

**Protocol for Phytosanitary Requirements for the Citrus Export
from Egypt to China between the Ministry of Agriculture and
Land Reclamation of the Arab Republic
of Egypt and the General Administration of Quality Supervision,
Inspection and Quarantine of the People's Republic of China**

In order to safely export fresh citrus from the Arab Republic of Egypt to the People's Republic of China, according to exchanged views and discussions between the two countries, the Ministry of Agriculture and Land Reclamation of the Arab Republic of Egypt (hereinafter referred to as MALRRE), represented here by Central Administration of Plant Quarantine (hereinafter referred to as CAPQ) and the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (hereinafter referred to as AQSIQ), reached consensus as follows:

**Article (1)
Scope**

1. This protocol sets the mutually agreed plant quarantine conditions governing the import of commercial fresh citrus fruits from Egypt to China.
2. In this document the central Administration of Plant Quarantine (CAPQ) is responsible for each step of the quarantine phytosanitary requirements of Egyptian citrus to be exported to China.
3. Importers must have a valid plant quarantine import permit issued by the AQSIQ for each consignment.
4. The import permit will specify the conditions for the importation of citrus from Egypt into China.

Article (2)

Ports of Entry

Ports of entry: Beijing, Dalian, Tianjin, Qingdao, Shanghai and Nanjing, and before September every year, AQSIQ will provide the ports list to CAPQ

Article (3) Orchard Control Program:

1. CAPQ will ensure that citrus fruit is sourced from commercial orchards that are registered for export to China.
2. Growers will undertake orchard pest control programs to ensure that quarantine pests for China are adequately managed.
3. CAPQ must provide information on the management program undertaken for citrus throughout the growing season, from dormancy to post-harvest.
4. General survey programs for quarantine pests are to be conducted regularly which may consist of surveying orchards, sampling, measurement and assessment of percentage infestation/ infection. In instances where chemicals are applied and that the maximum residue limits (MRL's) of such chemicals are significantly higher than the MRL's approved by the CAPQ and AQSIQ, growers will be required to ensure that adequate records of spray programs are kept and that these are made available to CAPQ auditors upon request.
5. In common with all other imported fruits, citrus will be subject to the imported fruit inspection program operated by AQSIQ. Random samples of imported fruits may be taken for residue analysis with appropriate action taken if relevant MRL's are exceeded.

Article (4) Quarantine Pests

1. Notification of quarantine pest status:
It is a condition of entry that CAPQ immediately advise AQSIQ of any outbreak or change of status of the following pests in the citrus production governorates of Egypt:

(a) All economically significant species of Tephritidae fruit flies, and

- (b) Economically significant pathogen, such as *Xanthomonas campestris* p.v. *citri* (pathogen of citrus bacterial canker) and *Phoma tracheiphila* (pathogen of Mal Secco disease).

2. Mediterranean Fruit Fly Control

Citrus orchards in Egypt are normally planted as separate stands in mixed orchards with other horticultural crops that serve as alternative hosts for pests known to attack citrus trees, particularly Mediterranean fruit fly. The management strategies detailed below are intended to reduce infestation levels of Mediterranean fruit fly. CAPQ will coordinate the monitoring of the orchard trapping program, which can involve other government organizations including Plant Protection Research Institute, Horticulture Research Institute and Central Administration of Extension.

(a) A network of Jackson traps (pheromone and food attractants e.g. Trimedlure, Buminal) are to be distributed in the different fields to monitor the distribution of the pest throughout the year. These traps are to be hung on all Mediterranean fruit fly hosts in all governorates all year round. Traps should be baited weekly with the sex attractant "Trimedlure", inspected, and male catches counted. The sticky inserts should be replaced regularly and the average of the catch per trap per day "CTD" calculated.

(b) "Hot spots" of pest distribution are to be determined using the trapping data and fruit infestation readings. Treatment of the infested areas with partial spray (trunk and main branches) should be carried out using one of the following mixtures:

100 mL Malathion + 200 mL attractant (Polycore Trimedlure) + 19.7 liter of water.

100 mL Libacid + 200 mL attractant (Buminal) + 19.7 liter of water.

The mixtures are to be used alternately or together every 10-15 days. In addition, for large trees lethal bags saturated with one of the mixtures are to be used. These traps are to be positioned at the border of the orchard in a zigzag pattern as follows:

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      X       X       X       X       X
        X           X       X       X
  
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Both partial spray and lethal bags are to be used until the pest disappears from the orchard which may be estimated from trap catches and fruit samples.

The infested fallen fruits are to be collected and buried at depth of at least 50 cm.

A random sample of 100 fruits is to be collected weekly in all governorates, examined and the percentage of larvae and infestation in fruits estimated. The maintenance of traps and examination of infested fruit must continue until harvesting.

3. Other pests

(a) Trees must be sprayed for external surface feeding pests (of quarantine concern) with mineral oils at the rate of 1 % to help reduce infestation levels.

(b) Sulphur compounds such as copper sulphate should be used to control *Alternaria* immediately after fruit formation at monthly intervals in May, June and July.

Article (5) Registration

Registration and auditing of packing house/export center

(a) Packinghouses of citrus fruit for export to China will be required to source fruit from CAPQ registered orchards and packinghouse will be registered with CAPQ to facilitate trace-back of exported fruit. Records of growers supplying fruit for export to China must be maintained in packinghouse and made available to CAPQ auditors upon request.

(b) Packinghouses must maintain a hygiene program. Steam cleaning of all grading equipment or disinfection with chlorinated water will be used to sanitise equipment effectively.

(c) CAPQ will coordinate the receipt of the fruit at the gate of the packinghouse and check documentation which includes: license, transportation, production area, governorate and location, producer name, orchard name, variety, and date.

Article (6) Washing/ post-harvest treatment

1. To control *Alternaria alternate*, fruits must be washed in warm water for 4-5 minutes using 1.25% sodium carbonate solution or 0.1% copper sulphate or 2% potassium permanganate or SOPP. Alternatively, TBZ (Thiabendazole) or water- wax containing 22% of 2250 ppm TBZ +2500 ppm Imazalil + 2500 ppm Guazatin can also be used.
2. Post-harvest treatments routinely used by Packinghouses, must continue to reduce the incidence of quarantine pests in fruit. These may include 8% borax solution at 48 °C for five minutes, or a mixture of 42% Borax and 2% Boric acid in warm water.
3. Washed, treated and waxed fruit must be stored, graded, and inspected by quality control officers before being packed into cartons made from Kraft paper or fiber-board material.

Article (7) **Packing and labeling**

1. Packaging material may be made of fiber-board which can be manufactured either from recycled material or virgin Kraft paper. Only clean, new cartons are allowed.
2. The packaging must be clearly marked with individual grower consignment numbers and packer or distributor identification to enable trace-back in the event that this is necessary.
3. The following information should be printed on each package.
 - Product of Egypt,
 - Name of the exporting company (the trademark),
 - The variety,
 - The item (consignment) number,
 - The lot number,
 - Production date, and
 - Export destination.

Article (8) **Cold Disinfestations**

Cold disinfestations will be done pre-shipment or in transit. In the event of a treatment failure, treatment may be completed on arrival. Exporters may nominate any one of the treatment schedules in the following Table.

Table: Cold Treatment for the Disinfestations of Mediterranean Fruit Fly

Fruit pulp temperature ° C	Exposure period ("consecutive days)
0.00 ° C or below	10
0.55 ° C or below	11
1.11 ° C or below	12
1.66 ° C or below	14
2.22 ° C or below	16

1. Pre-shipment Treatment

If a consignment is to receive pre-shipment cold treatment, CAPQ will ensure compliance with the following conditions.

(I) *Cold room facilities:*

(i) Pre-shipment treatment will only be permitted in cold room facilities approved by CAPQ.

(ii) CAPQ is responsible for ensuring that cold room facilities used by exporters are of a suitable standard and have refrigeration equipment capable of achieving and holding the fruit at the required temperature.

(iii) CAPQ will keep a register of cold treatment facilities approved for pre-shipment treatment of citrus to China. This register will include documentation covering:

- (a) location and construction plans of all facilities, including owner/operator contact details,
- (b) dimensions of the facilities and room capacity,
- (c) type of insulation used in walls, ceilings and floors,
- (d) make, model, type and capacity of the refrigeration condenser and evaporator/air circulation, and
- (e) the temperature range of the equipment, defrost cycle control and specifications and details of any integrated temperature recording equipment.

(iv) CAPQ will forward to AQSIQ (before the start of each citrus season) names and addresses of currently registered cold disinfestations treatment establishments.

(II) *Recorder types:*

(i) CAPQ is to ensure that the combination of temperature probes and temperature recorders are:

(a) Suitable for the purpose. They should meet the standards required by the USDA. Sensors should be accurate to ± 0.15 ° C in the range of – 3.0 ° C to + 3.0 °C,

(b) able to accommodate the required number of probes,

(c) capable of recording and storing data for the period of the treatment and then until the information can be examined by a CAPQ officer,

(d) capable of recording all temperature sensors at least hourly to the same degree of accuracy as is required of the sensors , and,

(e) capable of producing printouts which identify each sensor, time and the temperature, as well as the identification number of the storage facility.

(III) *Calibration of temperature:*

(i) Calibration must be conducted using slurry of crushed ice and distilled water, using a certified thermometer approved by CAPQ.

(a) Any sensor which records more than ± 0.6 °C from 0 ° C must be replaced by one that meets this criterion.

(b) When the treatment has been completed CAPQ will check the calibration of the fruit sensors using the method referred to in Section (III).

(IV) *Placement of temperature sensors under CAPQ's supervision:*

(i) Palletized fruit must be loaded into cold rooms under CAPQ's supervision and may be pre-cooled at the exporters' discretion.

(ii) As a minimum, two probes (at the inlet and the outlet points of air circulation) to measure room temperature and minimum of four probes for fruit flesh temperature are required with one placed:

- (a) one at the centre of the stack in the centre of the cold room,
- (b) one at the corner of the top stack in the centre of the cold room,
- (c) one at the centre of the stack near the outlet of cold air, and
- (d) one at the corner of the top stack near the outlet of cold air.

(iii) Placement of sensors and connection to a logger must be under the direction and supervision of an officer authorized by CAPQ.

(iv) Logger record may commence at any time, however the treatment time will be deemed to have begun only after all probes have attained the nominated treatment temperature.

(v) Where only the minimum numbers of probes have been used, and in the event that any probe fails to record a temperature for a period of more than four consecutive hours, the treatment will be declared void and must be started again.

(V) Progressive review of treatment:

If the record of treatment indicates that the treatment parameters have been met then CAPQ may authorize cessation of the treatment and if the sensors pass calibration as specified in Section (III), then the treatment will be considered to have been successfully completed.

Sensors should be calibrated before the fruit is moved from the treatment room.

(VI) Confirmation of treatment:

(i) After the nominated treatment period has elapsed, probes are to be recalibrated using the procedures in Section (III). Records must be kept for AQSIIQ audit.

(ii) If any probe shows a higher calibration reading at the completion of the treatment than at the initial calibration setting, the recordings from the probe(s) will be adjusted accordingly. If this adjustment reveals that the nominated treatment schedule was not met, the treatment will be deemed to have failed. There is the option of re-treating this fruit at the discretion of CAPQ and the exporter.

(iii) Printouts of temperature records are to be accompanied by suitable data summaries that indicate that the required cold treatment of the product has been achieved.

(iv) CAPQ must endorse these records and summaries before confirming that the treatment has been successful. These are to be available for AQSIQ audit when required.

(v) If the required cold treatment of the product has not been achieved, the logger may be reconnected and the treatment continued provided, that:

(a) CAPQ confirms the maintenance of the required conditions as per (V) or,

(b) The elapsed time since treatment cessation and recommencement is less than 24 hours.

In both cases, data will continue to be collected from the time the logger is reconnected.

(VII) *Loading into containers:*

(i) Containers must be inspected by CAPQ before loading, to ensure pest freedom and that any vents are covered to prevent the entry of pests.

(ii) Fruit should be loaded within an insect proof building or using an insect proof enclosure between the cool room entrance and the container.

(VIII) *Sealing of containers:*

(i) A numbered seal must be placed by an authorized officer of CAPQ on the loaded container door and the seal number noted on the phytosanitary certificate.

(ii) The seal must only be removed by the AQSIQ officer at the port of arrival in China.

(iii) Taping of the inners to the outers (of the telescopic cartons) of all top layers packages is required to prevent the outers lifting as a result of vibration, and blocking the airflow in the headspace.

(IX) *Storage of fruit if not immediately loaded:*

(i) Treated fruit not intended for immediate loading may be stored for subsequent shipment provided security conditions are maintained by CAPQ:

(a) If fruit is stored in the treatment room, the room's doors must be sealed.

(b) If fruit is to be transferred to another room for storage, it must be transferred in a secure manner approved by CAPQ and the room must contain no other fruit, and.

(c) Subsequent container loading must be performed under CAPQ supervision in accordance with Article (7).

2. In-transit Treatment:

If a consignment is to receive intransit cold treatment, CAPQ will ensure compliance with the following conditions.

(I) *Container type:*

(i) Containers must be self refrigerated (integral) shipping containers. In principle, CAPQ 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.

(II) *Recorder types:*

(i) CAPQ must ensure that the combination of temperature probes and temperature recorders are:

(a) Suitable for the purpose and meet the standards required by the USDA. Sensors should be accurate to $\pm 0.15 \text{ }^{\circ}\text{C}$ in the range of 3.0°C to $+3.0^{\circ}\text{C}$,

(b) able to accommodate the required number of probes,

- (c) capable of recording and storing data for the period of the treatments and then until information can be examined by an AQSIQ officer,
- (d) capable of recording all temperature sensors at least hourly to the same degree of accuracy as is required of the sensors, and
- (e) capable of producing printouts which identify each sensor, time and the temperature, as well as the identification number of the recorder and the container.

(III) *Calibration of temperature recorder and sensors under CAPQ's supervision.*

- (i) Calibration must be conducted using slurry of crushed ice and distilled water, using a certified thermometer approved by CAPQ.
- (ii) Any sensor which records more than $\pm 0.6^{\circ}\text{C}$ from 0°C must be replaced by one that meets this criterion.
- (iii) A "Record of calibration of fruit sensors" must be prepared for each container and signed and stamped by a CAPQ officer. The original must be attached to the phytosanitary certificate which accompanies the consignment.
- (iv) On arrival AQSIQ will check the calibration of the fruit sensors using the method referred to in Section (III).

(IV) *Placement of temperature sensors under CAPQ's supervision:*

- (i) Packed fruit must be loaded into shipping containers under CAPQ's supervision. Containers should be packed in a manner which ensures that there is equal airflow under and around all pallets and loose stacked cartons.
- (ii) Records of temperature are required from at least three locations.
- (iii) At least three sensors are necessary for each container.
- (iv) Two fruit pulp sensors must be placed approximately 1.5 meters from the end of the load for 12 meters containers and approximately one meter from the end of the load for 6 meters containers.

- (v) One fruit sensor must be placed in a centre carton and one in a carton at a side wall, both at half the height of the stack/pallet.
- (vi) Sensors must be placed under the direction and supervision of an officer authorized by CAPQ.
- (vii) On completion of treatments, printouts of all temperature sensors must be made available to the AQSIQ officer at the port of arrival for final clearance of the container by AQSIQ.

(V) *Sealing of containers:*

- (i) A numbered seal must be placed on the loaded container door by CAPQ authorized officer and the seal number noted on the phytosanitary certificate.
- (ii) The seal must only be removed by an AQSIQ officer at the port of arrival in China.
- (iii) Taping of the inners to the outers (of the telescopic cartons) of all top layer packages is required to prevent the outer lifting as result of vibration and blocking the airflow in the headspace. If this requirement is not adhered to AQSIQ may reject the consignment on opening the container.

(VI) *Temperature records:*

- (i) The in-transit arrangement is for the cold disinfestations treatment to be completed during the voyage between Egypt and the first port of call in China. The shipping Company will download the computer records of the disinfestations treatment and forward them to AQSIQ office.
- (ii) AQSIQ office will verify that the treatment records meet China disinfestations requirements and advice the state in which the consignment(s) are arriving that, subject to calibration sensors, the treatment is complete.

Note: some sea voyages may allow the cold disinfestations treatment to be completed by the time the vessel arrives at a port en-route to China. It is permissible for treatment record to be downloaded in –route and sent

to AQSIQ office for verification. It is however a requirement that the treatment is not deemed to have been effected until AQSIQ have completed the recalibration of the temperature sensor probes. It is therefore a commercial decision whether the fruit should be "conditioned" (i.e. gradually raising the carriage temperature) prior to arrival in China.

Article (9) **Phytosanitary Certification**

1. A phytosanitary certificate issued by CAPQ must accompany every consignment of fresh citrus fruit from Egypt and bear the following additional declaration:

“The consignment was produced and inspected in accordance with the Agreement on plant quarantine between CAPQ and AQSIQ. “

2. If the consignment received pre-shipment cold disinfestations for Mediterranean fruit fly, then the cold treatment facility, treatment temperature, and the period (number of consecutive days) must be inserted in the appropriate section of the phytosanitary certificate.

3. Both the seal and container numbers must be recorded on the phytosanitary certificate as per section (V).

4. If the consignment is subject to in-transit cold disinfestations for Mediterranean fruit fly then the Phytosanitary Certificate must also bear the following additional declaration:

“CAPQ have supervised the calibration and the placement of temperature sensors into the fruit within the container (s) in accordance with the requirements of the Agreement and cold disinfestations treatment has been initiated.”

Article (10) **AQSIQ responsibilities**

1. On Arrival Inspection:

(a) On arrival of shipments, the importer will make available to an AQSIQ officer the original phytosanitary certificate. If temperature records have not already been made available to the AQSIQ Office, they must be provided to Beijing Office on arrival.

(b) If treatment has not been completed, the importer will have the option of repeating the nominated schedule after discharge. AQSIQ will deem a cold treatment to have failed if it has not completed the temperature requirements in transit and then having been placed on power within an AQSIQ registered establishment the fruit pulp temperatures have not completed 16 days at below

2.2 °C within 23 days. Where a container is deemed to have failed a temperature treatment on land, the importer will be given the option to re-export; otherwise the fruit will be destroyed in an AQSIQ approved manner.

(c) Phytosanitary certificates issued by CAPQ will be examined to determine that the conditions have been met.

(d) On verification of the temperature sensor calibration, using the procedure outlined in Section (III), the AQSIQ officer will endorse the Phytosanitary Certificate and attachment by signing and stamping both.

(e) For containers that have been confirmed as cold treated, the fruit can then be inspected for quarantine pests. In the event that China's requirements have not been satisfied, necessary action will be taken.

(f) Pests or diseases intercepted in on arrival inspection will be referred to an AQSIQ approved entomologist or a plant pathologist, as appropriate, for identification, under quarantine security.

(g) If live quarantine pests are detected during on-arrival inspection the consignment involved must be treated, re-exported or destroyed.

2. In the event of any of the above breaches in compliance, AQSIQ may audit procedures in Egypt prior to a decision being taken on the suspension/resumption of imports.

Article (11) Expenses

The cost of all AQSIQ audits and inspections of the citrus export program will be borne by Egypt.

Article (12) Period of effect

This protocol comes into effect as from the date of signature of both parties. The protocol for each of the items outlined above will be reviewed at the end of the each export season.

Pending, written notification, through the diplomatic channels, either party has the right to ask for the revision or termination of the protocol within six months from the date of first written notification.

This protocol done at Cairo on June 17, 2006 in two originals copies in English language, both copies are being equally authentic .

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the Arab Republic of Egypt**

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