



Notification of Department of Agriculture  
Re: Conditions for Import of Apple Fruit from the Republic of Chile  
B.E. 2556 (2013)

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The Department of Agriculture has completed pest risk analysis for commercial importation of apple fruit from the Republic of Chile.

By virtue of the provisions of Section 8 (2) and Section 10 of the Plant Quarantine Act B.E. 2507 (1964) amended by the Plant Quarantine Act (No. 3) B.E. 2551 (2008) with particular provisions that may restrict the right and freedom of any person in which Section 29 together with Section 32, Section 33, Section 41 and Section 43 of the Constitution of the Kingdom of Thailand permits by virtue of the law. The Director-General of Department of Agriculture through the recommendation of the Plant Quarantine Committee, hereby announces the conditions that have to be met in order to import apple fruit from the Republic of Chile as follows:

1. This notification shall be called “Notification of Department of Agriculture, Re: Conditions for Import of Apple Fruit from the Republic of Chile B.E. 2556 (2013).”
2. This notification shall enter into force thirty days after the date of its proclamation in the Government Gazette.
3. **Plant Species**  
  
Apple fruit (*Malus domestica*)
4. **Quarantine Pests of Concern**  
  
A list of quarantine pests of current concern to the Kingdom of Thailand for apple fruit from the Republic of Chile is given in **Attachment 1**.
5. **Responsible Organizations**  
  
5.1 Kingdom of Thailand: Department of Agriculture  
(hereinafter referred to as DOA)

- 5.2 Republic of Chile: Servicio Agrícola y Ganadero (Agriculture and Livestock Service)  
(hereinafter referred to as SAG)

## **6. Import Permit**

Import permit issued by DOA is required.

## **7. Means of Conveyance**

Apple fruit must be imported from a port in the Republic of Chile to a designated port in the Kingdom of Thailand by sea cargo or air cargo.

## **8. Production Areas**

Apple fruit must be produced and sourced from commercial orchards in the Republic of Chile registered by SAG or under a SAG-approved system, where the SAG designated as production areas for export to the Kingdom of Thailand and the DOA has approved prior to export.

## **9. Requirements for Orchard**

- 9.1 All orchards in designated production areas involved in the export of apple fruit to the Kingdom of Thailand must be registered by SAG or under a SAG-approved system. SAG must monitor these orchards to ensure that fruit is produced to meet phytosanitary import requirements of the Kingdom of Thailand. Copies of the registration records must be made available to DOA upon requested. SAG is required to verify orchard registration prior to commencement of exports.
- 9.2 Growers of registered orchards must implement good agricultural practice (GAP). This includes maintaining of orchard sanitation and the implementation of integrated pest management or other pest control measures to ensure that quarantine pests of concern to the Kingdom of Thailand are adequately managed.
- 9.3 SAG must provide information on the management program undertaken for apple fruit throughout the growing season when required by DOA.

## **10. Requirements for Packinghouse**

- 10.1 All packinghouses involved in the export of apple fruit to the Kingdom of Thailand must be registered with and monitored by SAG. Copies of the registration records must be made available to DOA upon requested. SAG is required to register packinghouses prior to commencement of exports.
- 10.2 Packinghouses are required to source fruit only from SAG registered commercial orchards in designated production areas to facilitate trace back of export fruit. Records of growers supplying fruit for export to the Kingdom of

Thailand must be maintained by packinghouses and made available to DOA upon request.

- 10.3 Packinghouses are required to have a well documented Standard Operation Procedures (SOP), which describes in detail all processes related to grading, handling and packing of apple fruit.
- 10.4 Annually, prior to the registration of the packinghouse, SAG must conduct an audit on all the packinghouses where the phytosanitary inspection will be conducted. Packinghouses must be responsible for maintaining all documentation.
- 10.5 Fumigation treatment for pre-shipment disinfestation of quarantine pests must be conducted within the registered packinghouses or approved fumigation centers.
- 10.6 Inspection of fruit for freedom from quarantine pests must be done within the registered packinghouses.

## **11. Requirements for Fruit Fly Pest Free Area**

It was previously reported that Mediterranean fruit fly (*Ceratitidis capitata*) occurred in the Republic of Chile. However, this fruit fly species has been successfully eradicated. The Republic of Chile is currently recognized as a pest free area for fruit flies of quarantine concern to the Kingdom of Thailand.

- 11.1 Fruit fly pest free area must be conformed to requirements specified in International Standard for Phytosanitary Measures (ISPM) No. 26: *Establishment of Pest Free Areas for Fruit Flies (Tephritidae)*.
- 11.2 Regulatory controls are to be in place to maintain the integrity of a fruit fly pest free area. Regular monitoring is to be undertaken for fruit flies. SAG must continue to notify DOA of the status of fruit flies and any associated detections and eradication activities in the Republic of Chile.
- 11.3 SAG must inform DOA immediately if the outbreak of Mediterranean fruit fly or any fruit fly of quarantine concern to the Kingdom of Thailand is confirmed in an area, suspend certification of any untreated exports in respect of the free area, and advise DOA on the time-table for reinstatement of area freedom certification of the area concerned.
- 11.4 DOA reserves the right to dispatch officer (s) to the Republic of Chile to verify that area freedom for fruit fly has been successfully re-established in outbreak zones. The costs of such visit must be borne by the Republic of Chile.

## **12. Requirements for Treatment**

- 12.1 Export of apple fruit from the Republic of Chile to the Kingdom of Thailand will be by area freedom certification for fruit flies which will obviate the need

for disinfestation treatment. However, where certification of area freedom from fruit flies cannot be provided by SAG because the area from which apple fruit are being sourced does not qualify for area freedom status, or has had that status temporarily suspended, in these cases, it is mandatory that apple fruit must be subjected to phytosanitary treatment for fruit flies. The following cold treatment schedules are accepted to disinfest fruit flies of apple fruit.

Innermost fruit pulp Temperature	Exposure period (consecutive days)
1.11 ° C (34 ° F) or below	15 days or more
1.67 ° C (35 ° F) or below	17 days or more

- 12.2 Treatment can be performed in-transit. The in-transit treatment may be carried out partly as a pre-shipment treatment start in the Republic of Chile and completed in-transit. In the event of a treatment failure, treatment may be completed on arrival.
- 12.3 Apple fruit intended for in-transit cold disinfestation treatment must be pre-cooled until innermost fruit pulp temperature at or below the target treatment temperature prior to loading to assure that the fruit is chilled to the proper temperature before the mandatory cold treatment is initiated and fruit temperature must be held continuously.
- 12.4 In-transit cold disinfestation treatment is assessed on fruit temperature sensors only. Air temperature sensors are not used to assess cold treatment efficacy.

### 13. Requirements for In-Transit Cold Disinfestation Treatment

- 13.1 In-transit cold disinfestation treatment refers to cold disinfestation treatment conducted in-transit in shipping containers.
- 13.2 In-transit cold disinfestation treatment in shipping containers may be commenced on shore and completed in-transit or completed at destination.
- 13.3 If a consignment is to receive in-transit cold disinfestation treatment, SAG must ensure compliance with conditions specified in **Attachment 2**. In addition, certificate of calibration for in-transit cold disinfestation treatment specified in **Attachment 3** must accompany with every consignment.

### 14. Requirements for Packing and Labeling

- 14.1 Packing material may be made of corrugated fiber-board which can be manufactured either from recycled material or virgin material. Only clean, new cartons are allowed.
- 14.2 Apple fruit must be packed in a carton which is free from soil, sand and contaminating plant materials e.g. leaves, stem, plant debris or other potential carriers of quarantine pests.

- 14.3 The package must have necessary information to facilitate tractability. However, it is required that, at least, the following information in English language must be appeared on each package i.e. Produce of Chile, Name of exporting company, Name of fruit (common name), Packinghouse registration number and Orchard registration number.
- 14.4 If apple fruit are shipped to the Kingdom of Thailand in loose cartons, the following information “EXPORT TO THAILAND” must be appeared on each carton. However, if apple fruit are shipped to the Kingdom of Thailand on pallets, it is allowable to have the following information “EXPORT TO THAILAND” appearing on each side.
- 14.5 All consignments of apple fruit destined to the Kingdom of Thailand using solid wood packing material must comply with ISPM No. 15: *Regulation of Wood Packaging Material in International Trade*.

## 15. Export Inspection

- 15.1 The consignment must be inspected in accordance with appropriate official procedures and found to be free from quarantine pests specified in **Attachment 1**.
- 15.2 In case of quarantine pests as specified in **Attachment 1** are found, the following measures must be undertaken.
- 15.2.1 If live or dead fruit fly is found, the consignment must be rejected for export to the Kingdom of Thailand. Subsequently, SAG must immediately notify DOA on the incidence. The exportation of apple fruit from the Republic of Chile must be immediately suspended. SAG shall immediately investigate the cause of such incidence and propose corrective actions.
- 15.2.2 If live quarantine pests other than fruit fly are detected, the consignment must be exported to Kingdom of Thailand after disinfection/disinfestations or removing all of the pests.
- (1) Apple fruit must be subjected to the following methyl bromide treatment schedules to control surface feeding insects and mites.

Temperature	Dosage rate (gram/cu.m)	Exposure period (hour)
over 26.5 ° C	24	2
21-26.4 ° C	32	2
15.5-20.9 ° C	40	2
10-15.4 ° C	48	2
4.5-9.9 ° C	64	2

- (2) The application of methyl bromide fumigation for apple fruit exporting to the Kingdom of Thailand by approved personals of packinghouses must be conducted under the supervision of SAG. The application of methyl bromide by registered fumigation companies must be conducted under supervision of SAG. In addition, a fumigation certificate issued by registered fumigation companies must accompany every consignment of apple fruit exporting to the Kingdom of Thailand.

- 15.3 If the consignment of apple fruit dose not originate from a fruit fly pest free area, it must be undergone an agreed treatments specified in Section 12.

## 16. Phytosanitary Certification

- 16.1 A phytosanitary certificate (PC) issued by SAG is required. The original copy must accompany every consignment to the Kingdom of Thailand and bear the following additional declaration:

*“The consignment of apple fruit was produced and prepared for export in accordance with the conditions for import of apple fruit from Chile to Thailand.”*

- 16.2 Fruit fly pest free area

If the consignment originates for a fruit fly pest free area, the phytosanitary certificate must bear the following additional declaration:

*“The consignment of apple fruit was produced in a fruit fly pest free area”.*

- 16.3 In-transit cold disinfestation treatment

- 16.3.1 If the consignment is subjected to in-transit cold disinfestation treatment for fruit fly, the phytosanitary certificate must bear the following additional declaration:

*“SAG has supervised the calibration and the placement of fruit sensors into the fruit within the container(s) in accordance with the conditions for import of fresh apple fruit from Chile into Thailand and cold disinfestation treatment has been initiated”*

- 16.3.2 The original copy of a certificate of calibration for in-transit cold disinfestation treatment specified in **Attachment 3** must accompany with the phytosanitary certificate.

- 16.4 Methyl bromide fumigation

If the consignment received methyl bromide fumigation, details of fumigation must be inserted in the appropriate sections of the phytosanitary certificate. If fumigation is carried out by registered fumigation companies under

supervision of SAG, the original copy of the fumigation certificate issued by registered fumigation companies must accompany with the phytosanitary certificate.

- 16.5 The common name and scientific name of apple fruit and container and SAG seal numbers (for sea freight) must be recorded on the phytosanitary certificate.

## 17. Import inspection

- 17.1 When the consignments arrive at the point of entry in Kingdom of Thailand, the import inspection must be conducted after confirming the respective documents accompanying the consignments concerned.
- 17.2 A representative sample of the consignments will be randomly selected, at the inspector's discretion, and examined to determine if pests are present. If live pests are found, samples will normally be sent for laboratory identification, and the consignments held pending the results.
- 17.3 For consignments of fruit of less than 1000 units, the sample size is either 450 units or 100% of consignment. For consignments of fruit of greater than or equal to 1000 units, then 600 units are to be sampled.
- 17.4 In case of quarantine pests of Kingdom of Thailand concern as stipulate in **Attachment 1** are found during import inspection, the following measures must be taken;

### 17.4.1 Fruit fly

- (1) If live or dead fruit fly is found, the infested consignment must be either re-exported or destroyed at the importer's expenses. The DOA immediately suspends importation and notifies to SAG of the interception.
- (2) SAG shall immediately investigate the cause of such incidence and propose corrective actions. Suspension of import will be lift when the cause of non-compliance has been clarified and corrective actions have been implemented to the satisfaction of DOA.

17.4.2 If live quarantine pests other than fruit fly are found, the consignment must be either re-exported, destroyed or treated with appropriated treatment (if available) at the importer's expenses.

- 17.5 If any live organism of potential quarantine concern to the Kingdom of Thailand not listed in **Attachment 1** is found, the consignment shall be re-exported, destroyed or treated with appropriated treatment (if available) at the importer's expenses. The DOA reserved the right to temporary suspension of import from the identified pathway until a risk assessment of intercepted organisms is determined.

- 17.6 DOA reserved the right to have fruit re-exported or destroyed at the importer's expenses, if one of the following cases is found.
- 17.6.1 Cold disinfestation treatment was unsuccessfully.
  - 17.6.2 Container doors are not completely closed.
  - 17.6.3 Container seal is broken or replaced or does not match the number on the phytosanitary certificate.
  - 17.6.4 Temperature sensor extends beyond the fruit or is not located in specified positions or sensor fruit was ruptured;
  - 17.6.5 Packaging labeling is missing or incorrect or incomplete.

## **18. Audit of Export Procedures**

- 18.1 The export of apple fruit from the Republic of Chile to the Kingdom of Thailand shall only initiate after the DOA has already audited export certification procedures. The costs of such audits must be borne by the Republic of Chile.
- 18.2 In the event of a suspension of import, DOA may audit export certification procedures in the Republic of Chile prior to a decision being taken on resumption of import. Where DOA has determined that such audits are necessary, the costs of these audits must be borne by the Republic of Chile.
- 18.3 DOA reserves the rights to regularly dispatch officer (s) to the Republic of Chile to observe whether all export certification procedures implemented by SAG are effective. This is to ensure that apple fruit exported to the Kingdom of Thailand is still undergone appropriate managements for quarantine pests. The costs of these activities must be borne by the Republic of Chile.

Issued on 18 March B.E. 2556 (2013)

Mr. Dumrong Jirasutat

Director-General  
Department of Agriculture



## Attachment 1

List of Quarantine Pests of Apple Fruit from the Republic of Chile  
 Attached to the Notification of Department of Agriculture  
 Re: Conditions for Import of Apple Fruit from the Republic of Chile B.E. 2556 (2013)

Scientific name	Common name
Insects	
Order Coleoptera	
Family Curculionidae	
<i>Naupactus xanthographus</i>	South American fruit tree weevil
<i>Pantomorus cervinus</i>	Fuller's rose beetle
Order Diptera	
Family Tephritidae	
<i>Ceratitis capitata</i>	Mediterranean fruit fly
Order Hemiptera	
Family Aphididae	
<i>Eriosoma lanigerum</i>	woolly aphid
Family Coccidae	
<i>Parthenolecanium corni</i>	European fruit lecanium
Family Diaspididae	
<i>Lepidosaphes ulmi</i>	oystershell scale
Family Pseudococcidae	
<i>Pseudococcus calceolariae</i>	scarlet mealybug
<i>Pseudococcus viburni</i>	Californian mealybug
Order Lepidoptera	
Family Noctuidae	
<i>Peridroma saucia</i>	pearly underwing moth
<i>Spodoptera frugiperda</i>	fall armyworm
Family Tortricidae	
<i>Proeulia auraria</i>	Chilean fruit tree leaf folder
Mites	
Family Tetranychidae	
<i>Panonychus ulmi</i>	European red spider mite
Plant pathogens	
Fungus	
<i>Botryosphaeria dothidea</i>	canker of almond

Requirements for In-Transit Cold Disinfestation Treatment  
Attached to the Notification of Department of Agriculture  
Re: Conditions for Import of Apple Fruit from the Republic of Chile B.E. 2556 (2013)

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**1. Requirements for Containers**

- 1.1 Container's types and series must be suitable for in-transit cold disinfestation treatment.
- 1.2 Containers must be self refrigerated shipping containers and must be equipped with a recording device. SAG is responsible for ensuring that containers used by exporters are of a suitable type, and have refrigerator equipment capable of achieving and holding the required temperatures.

**2. Requirements for Temperature Recording System**

SAG must ensure that temperature recording system, the combination of the cold treatment data recorders and fruit pulp temperature sensors, must meet the following criteria:

- 2.1 The system must be suitable for cold disinfestation treatment. The accuracy of the system must be within plus or minus 0.3 ° C of the true temperature in the range of minus 3 ° C to plus 3 ° C.
- 2.2 The system must be capable of automatic operation and able to accommodate a minimum of three fruit temperature sensors.
- 2.3 The system must be capable of continuous recording of date, time, sensor number, and temperature during all calibrations and for the duration of treatment period.
- 2.4 The system must be capable of recording all temperature sensors at least once every hourly, with a resolution of 0.1 ° C and storing data until the information can be examined by a DOA officer.
- 2.5 The system must be capable of producing printout which identifies each sensor, time and the temperature, as well as the identification number of the recorder and the container.

**3. Requirements for Temperature Sensors**

- 3.1 Sensor's type must have an optimal accuracy for the temperature range of this cold treatment.

- 3.2 Sensors must have an outer sheath diameter of 6.4 millimeters or less. The sensing unit must be located within the first 25 millimeters or less of the sensor's tip. Sensors must be accurate to within plus or minus 0.3 ° C in the range of minus 3 ° C to plus 3 ° C.
- 3.3 Each sensor must be tagged with a number identical to sensor's number accompanying its readings in the printout produced by the temperature recording system.

#### **4. Calibration of Temperature Sensors**

- 4.1 Calibration of the temperature sensors must be conducted under the supervision of SAG.
- 4.2 Calibration must be conducted using a mixture of crushed ice and distilled water in a clean insulated container prior to the temperature sensors being placed in fruit.
- 4.3 Crushed ice must completely fill the container. Enough water should be added to stir the mixture. The percentage of ice is estimated at 80-85 percent while the water fills the air voids (15-20 percent).
- 4.4 The mixture must be thoroughly stirred to ensure the water is completely cooled and good mixing has occurred. At least 10 minutes of adaptation period, is required to reach a steady state of 0 ° C.
- 4.5 During the calibration, all the temperature sensors and the calibrated thermometer must be immersed in the ice water slurry without touching the sides or bottom of the container. The mixture must be constantly stirred while testing is being carried out. Only after the readings are stabilized at the lowest constant temperature, the calibration readings can be conducted.
- 4.6 Two consecutive readings must be recorded for each sensor at the lowest temperature obtainable. There shall be at least a 60 second interval between the two readings for any one sensor; however, the interval should not exceed 5 minutes. The variance between the two readings must not exceed 0.1 ° C.
- 4.7 Any sensor which reading shows a deviation of more than plus and minus 0.3 ° C from the standard 0 ° C must be replaced and rejected for further use for cold treatment.
- 4.8 A "Certificate of calibration for in-transit cold disinfestation treatment in self-refrigerated container" as shown in **Attachment 3** must be prepared for each container by a SAG officer. The original copy must be attached to the phytosanitary certificate which accompanies the consignment.

## 5. Placement of Temperature Sensors

- 5.1 Loading of packed fruit into containers and placement of temperature sensors must be conducted under the supervision of SAG.
- 5.2 Containers must be packed in an appropriate manner which ensures that there is even airflow under and around all pallets and loose stacked cartons.
- 5.3 Records for in-transit cold disinfestation treatment are required at least three temperature sensors to monitor innermost fruit pulp temperature in a container. These sensors must be distributed throughout the fruit in a representative cross section of the container that enables an adequate monitoring of the temperature.
- 5.4 The temperature sensor used to measure the fruit pulp temperature must be inserted carefully into the center of a test fruit. The test fruit shall be selected from the largest fruit size in the lot. With small fruit, the sensor shall penetrate two or more fruit. The sensor's tip must not be extended beyond the fruit, as well as fruit rupture and opened by sensor insertion, to prevent measuring air temperature instead of fruit pulp temperature. In these cases, the cold treatment is rejected.
- 5.5 Fruit temperature sensors must be placed in a 6 meter (20 foot) container and a 12 meter (40 foot) container in the following locations, as depicted in **Figure 1**.
  - 5.5.1 Two fruit pulp temperature sensors must be placed in boxes diagonally opposite at the side walls approximately 1 meter from the end of the load for a 6 meter container and approximately 1.5 meters from the end of the load for a 12 meter container.
  - 5.5.2 One fruit pulp temperature sensors must be placed in a box in the center of the container
  - 5.5.3 All three sensors must be placed at mid-height of the stack.

## 6. Sealing of Containers

- 6.1 After completion of loading, the container door must be closed properly and sealed with a numbered metal seal under SAG supervision. The seal must be intact until arrival at the port of entry in the Kingdom of Thailand, where the DOA inspectors only are authorized to open it. Containers with a broken seal must be rejected.
- 6.2 The seal number must be recorded on the phytosanitary certificate.

## 7. Confirmation of Treatment

- 7.1 The in-transit arrangement is for the cold disinfestation treatment to be completed during the voyage between exporting country and the port of discharge in the Kingdom of Thailand. The Shipping Company shall download

the computer records of the cold disinfestation treatment and forward them to officer at port of entry.

- 7.2 DOA Bangkok Office must verify whether the treatment records meet disinfestation requirements and advise the DOA officer at the port of arrival that, subject to calibration of sensors, the treatment is complete.
- 7.3 On arrival DOA must check the calibration of the fruit temperature sensors using the method referred to in Section 4 and verify that the treatment records meet disinfestation requirements.
- 7.4 Re-calibration of the fruit sensors at the completion of the treatment which shows a higher than initial calibration setting, the recordings from the probe(s) will be adjusted accordingly.
- 7.5 If this adjustment reveals that the nominated treatment schedule was not met, the treatment will be deemed to have failed. The consignment must be re-exported or destroy at the importer's expenses.

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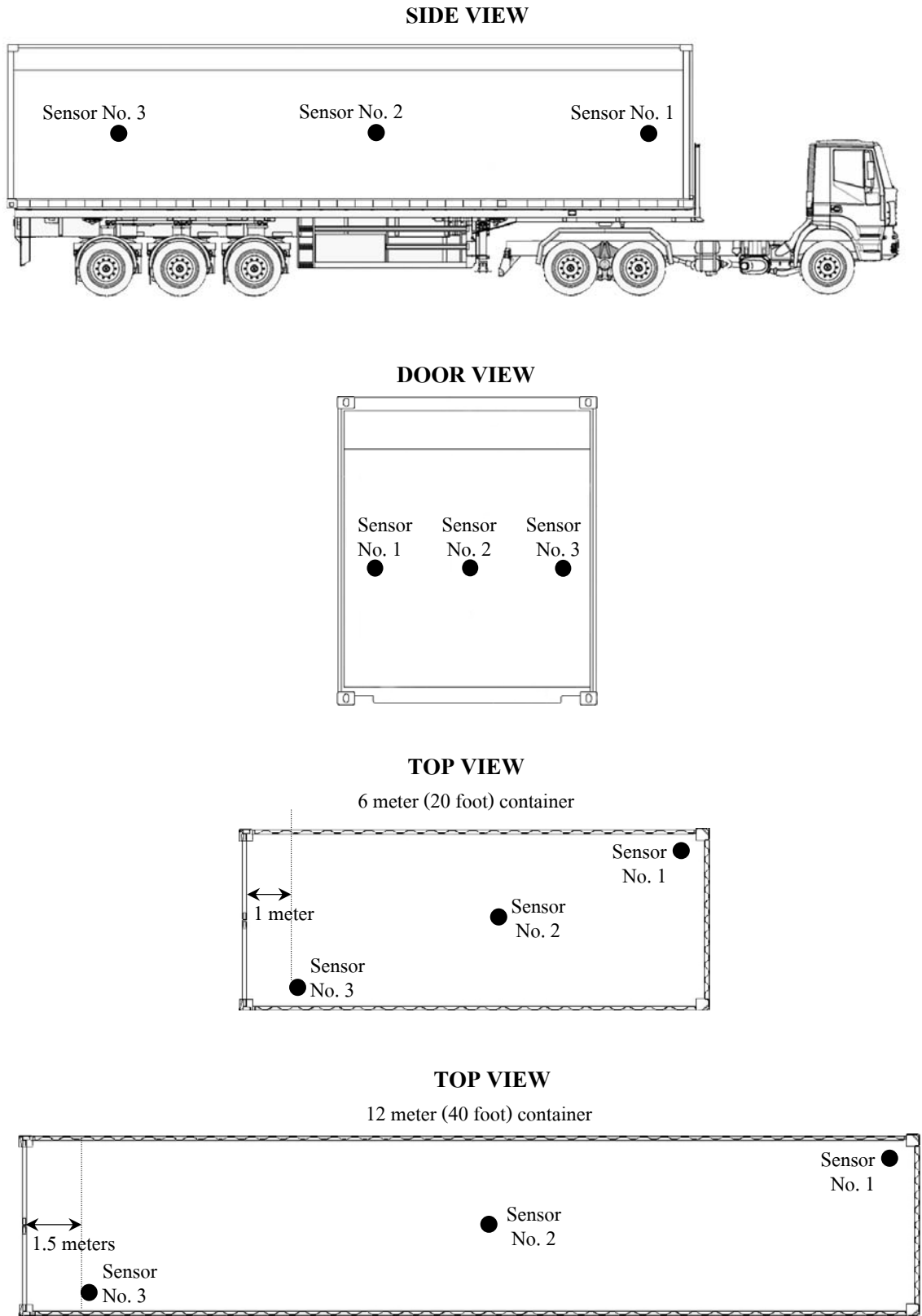


Figure 1. Placement of fruit temperature sensors in a container for in-transit cold disinfestation treatment.

**Attachment 3**

Certificate of Calibration for In-Transit Cold Disinfestation Treatment  
in Self-Refrigerated Container for Thailand  
Attached to the Notification of Department of Agriculture  
Re: Conditions for Import of Apple Fruit from the Republic of Chile B.E. 2556 (2013)

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Exporter name: .....

Phytosanitary certificate number: .....

Container number: .....

Seal number: .....

Recorder serial number: .....

Date calibrated (dd/mm/yy): .....

1. Sensor calibration (at 0 °C):

Sensor Identification	1 <sup>st</sup> Reading	2 <sup>nd</sup> Reading	Correction factor
1 .....	.....	.....	.....
2 .....	.....	.....	.....
3 .....	.....	.....	.....

2. Sensor placement:

Sensor placement	Pulp temperature
1 .....	..... Degrees Celsius
2 .....	..... Degrees Celsius
3 .....	..... Degrees Celsius

3. Container sealed:

Time: ..... Date (dd/mm/yy): .....

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Inspector name                      Inspector signature                      Stamp

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- The Government Gazette: Vol. 130, Special Part 49 D, Page 22-29, Date 19 April B.E. 2556 (2013)
  - UNOFFICIAL TRANSLATION
  - This is an English translation. In case of any difference in meaning between the Thai text and the English translation, the Thai text shall be applied.