storage of the fresh fruits. （If it is shown to MAFF that the cause of the problem is investigated and corrective action is taken by MARD, and MAFF confirms that the corrective action is appropriate, the use of the storage area is re-permitted.） 4. Treated fresh fruit destined for Japan is thoroughly separated from fruits destined for other countries.			
VI. Storage of check sheet After disinfestation treatment, the check sheet is kept until next audit by MAFF.			

Signature: MARD Inspector

Lychee fresh fruit (Variety: "Thieu")

Name of facility for treatment (facility name, chamber name):
Date of treatment (start time/date, end time/date):
Treatment number attached to relevant treatment by facility supervisor:
Quantity for treatment (number of containers, weight (each variety) kg):
Place of production of fruit subject to treatment:
Name of variety:

Confirmation items	Results	Remarks
Fumigation is performed in the presence of MARD inspector.		
I. Items to check before fumigation		
1. The fumigation facility is inspected before the start of the use of the facility and at the time of facility renovation (Annex 2: Check sheet for methyl bromide fumigation facility)		
2. The target of fumigation is the fresh fruit of Thieu variety, and no mixed with other fresh fruits. Also, the fresh fruits are harvested by the orchards which are registered by Production Unit Code (PUC).		
3. Fresh fruits are placed in a breathable container approved for use by MARD and MAFF (Only when disinfested after packing).		
4. Check the following about fumigation conditions: - The dose is 32 g per 1 m^3 of internal volume of the fumigation chamber. - All fresh fruits (10 or more) are 27.1 ° C or higher. - The amount of fresh fruits that is fumigated at one time does not exceed 34.8% of the internal volume of the fumigation chamber in terms of loading ratio. - The loading is done so as not to hinder the uniformity of the gas concentration.		
II. Start of fumigation After approval the start of fumigation, MARD inspector confirms that the operating status of the fumigation treatment facility is normal and record the following information in the fumigation implementation record sheet. - Information that identifies the fumigation lot (each item in the heading of this sheet) - Type of container and size (D × W × Hcm) containing fruits - The volume of lychee fruits (= volume of containers) by volume ratio of the facility inner volume (%) - Methyl bromide dosage - Temperature of fresh fruits just before the start of fumigation (measured for multiple fruits from different locations) - The temperature inside the chamber before the start of fumigation (27.1 ° C or higher) - Start / end time of dosing blower		
III. Items to check during fumigation During the process, if MARD inspector is absent, MARD inspector locks or seals the door of the fumigation chamber.		
IV. Items to check after the completion of fumigation		
1. 2 hours have passed since the finish of putting methyl bromide into the chamber.		

2. During fumigation, gas was constantly circulated. (Except during gas concentration measuring in 4)		
3. When air conditioning was used, pallets or containers in areas exposed to cold air maintain a temperature of 27.1°C or higher.		
4. The temperature in the chamber at the end of fumigation was 27.1 ° C or higher:		
V. Fumigation implementation record MARD inspector confirms that the fumigation has been carried out sufficiently, record the following information on the fumigation implementation record sheet, and sign it. - Temperature in the fumigation chamber at the end of fumigation specified in 4, IV. - Gas discharge device operation start/end time		
VI. Storage of disinfested fresh fruits for Japan (Only when packing after fumigation) If the fresh fruits after treatment are not packed immediately, make sure that they are stored in the registered storage area. There are no other than fresh fruits that has been treated in the storage area. Also, note the followings: 1. Check the quantity of fresh fruits carried in and seal or lock the door of the storage. 2. At the time of carrying-out, the doors are sealed or locked as stated in 1, and the number of stored fresh fruits are the same as at the time of carrying-out. 3. If the seal of door is broken or unlocked, or the quantity is different at the time of carrying-out, stop exporting the fresh fruits to Japan and does not allow the subsequent storage of the fresh fruit. （If it is shown to MAFF that the cause of the problem is investigated and corrective action is taken by MARD, and MAFF confirms that the corrective action is appropriate, the use of the storage area is re-permitted.） 4. Treated fresh fruit destined for Japan is thoroughly separated from fruits destined for other countries.		
VII. Storage of check sheet After disinfestation treatment, the check sheet is kept until next audit by MAFF.		

Signature: MARD Inspector

― Longan fresh fruit―

Name of facility for treatment (facility name, chamber name):
Date of treatment (start time/date, end time/date):
Treatment number attached to relevant treatment by facility supervisor:
Quantity for treatment (number of cartons, weight of treated fresh fruits (kg)):
Place of production of fresh fruit subject to treatment:

Confirmation Items	Results	Notes
Treatment is carried out under the presence of MARD inspector.		
I. Items to be check before treatment		
1. The fresh fruits to be treated are longan produced in Viet Nam and destined for Japan, and no mixed with other fresh fruits. Also, the fresh fruits are harvested by the orchards which are registered by Production Unit Code (PUC). All fruits are packed in packaging materials for Japan.		
2. The thermal sensors used are to be appropriately calibrated by ice-slurry method (Attachment) just before start of the treatment.		
3. Locations of thermal sensors are as follows. Fruit temperature sensors are to be inserted in the larger fresh fruits among the fresh fruits being treated. Also, they are to be inserted into the core of each fresh fruit. Fresh fruits at the 4 points of location (i) the central part of the consignment at the middle of the whole consignment (ii) the uppermost corner of the consignment at the middle of the whole consignment (iii) the central part of the consignment near the cooling air outlet (iv) the uppermost corner of the consignment near the cooling air outlet . (If there is no consignment near the cooling air outlet, the consignment of (iii) and (iv) above is those farthest from the cooling air inlet)		
4. Fresh fruits core temperature at 4 points of location is 1.3℃ or less after pre-cooling.		
5. The doors of the CT chamber are completely closed.		
II. Start of disinfestation After approval of commence of the treatment, MARD inspector confirms that CT chamber operation and records of temperature are ongoing properly.		
III. Items to confirm during treatment During the process, if MARD inspector is absent, MARD inspector locks or seals the door of the CT chamber and takes measures to prevent falsification of the temperature and humidity records.		
IV. Items to check after the completion of disinfestation		
1. Thermal sensor is inserted into the fresh fruit, especially into the fresh fruit core (it is confirmed by dissecting fresh fruit if necessary).		
2. The following items are confirmed on the temperature record sheet at a recording interval of four hours or less, and MARD inspector signs the record sheet. - Fresh fruit core temperature was maintained at 1.3℃ or less for 13 days.		
3. When carrying treated fruits from cold treatment chamber to the registered packing area for export inspection, ensure that all packages (especially those with sensors installed) have measures in place to prevent fruit fly infestation before leaving the cold treatment chamber.		
V. Storage of disinfested fresh fruits for Japan If the fresh fruits after treatment are not exported immediately, make sure that they are stored separated from those destined for other countries.		
VII. Storage of check sheet After disinfestation treatment, the check sheet is kept until next audit by MAFF.		

Signature: MARD Inspector

（Attachment）

Check sheet for Thermal Sensor Calibration

Cold treatment (CT) facility:
Inspection date:

Inspection Items	Results	Notes
Calibration of thermal sensors are conducted just before the start of cold treatment or MARD/MAFF deem it necessary after start of the facility use.		
I. Preparation		
1. A clean container is filled with crushed ice and water. The ice and water is free of impurities.		
2. After stirring the ice water, the temperature sensors is placed in the container so that the temperature sensors do not touch each other or the inner walls or bottom of the container.		
3. Stir the ice water again, and the readings of each temperature sensor is stable.		
II. Calibration method		
1. Using a temperature recorder, the temperature is measured three times consecutively at regular intervals of not less than one minute and not more than five minutes.		
2. Usable temperature sensors must meet the following two conditions, and temperature sensors that do not meet these conditions shall be replaced with new ones. □ If the three recorded temperatures are equal, the correction value is determined based on that temperature. □ The difference between the highest and lowest of the three recorded readings must be within 0.1°C.		
3. The correction value is determined in accordance with the following ☐ If the three recorded temperatures are equal, the correction value is determined based on that temperature. ☐ If different temperatures are measured, the correction value is determined based on the readings that is the same value two times out of three measurements.		
III. Storage of calibration records		
MARD inspector records and signs each temperature sensor calibration record for each calibration, and the CT facility operator keeps it until next audit.by MAFF.		

Signature: MARD Inspector

Annex 4

Check sheet for management of packing area and packing work
(Longan and Lychee (in case of pre-disinfestation packing))

Name of area:
Inspection date:

Confirmation items	Results	Remarks
MARD inspector inspects packages of fresh fruit and confirms that packaging works are conducted under condition to prevent contaminations of other host plants of quarantine pests subject to treatment, or packages of them.		
I. Packing area management		
There are no fresh fruits other than fresh fruits destined for Japan in the packing area. If there is other fresh fruit, measures are taken to keep it stored separately from the fruit destined for Japan, such as by storing other fruits in identifiable refrigerators.		
II. Packing work		
1. Fresh fruits are harvested by the orchards which are registered by Production Unit Code (PUC).		
2. Packing work is conducted under the presence of MARD inspector.		
3. Packing works are not conducted for the fresh fruits destined for Japan at the same time as the fresh fruits destined for other countries.		
4. While packing the fresh fruits destined for Japan, packing houses are not allowed to place in the same packing area the fresh fruits, carton boxes and labels which intended for other countries.		
5. Package is materials that are considered to prevent entry of fruit flies.		
6. In case that making holes or vents on packages, one of the following measures are provided. - A screen (the hole of the screen is 1.6 mm or less in diameter) installed on holes or vents. - A package or bundled packages is netted (the hole of mesh is 1.6 mm or less in diameter).		
7. After confirming that the packing work is completed, each package is sealed.		
III. Storage of packed fresh fruits for Japan		
In case that the fresh fruits are stored after packing, the following points are noted.: 1. The fresh fruits be exported Japan are stored separately the storage area for fresh fruits to be exported other countries. 2. The storage area has clear signboard to prevent any mistakes.		
IV. Storage of check sheet		
After packing work, the check sheet is kept until next audit by MAFF.		

Signature: MARD Inspector

Annex 5

Check sheet for management of packing area and packing work
(Mango, Dragon fruit and Lychee (in case of post-disinfestation packing))

Name of area:
Inspection date:

Confirmation items	Results	Remarks
MARD inspector verifies that the condition of the registered packing area conforms to the specified conditions before taking out the treated fresh fruit from the VHT chamber or fumigation chamber.		
I. Packing area management		
1. There are no fresh fruits other than treated fresh fruits destined for Japan in the packing area. If there is other fresh fruit, measures are taken to keep it stored separately from the fruit destined for Japan, such as by storing other fruits in identifiable refrigerators.		
2. The packing area is maintained the following conditions for preventing the entry of fruit flies. - Screen (the holes of the screen are 1.6 mm or less in diameter) is attached to the all openings such as windows and no tear. - No gaps or other openings around pipes that (such as air-conditioning pipes) feed into the packing area through walls, ceilings or other sections, or the gaps or other openings are screened (the holes of the screen are 1.6 mm or less in diameter). - Access points to and from outside have measures such as double-doors, air curtains or plastic curtains installed to prevent the entry of quarantine pests subject to treatment, and those access points are not left open when materials are carried in.		
II. Packing work		
1. Fresh fruits are harvested by the orchards which are registered by Production Unit Code (PUC).		
2. Packing work is conducted at the packing area registered by MARD before the operation starts and packing work is conducted under the presence of MARD inspector.		
3. Packing works are not conducted for the fresh fruits destined for Japan at the same time as the fresh fruits destined for other countries.		
4. While packing the fresh fruits destined for Japan, packing houses are not allowed to place in the same packing area the fresh fruits, carton boxes and labels which intended for other countries.		
5. Package is materials that are considered to prevent entry of fruit flies.		
6. In case that making holes or vents on packages, one of the following measures are provided. - A screen (the hole of the screen is 1.6 mm or less in diameter) installed on holes or vents. - A package or bundled packages is netted (the hole of mesh is 1.6 mm or less in diameter).		
7. After confirming that the packing work is completed, each package is sealed.		
III. Storage of packed fresh fruits for Japan		
In case that the fresh fruits are stored after packing, the following points are noted.: 1. The fresh fruits be exported Japan are stored separately the storage area for fresh fruits to be exported other countries. 2. The storage area has clear signboard to prevent any mistakes.		

IV. Storage of check sheet		
After packing work, the check sheet is kept until next audit by MAFF.		

Signature: MARD Inspector

Annex 6

Check sheet for export inspection

Name of fresh fruit(variety) to be exported:
Date of inspection:
Inspection site:

< Information of fruits subject to the inspection>
Name of production area (PUC):
Name of packing area (PAC):
Name of disinfestation treatment facility (TFC):
Disinfestation treatment identification number (TIN):
Reference number by responsible officer of disinfestation treatment facility:
Quantity of fruits to be treated: kg
Date of disinfestation treatment:
Expected date of export:
Quantity of fruits for export inspection (No. of cartons, kg):
Name of vessel (or other transportation):
Name of exporting port:
Name of exporter:
Expected date of importation:
Name of Japanese importing port:
Name of Japanese importer:

Confirmation items	Results	Remarks
I. Prior confirmation		
1. Place for export inspection has no fresh fruits other than the treated fresh fruits for Japan and prevention measures of fruit fly infestation are being taken.		
2. Fresh fruits subject to export are treated.		
3. Quantity of fresh fruits subject to export inspection is less than that of treated fruits.		
4. Carton boxes are properly sticked by the label indicate for Japan. (MARD inspector oversees facility workers while they are sticking labels indicate for Japan on carton boxes.) The label consists of the following wordings: 「FOR JAPAN」 「日本向け」		
II. Implementation of export inspection		
1. To check the registered information on traceability of consignment: PUC, PAC, TFC, TIN, treatment date, packing date.		

	2. Randomly extract more than 5 % (more than 2% for longan) of cartons from each consignment to confirm there are no quarantine pests (especially fruit flies). Prevention measures of re-contamination measures are taken to each package. * The following also are to be recorded. ・Number of cartons ・Presence or absence of detected quarantine pest(s) ・Name of detected quarantine pest(s)		
	3. Consignment is properly sticked by the label indicate for Japan.		
III. Labeling of completion of export inspection			
	The package of the consignment is properly sticked by the label indicated for completion of export inspection ・Lychee and Longan The label consists of the following wordings: "PLANT QUARATINE VIETNAM" ・Mango and Dragon fruit The following label is properly on the package or bundled packages of the consignment with 3 positions (top, bottom and side of the package).  		
IV. Storage of check sheet			
After export inspection, the check sheet is kept until next audit by MAFF.			

Signature: MARD Inspector