COLD TREATMENT

REVISION REGISTER

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1. PURPOSE

The purpose of this procedure is to describe -

a) the principles of operation, design features and standards required for cold treatment equipment; and

b) the responsibilities and actions of personnel;

that apply to the certification of cold treatment of fruit for fruit fly for movement under an Interstate Certification Assurance (ICA) arrangement.

2. SCOPE

This procedure covers all certification of cold treatment of fruit by businesses operating under an ICA arrangement in the Northern Territory.

3. REFERENCES

WI-02	Guidelines for Completion of Plant Health Assurance Certificates

4. DEFINITIONS

Accredit	means to authorise nominated staff within a business to issue Assurance Certificates.
Act	means the *Plant Health Act 2008*.
Application for Accreditation	means an application for accreditation of a business for an Interstate Certification Assurance (ICA) and/or Certification Assurance (CA) arrangement (Attachment 1).
Assurance Certificate	means a Plant Health Assurance Certificate (Attachment 2).
Authorised Signatory	means a person whose name and specimen signature is included as an Authorised Signatory on the business's application for accreditation.
Certified/Certification	means covered by a valid Plant Health Assurance Certificate (Attachment 2).
Cold treatment	means the maintenance of produce at specified cold temperature over a specified time to control possible fruit fly infestation.
Facility	means the location of the Cold Treatment operation covered by the Interstate Certification Assurance arrangement.
Fruit fly	means Queensland fruit fly *(Bactrocera tryoni)* and Lesser Queensland fruit fly *(Bactrocera neohumeralis)*
ICA	means Interstate Certification Assurance.
Inspector	means an inspector appointed under the *Plant Health Act 2008*.
Interstate Certification Assurance	means a system of Certification Assurance developed to meet the requirements of State and Territory governments for the certification of produce for interstate and intrastate quarantine purposes.

Non-conformance	means a non-fulfilment of a specified requirement.
PBB	means the Plant Biosecurity Branch.
Tasmania only	means the section only applies to consignments being consigned to Tasmania.
Treatment lot	means a discrete quantity of produce collected in a coldroom and cold treated together as a unit.
Treatment lot number	means a unique number or alpha-numeric code that identified a treatment lot and the coldroom and facility in which it was treated.

5. RESPONSIBILITY

These position titles have been used to reflect the responsibilities of staff under the ICA arrangement. These positions may not be present in all businesses, or different titles may be used for staff who carry out these responsibilities. In some businesses one person may carry out the responsibilities of more than one position.

The **Certification Controller** is responsible for -

- representing the Business during audits and other matters relevant to ICA accreditation;
- training staff in their duties and responsibilities under this Operational Procedure;
- ensuring the business and its staff comply with their responsibilities under this Operational Procedure;
- ensuring that Cold Treatment certified under the business's ICA arrangement is carried out in accordance with this Operational Procedure.

Part A (covering cold treatment)

- ensuring the Business has current accreditation for an ICA arrangement under Part A of this Operational Procedure (refer section **7.1**);
- if the cold treatment facility has more than one coldroom used for cold treatment, maintaining a facility plan for each facility in which fruit is cold treated for certification under this Operational Procedure (refer section **7.2**);
- ensuring coldrooms and temperature sensing and recording equipment conforms to the requirements of this Operational Procedure (refer section **7.3**);

Part B (covering fruit receival, packing certification)

- ensuring the Business has current accreditation for an ICA arrangement under Part B of this Operational Procedure (refer section **7.1**);
- ensuring all fruit received for packing and/or certification under Part B of this Operational Procedure are sourced from a Business accredited under Part A and, if applicable, are accompanied by a valid Cold Treatment Declaration (refer section **7.8**);
- overseeing the packing of fruit for certification under this Operational Procedure (refer section **7.9**);

- maintaining packing records for all certified fruit that allows trace back of fruit to the original treatment lot and Coldroom Loading and Treatment Record or Cold Treatment Declaration (refer section **7.9.1**).

The **Treatment Operator** is responsible for -

- calibrating temperature sensors and recording equipment (refer section **7.3.5**);
- maintaining temperature sensing and recording equipment calibration test records (refer section **7.3.5**);
- loading the coldroom, placement of temperature sensors and oversight of cold treatment and temperature recording (refer section **7.4**);
- maintaining cold treatment records (refer section **7.5**).

The **Authorised Dispatcher** is responsible for –

- ensuring all packages covered by an Assurance Certificate issued by the Business under this Operational Procedure are identified (refer section **7.11.1**);
- maintaining copies of all Assurance Certificates issued by the Business under the ICA arrangement (refer section **7.11.3**).

Authorised Signatories are responsible for –

- ensuring, prior to signing and issuing an Assurance Certificate, that produce covered by the certificate has been prepared in accordance with the Business's ICA arrangement and that the details on the certificate are true and correct in every particular (refer section **7.11.2**).

6. REQUIREMENTS

Produce certified under this Operational Procedure must be subjected to cold treatment in an approved facility in accordance with one of the following treatment schedules.

All States except Tasmania

Temperature (°C)	Minimum number of days
0.0 ± 0.5	14
1.0 – 3.0 ± 0.5	16 (lemons 14)

Tasmania

Temperature (°C)	Minimum number of days
-0.5 ± 0.5	14

Fruits that have been subjected to cold treatment include kiwifruit, pome fruit, stonefruit, citrus and grapes. Most tropical and some temperate fruits are susceptible to cold injury and are not suitable for cold treatment.

If in doubt as to whether a specific cold treatment time/temperature regime is harmful to the quality or condition of a particular commodity, check with experienced persons such as departmental officers for any available information. Testing of small quantities is recommended.

The Department of Industry, Tourism and Trade accepts no responsibility for any damage to produce from this treatment.

The Department of Industry, Tourism and Trade maintains the right to inspect at any time fruit prepared for certification under an ICA arrangement, and to refuse to accept an Assurance Certificate issued by a business operating under an ICA arrangement where produce is found not to conform to specified requirements.

7. PROCEDURE

7.1 Accreditation

7.1.1 Application for Accreditation

A business seeking accreditation for an ICA arrangement under this Operational Procedure **shall** submit an Application for Accreditation (refer Attachment 1) at least 10 working days prior to the intended date of commencement of certification of produce.

If the Business cold treat fruit for packing and certification by another Business, then Part A is indicated on the application and a Facility Plan attached.

If the Business only packs and certifies fruit cold treated by other businesses, then Part B is indicated on the application.

If the Business cold treats, packs and certifies fruit then Part A and Part B are indicated on the application and a Facility Plan attached.

7.1.2 Audit process

Desk Audit

When the application is received a desk audit is conducted to ensure the application is completed correctly with the required attachments. If found to be incomplete the application form will be returned to the business for completion. Once the desk audit has been passed, an initial/compliance audit will be conducted.

Initial Audit

Prior to accrediting a business, an Inspector carries out an initial audit of the business to verify the ICA system is implemented and capable of operating in accordance with the requirements of the Operational Procedure, and the system is effective in ensuring compliance with the specified requirements of the ICA arrangement.

On completion of a successful initial audit, applicants will be granted provisional accreditation for a period of 4 weeks and a 'Certificate of Accreditation' for Provisional Certification will be issued (refer section **7.1.3**).

Initial Compliance Audit

In the first year of accreditation an initial compliance audit will be conducted within 4 weeks of accreditation or issuing an assurance certificate pursuant to the Operational Procedure. On completion of successful initial compliance audit the business shall be granted full accreditation.

On completion of a successful compliance audit, annual accreditation is granted to cover the current season, up to a maximum of twelve months from the date of provisional accreditation, and a new 'Certificate of Accreditation' issued (refer section **7.1.3**).

Compliance Audits

Compliance audits are conducted to verify that the ICA system continues to operate in accordance with the requirements in the Operational Procedure.

Ongoing compliance audits are conducted at least once every six months for a business that operates for more than six months of each year.

Random audits are conducted on a selected number of accredited businesses each year. Random audits may take the form of a full compliance audit, or audits of limited scope to sample treatment mixtures, certified produce, ICA system records or ICA system processes.

Unscheduled compliance audits may be conducted at any time as a random audit or to investigate reported or suspected non-conformances.

Re-Accreditation

Accredited businesses are required to re-apply for accreditation each year the business seeks to operate under the ICA arrangement. Businesses seeking re-accreditation must lodge a renewal application prior to accreditation lapsing, or if accreditation has lapsed, prior to being accredited to certify produce under the ICA arrangement.

A compliance audit is conducted within twelve weeks of the business applying for re-accreditation each year.

7.1.3 Certificate of Accreditation

An accredited business will receive a 'Certificate of Accreditation for an Interstate Certification Assurance' detailing the facility location, Operational Procedure, scope (type of produce and chemical covered) and period of accreditation.

The business **must** maintain a current 'Certificate of Accreditation for an Interstate Certification Assurance' and make this available on request by an Inspector.

A business may not commence or continue certification of produce under the ICA arrangement unless it is in possession of a valid and current 'Certificate of Accreditation for an Interstate Certification Assurance' for the facility, procedure, produce type and chemical covered by the Assurance Certificate.

7.1.4 Non-conformances and Sanctions

Non-conformances

Audits are regularly undertaken to evaluate the effectiveness of implementation of the requirements. If, in the opinion of the auditor, there is evidence indicating that there has been a failure to meet one or more accreditation requirements, the auditor may raise a Non-conformance Report (NCR). Actions required to address the non-conformance **shall** be discussed and recorded on the NCR.

If integrity of the accreditation has been significantly compromised, the non-conformance may provide grounds for the suspension or cancellation of the accreditation, and prosecution.

Incident Reports

Incident Reports may be raised by intra and/or interstate quarantine authorities to report the detection of a non-conformance in produce certified under this arrangement. An investigation into the incident **shall** be conducted and findings reported back to the originator.

If the integrity of the accreditation has been significantly compromised, the incident may provide grounds for the suspension or cancellation of the accreditation, and prosecution.

Suspension and Cancellation

The PBB may suspend or cancel an accreditation when a business is found, to have:

- obtained accreditation through the provision of false or misleading information;
- contravened a procedure requirement that compromises the integrity of the arrangement;
- not rectified a non-conformance;
- not paid fees owing to the PBB.

Any action taken by the PBB to suspend or cancel an accreditation shall be provided in writing to the business. This shall provide guidance making an appeal to have the decision reviewed.

Prosecution

Businesses found to be operating contrary to the Act may be liable for prosecution.

Charging Policy

Plant Biosecurity fees will apply to businesses that participate in ICA arrangements. PBB can be contacted for a schedule of the Plant Biosecurity fees.

PART A (Covers cold treatment)

7.2 Facility Plan

The Certification Controller shall maintain a plan of the facility.

The facility plan shall include the following details -

a) road access including street name/s;

b) internal roadways within the facility providing access to the coldrooms;

c) the location and identification of buildings at the facility;

d) the location and size (m^3) of each coldroom and the coldroom number or other code that uniquely identifies each coldroom at the facility.

A copy of the facility plan shall be included with the Business's Application for Accreditation if accreditation for Part A is required (refer section **7.1.1**).

A blank Facility Plan is included as **Attachment 3** and should be copied for completion and inclusion with the Business's Application for Accreditation.

7.3 Cold Treatment Facilities

7.3.1 Coldrooms

Coldrooms in which cold treatment is to occur under this Operational Procedure shall be purpose built, have appropriate cooling, temperature measurement and recording equipment and must be lockable to ensure the security and integrity of the fruit being treated.

Coldrooms shall have adequate air circulation to ensure effective and equal cooling of all fruit in the room.

7.3.2 Temperature Sensing and Recording Equipment

Temperature sensing and recording systems shall have an overall accuracy of not more than ± 0.5°C in the range of -3°C to +3°C and a resolution of up to 0.1°C (i.e. the combined sensing and data recording systems must be accurate to within 0.5°C of the true temperature and must be able to be read in increments of 0.1°C or less).

Low resolution mini data loggers may be used which have an overall accuracy of not more than ± 0.5°C at 0°C and a resolution of up to 0.5°C. Where low resolution mini data loggers are used, treatment duration and certification shall be based on a temperature that is 0.5°C above the maximum temperature recorded during the treatment period (e.g. if the maximum temperature reading during treatment is 1.0°C, then treatment duration and certification shall be at 1.5°C).

7.3.3 Temperature Sensors

Remote sensors used for measuring fruit temperature shall have an outer sheath of 6.4 mm diameter or less. The sensing unit shall be located within the first 25 mm of the sensor. Sensors shall be accurate to within ± 0.2°C in the range of -3°C to +3°C.

Each sensor shall be uniquely identified in a manner such as a tag attached to the sensor or on the adjacent wall or fruit container. Sensors shall be matched to a specific data recorder.

A plan indicating the location and identity of each sensor shall be kept with the data recording instrument. A blank Coldroom Sensor Placement Plan is provided as **Attachment 8**.

7.3.4 Temperature Recording Equipment

Reading of recording instruments shall be accurate to within ± 0.2°C of the true temperature in the range of -3°C to +3°C in the normal operating environment. The instrument must be capable of repeatability in the range of -3°C to +3°C.

For low resolution mini data loggers, temperature recording shall be accurate to within ± 0.5°C at 0°C.

Data Logger Display Standards

For mini data loggers, temperature records shall be downloaded onto a personal computer at completion of the treatment period. At conclusion of the treatment, the Treatment Operator shall obtain print outs of the treatment temperatures throughout the treatment period and date and sign these data log sheets as the treatment record (refer section **7.5**).

For each sensor the temperature value shall be sampled at least once an hour with identified temperature points accurate to 0.2°C. Each hourly reading shall be displayed on the data log sheet and contain a clear, fully informative record including the sensor identity/location, the temperature reading to a resolution of at least 0.2°C, and the date and time of sampling.

Mini Data Logger Display Standards

For mini data loggers, temperature records shall be downloaded onto a personal computer at completion of the treatment period. At conclusion of the treatment, the Treatment Operator shall obtain print outs of the treatment temperatures throughout the treatment period and date and sign these data log sheets as the treatment record (refer section **7.5**).

For each sensor the temperature value shall be sampled at least once an hour with identified temperature points accurate to 0.2°C (or 0.5°C for low resolution data loggers). Each hourly reading shall be displayed on the data log sheet and contain a clear, fully informative record including the sensor identity/location, the temperature reading to a resolution of at least 0.2°C (or 0.5°C for low resolution data loggers), and the date and time of sampling.

Manual Recording Systems

Temperature reading and recording may be done manually on log sheets maintained by the Treatment Operator. Temperatures shall be sampled from each sensor and recorded on log sheets every 12 hours in a 24 hour cycle for each day of the cold treatment.

Each 12 hourly sample shall be recorded on the log sheet and contain a clear, fully informative record including the sensor identity/location, the temperature reading to a resolution of at least 0.2°C, the date and time of sampling and the identification and initials of the officer taking the reading. Manual temperature sampling shall only be carried out by the Treatment Operator or Certification Controller.

If the Coldroom Facility is exposed to direct sunlight, an additional manual temperature sample must be recorded between 10am and 2pm.

An example of a manual data log sheet is included as **Attachment 10**.

7.3.5 Calibration of Temperature Sensing and Recording Equipment

Temperature sensors and recording systems must be calibrated at the freezing point (0°C) prior to commencement and on completion of each cold treatment. At calibration, each sensor must be uniquely identified and matched with the corresponding data recorder.

Calibration shall be undertaken by the Treatment Operator or by a recognised Testing Authority. For the purpose of this Operational Procedure, a recognised Testing Authority is a person or company that is approved by the Department of Primary Industries to calibrate cold treatment temperature sensing and recording equipment.

Calibration Method

Where calibration is undertaken by the Treatment Operator, the calibration method detailed in **Attachment 4** shall be used.

Temperature Sensing and Recording Equipment Calibration Records

The Treatment Operator shall maintain records of the results of calibration of all temperature sensors and recording equipment used under this Operational Procedure.

Records shall be in the form of calibration test records from the recognised Testing Authority or a Cold Treatment Sensor Calibration Test Record (refer **Attachment 9**) or similar record completed by the Treatment Operator.

Calibration test records shall include the following information –

- the date of calibration;
- the identification of the sensor and data recording instrument;
- the results of the two readings taken at 0.0°C;
- the correction (variation) if any to be applied to the sensor reading;
- the name of the person or recognised Testing Authority responsible for conducting the calibration test.

7.4 Cold Treatment

All fruit certified under this Operational Procedure must have been treated for fruit fly in an approved cold treatment facility in accordance with an appropriate temperature/time schedule as detailed in section 6.

Access to coldrooms during treatment shall be restricted to essential personnel. When access to coldrooms is not required, coldrooms shall remain locked during treatment.

7.4.1 Loading the Coldroom

Produce shall be placed in such a way as to ensure unrestricted circulation of refrigerated air through the stack and thus minimise the development of localised hot spots.

The Treatment Operator must ensure that each bin and/or package of produce placed in cold storage for treatment is clearly labelled with the treatment lot number and, if applicable, the owner of the fruit. The treatment lot code or number shall be a unique identifier that identifies the treatment lot and is traceable to the relevant Coldroom Loading and Treatment Record.

The Treatment Operator shall ensure a Coldroom Loading and Treatment Record (refer **Attachment 5**) is kept for each treatment lot placed in the coldroom. Multiple treatment lots may be treated in one coldroom at one time.

The Coldroom Loading and Treatment Record shall record –

- the treatment lot code or number;
- the coldroom in which the lot is treated;
- the date of loading;
- the type and quantity of produce in the lot;
- identification of the owner of the fruit;
- the date cold treatment commenced;
- the date cold treatment was completed;
- the maximum temperature recorded during cold treatment (treatment temperature).

Identification of the owner of the treatment lot is not required where the business only cold treats its own fruit.

7.4.2 Verification of Cold Treatment Using Pulp Temperatures

Sensor Placement

A minimum of three sensors shall be used for volumes of up to 250 cubic metres of fruit. One sensor shall measure air temperature and two shall measure fruit pulp temperature. One fruit pulp sensor shall be used for each additional 250 cubic meters of fruit or part thereof. These requirements also apply where mini data loggers are used for sensing and recording treatment temperatures.

Fruit pulp sensors shall be inserted into the centre of a test fruit in the top layer of the package or bin. The test fruit shall be selected from the largest fruit size in the lot. With small fruit, such as grapes, the sensor shall penetrate two or more fruit. Cartons, if used, must be fully closed following insertion of the sensors.

During initial cooling the warmest area in the load of fruit is to be determined by placing sensory probes or thermometers in air and fruit at various locations in the stack and measuring and recording the temperature profiles. A history of these records should be accumulated and used to determine optimum sensor placement for a particular coldroom and/or stack configuration.

At the commencement of treatment a sensor shall be placed to measure air temperature and one to measure pulp temperature in the warmest part of the load as determined by temperature profiles.

Further sensors shall be placed to measure pulp temperatures at locations representing different areas of the coldroom from midway to the top of the load.

Treatment Method

Treatment shall commence only when fruit pulp temperature has equilibrated for at least 24 hours at the specified target temperature (refer section **6**).

If pulp temperature increases to more than the tolerance limit (0.5°C) above the specified target temperature at any time during the treatment period the fruit temperature must be lowered within tolerance limits and the treatment recommenced as if starting a new treatment period. Alternatively, treatment may be continued at a higher target temperature (if one is specified in section **6**) and the produce held for the corresponding longer treatment period.

The Treatment Operator shall regularly check temperature recording equipment to ensure it continues to function correctly. If temperature sensing or recording equipment fails during the treatment, the equipment must be repaired and the treatment recommenced as if starting a new treatment period.

7.4.3 Verification of Cold Treatment Using Return Air Temperature

Records of the return air temperature may be used to verify cold treatment for fruit in long term air or controlled atmosphere (CA) cold storage when return air temperature has been maintained at or below the selected target temperature for at least 4 weeks prior to treatment commencing.

This option can only be used for controlled atmosphere or air stored fruit that cannot be accessed to place pulp temperature sensors.

Sensor Placement

Return air temperature shall be monitored by a single sensor located near the thermostat probe in the return air stream to the cooling unit. This requirement also applies where a mini data logger is used for sensing and recording return air temperature.

Treatment Method

The Treatment Operator must record the return air temperature of the coldroom for 26 days after loading at intervals of not less than every 5 days, and continuously for at least 2 days at hourly intervals, prior to commencement of treatment to ensure the temperature is consistently at or below the selected target temperature.

Following commencement of treatment, return air temperatures must remain at or below the target temperature during the treatment period. If the temperature of return air (other than that associated with periodic defrost cycle fluctuations) exceeds the return air target temperature by more than +0.5°C during the treatment period, the treatment is deemed to be invalid and recording must recommence as if starting a new treatment period. Alternatively, a higher target temperature (if one is specified in section **6**) may be selected and records kept for the corresponding longer treatment period.

The Treatment Operator shall regularly check temperature recording equipment to ensure it continues to function correctly. If temperature sensing or recording equipment fails during the treatment, the equipment must be repaired and the treatment recommenced as if starting a new treatment period.

7.5 Treatment Records

The Treatment Operator shall maintain records of each cold treatment. Cold treatment records shall include a Coldroom Loading and Treatment Record (refer Attachment **5**) for each treatment lot, continuous data log sheet or manual data log sheet for each cold treatment.

Continuous data log sheets or manual data log sheets shall be maintained with the Coldroom Loading and Treatment Record to which they relate.

For mini data loggers, temperature records may be downloaded onto a personal computer at completion of the treatment period. At conclusion of the treatment, the Treatment Operator shall obtain printed data log sheets of the treatment temperatures throughout the treatment period.

Treatment temperature records must identify –

- the coldroom;
- the date and time of temperature sampling;
- the sensor identification to which the temperature reading relates; and
- the temperature reading to a resolution of at least 0.2°C (or 0.5°C for low resolution temperature mini data loggers).

The Treatment Operator shall date and sign the treatment record at the conclusion of the treatment as verification of the accuracy of the record.

Any alterations to treatment temperature or time schedules must be noted on the relevant treatment temperature record with an explanation for the alterations and the date and initials of the Treatment Operator.

7.6 Post Treatment Security (Tasmania only)

Treated fruit shall be held for the minimum practical period before it must be secured against infestation by fruit fly.

Any fruit which is stored outside the treatment facility after treatment and prior to dispatch must be held under secure conditions.

Fruit must be stored at and transported from the cold treatment facility in secure conditions that prevent infestation by fruit fly.

Secure conditions include –

a) unvented packages;

b) vented packages with the vents secured with gauze/mesh with a maximum aperture of 1.6 mm;

c) fully enclosed under tarpaulins, hessian, shade cloth, mesh or other covering which provides a maximum aperture of 1.6 mm;

d) shrink wrapped and sealed as a palletised unit;

e) fully enclosed or screened buildings, coldrooms, vehicles or other facilities free from gaps or other entry points greater than 1.6 mm.

7.7 Cold Treatment Declaration

A Business which cold treats fruit to be packed by another Business for certification must be accredited for an ICA arrangement under Part A of this Operational Procedure.

The Business shall supply a Cold Treatment Declaration (refer Attachment **6**) with each delivery of fruit supplied to the packing business for certification.

A declaration is not required where the Business that cold treats the fruit is the same Business that packs and certifies the fruit under this Operational Procedure.

The declaration must identify –

a) the name and Interstate Produce (IP) Number of the accredited Business that cold treated the fruit;

b) a statement the business is accredited under Part A of this Operational Procedure for the source cold treatment facility;

c) the identity of the facility in which the fruit was treated;

d) identification of the treatment lot number and the type and quantity of produce from the treatment lot in the delivery covered by the declaration;

e) details of cold treatment of each treatment lot covered by the declaration including the commencement and completion dates and the maximum temperature reached during the treatment period.

PART B (Covers the packer activities of fruit receival, packing and certification)

7.8 Fruit Receival

The Fruit Receival Officer shall ensure that all fruit received for certification under this Operational Procedure –

a) are supplied by a Business accredited under Part A; and

b) each bin or pallet is identified with the treatment lot number of the treatment lot in which it was treated.

Any bin or pallet that is not clearly identified with the treatment lot number shall be regarded as untreated for the purpose of this Operational Procedure.

7.8.1 Receival of Fruit Treated by Another Business

A Business that packs and/or certifies fruit that has been cold treated by another Business shall ensure –

a) each delivery of fruit received from another Business for certification under this Operational Procedure is accompanied by a Cold Treatment Declaration (refer section **7.7**);

b) fruit supplied for certification has undergone a cold treatment regime in accordance with section **6**;

c) the treatment lot number and cold treatment details are maintained for all produce received and certified under this Operational Procedure from receival through to certification and dispatch.

The Business shall maintain copies of each Cold Treatment Declaration received from a Business accredited under Part A that treated fruit they pack and certify under this Operational Procedure.

7.9 Packing

The Certification Controller shall oversee the packing process to ensure only fruit from bins that have been cold treated in accordance with the requirements specified in section **6** and are identified with the treatment lot number is packed for certification under this Operational Procedure.

7.9.1 Packing Records

Where produce is cold treated in bulk and packed after treatment, packing records shall be maintained by the Certification Controller that provide trace back of certified produce to the original treatment lot and the relevant Cold Treatment Declaration or Coldroom Loading and Treatment Record.

Packing records shall be in the form of a Cold Treatment Packing Record (refer Attachment **7**) or records which capture the same information.

Packing records must include –

- the Interstate Produce (IP) number of the Business that operates the approved facility in which the produce was packed;
- the date of packing;
- the treatment lot code or number;
- the number and net weight of the bulk containers being packed;
- the type and variety or cultivar of the produce being packed;
- the number and count or net weight of packages packed from the lot;
- Plant Health Assurance Certificate numbers covering the packed produce.

7.9.2 Identification of Treated and Untreated Fruit During Packing

A Business that packs treated and untreated fruit shall implement systems to identify the treatment status of fruit during packing to prevent mixing of treated and untreated fruit.

Examples of acceptable methods of identifying treated and untreated fruit during packing include –

a) packing treated fruit at different times to untreated fruit and clearing the lines before changing over; or

b) packing treated and untreated produce on different packing lines.

Other methods may be used provided they clearly identify and segregate treated and untreated fruit.

7.9.3 Identification of Treated and Untreated Fruit After Packing

A Business that packs treated and untreated fruit shall implement systems to identify the treatment status of fruit after packing to prevent mixing of treated and untreated fruit.

Examples of acceptable methods of identifying treated and untreated fruit after packing include –

a) using packaging which differs significantly in appearance; or

b) marking each package of treated fruit in a manner that clearly identifies the fruit as treated in accordance with this Operational Procedure.

Other methods may be used provided they clearly identify treated and untreated fruit.

7.10 Post Treatment Security (Tasmania only)

Packing shall commence as soon as practicable after treatment. Any treated fruit that is not in the process of packing must be held in secure conditions until packed.

Completed pallets of packed produce shall be held for the minimum practical period before placing in secure conditions.

Certified fruit must be stored at and transported from the packing facility in secure conditions that prevent infestation by fruit fly.

Secure conditions include –

a) unvented packages;

b) vented packages with the vents secured with gauze/mesh with a maximum aperture of 1.6 mm;

c) fully enclosed under tarpaulins, hessian, shade cloth, mesh or other covering which provides a maximum aperture of 1.6 mm;

d) shrinkwrapped and sealed as a palletised unit;

e) fully enclosed or screened buildings, coldrooms, vehicles or other facilities free from gaps or other entry points greater than 1.6 mm.

Fruit consigned to Tasmania must be transported in full container lots sealed prior to transport, or as lesser container lots in accordance with the requirements of (a), (b) or (d) above.

Where consignments are transported to Tasmania as full container lots, the seal number must be included in the Brand Name or Identifying Marks section of the Assurance Certificate covering the consignment (refer Attachment 2).

Where consignments are transported in vented packages that are sealed as a palletised unit in accordance with (d) above, the Business must secure the top layer of the pallet by applying a row of tape over the shrinkwrap and have applied to the tape in waterproof ink the signature of an Authorised Signatory, the number of the Plant Health Assurance Certificate covering the consignment and the date.

7.11 Dispatch

7.11.1 Package Identification

The Authorised Dispatcher shall ensure that, after treating and packing, each package is marked in indelible and legible characters of at least 5 mm, with –

- the Interstate Produce (IP) number of the accredited Business that certified the fruit;
- the words “MEETS ICA-07”; and
- the date (or date code) on which the fruit was certified or packed;

prior to the issuance of an Assurance Certificate by the Business under this Operational Procedure.

Any packages containing fruit that has not been cold treated in accordance with the requirements of this Operational Procedure shall not be marked as stated above.

7.11.2 Assurance Certificates

The Authorised Dispatcher shall ensure an Assurance Certificate is completed and signed by an Authorised Signatory of the Business prior to consignment of produce to a market requiring certification of cold treatment for fruit fly.

Assurance Certificates shall be in the form of a Plant Health Assurance Certificate.

Assurance Certificates shall include-

a) in the “Accredited Business that Prepared the Produce” section –

- the name and address of the Accredited Business that cold treated the fruit;

b) in the "IP No. of Acc. Business" section –

- the IP No. of the Accredited Business that cold treated the fruit;

c) in the "Grower or Packer" section –

- the name and address of the Accredited Business that packed the fruit;

d) in the "Treatment" section –

- in the Date column, the date the cold treatment period was completed;
- in the Treatment column, the words "Cold Treatment";
- in the Duration and Temperature column, the words "XX days at ## °C or below", where XX is the number of days in the treatment period and ## is the maximum temperature reached during the treatment period.

Where temperature verification is based on return air temperature (refer section 7.4.3) the declared maximum temperature must be 0.5°C above the maximum temperature recorded throughout the treatment period.

A completed example is shown as **Attachment 2**.

Individual Assurance Certificates shall be issued to cover each consignment (ie. a discrete quantity of product transported to a single consignee at one time) to avoid splitting of consignments.

Assurance certificates shall be completed, issued and distributed in accordance with the Work Instruction Guidelines for Completion of Plant Health Assurance Certificates [WI-02].

7.11.3 Assurance Certificate Distribution

The **original** (yellow copy) **must** accompany the consignment.

The **duplicate** (white copy) **must** be retained by the Business.

The **triplicate** (green copy) **must** be sent to PBB monthly.

7.12 ICA System Records

The Business shall maintain the following records –

PART A

a) a Facility Plan (refer **7.2**);

b) Coldroom Loading and Treatment Records (refer sections **7.4.1** and **7.5**);

c) Coldroom Sensor Placement Plans (refer section **7.3.3**);

d) Coldroom Sensor Calibration Test Records (refer section **7.3.5**);

e) Cold Treatment temperature records (data log sheets etc.) (refer section **7.5**).

PART B

a) if applicable, a copy of each Cold Treatment Declaration received (refer section **7.8.1**);

b) Cold Treatment Packing Records (refer section **7.9.1**);

c) a copy of each Plant Health Assurance Certificate issued by the Business (refer section **7.11.3**).

ICA system records shall be retained for a period of at least 12 months from completion, or until the next compliance audit of the ICA arrangement, whichever is the later.

An accredited Business must hold a minimum of 12 months ICA system records at the time of any compliance audit. If the compliance audit is conducted more than 12 months from the last compliance audit, the business must maintain all records completed since the previous compliance audit.

ICA system records shall be made available on request by an Inspector.

7.13 ICA System Documentation

The Business shall maintain the following documentation –

a) a copy of the Business's current Application for Accreditation (refer Attachment **1**);

b) a current copy of this Operational Procedure;

c) a current Certificate of Accreditation for an Interstate Certification Assurance Arrangement.

ICA system documentation shall be made available on request by an Inspector.

8. ATTACHMENTS

Attachment 1	*Application for Accreditation of a Business for an Interstate Certification Assurance (ICA) Arrangement*	**(BLANK)**
Attachment 2	*Plant Health Assurance Certificate Example*	**(COMPLETED EXAMPLE)**
Attachment 3	*Facility Plan*	**(BLANK)**
Attachment 4	*Calibration of Temperature Sensors and Temperature Recording Equipment*	
Attachment 5	*Cold Room Loading and Treatment Record*	**(BLANK)**
Attachment 6	*Cold Treatment Declaration*	**(BLANK)**
Attachment 7	*Cold Treatment Packing Record*	**(BLANK)**
Attachment 8	*Coldroom Sensor Placement Plan*	**(BLANK)**
Attachment 9	*Coldroom Sensor Calibration Test Record*	**(BLANK)**
Attachment 10	*Cold Treatment Record*	**(BLANK)**
Attachment 11	*Cold Treatment Record Example*	**(COMPLETED EXAMPLE)**

Tick each box that describes your business and the ICA/CA arrangement and provide specific details where required. Only one arrangement, that is one Operational Procedure at one Facility, may be covered in one application.

Indicate the type of application being made. ☐ New ☐ Renewal ☐ Amendment

1. Business/Person Details

(a) Type of Ownership of Business

☐ Individual ☐ Incorporated Company ☐ Other (please specify)

☐ Partnership ☐ Cooperative Association

(b) Name of Business/Person

Please supply name in full. For a partnership, list the full names of each partner in their normal order. Companies must provide their Australian Company Number (ACN) or Australian Registered Body Number (ARBN) and attach a copy of the Certificate of Incorporation. Cooperative associations must provide appropriate proof of registration (i.e. a copy of the Certificate of Registration or registration search from the Office of Business Affairs or Australian Securities Commission)

☐ ARBN ☐☐☐ ☐☐☐ ☐☐☐

☐ ACN

(c) Trading Name/s of the Business/Person (as shown on packages sent to market)

(d) Postal address of the Business/Person

Telephone: ( )

Facsimile: ( )

Mobile:

E-mail

(e) Has the business/person been registered previously for the interstate movement of produce? ☐ Yes ☐ No

If yes, give the business's/persons Interstate Produce (IP) Number **A**

2. Operational Procedure and Facility Details

a) Operational Procedure used in this arrangement

Reference No. Title of Operational Procedure/Procedure

(b) Street address of the facility

Telephone: ( )

Facsimile ( )

Mobile

3. Authorised Signatories (for Plant Health Assurance Certificates)

	Family Name	Given Name/s	Specimen Signature
Certification Controller			
Back-up Certification Controller			
Additional Authorised Signatories			

4. Types (including varieties) of Produce to be Prepared Under the ICA/CA Arrangement (if insufficient space, attach a list)

5. Interstate Certification Assurance/Certification Assurance System Records

(a) What records do you maintain to verify that the business is carrying out its responsibilities and duties under the Operational Procedure?

☐ We maintain all our records in accordance with the examples provided in the Operational Procedure.

☐ We have developed alternative or additional records to those provided in the Operational Procedure.

(b) List the alternative or additional records you intend to use and attach a copy to this application.

(a) (b) (c)

6. Accreditation Conditions

(a) For the purposes of this agreement the following definitions shall apply:-

Applicant	means the person, **corporation**, or other legal entity who is accredited under this agreement.
Inspector	means an inspector appointed under the *Plant Health Act*
Department	means the Department of Primary Industry and Resources
Interstate Certification Assurance System	means the processes, equipment, personnel and resources used to implement the Operational Procedure/Procedure nominated in Section 2(a).

(b) The applicant must maintain and operate the interstate certification assurance system in accordance with the Operational Procedure as nominated in Section 2(a), and must maintain the records specified in Section 5.

(c) The applicant will, upon request, allow an inspector to enter any premises where produce certified under the agreement is treated or dispatched, or where any produce, equipment, chemicals, documents for records are stored.

(d) The inspector may inspect or take samples of any relevant item present on the premises at the time of the inspection.

(e) The applicant must take all steps to assist an inspector in the conduct of audits including allowing the inspector or officer to interview any employee of the applicant in relation to the Implementation of the Interstate Certification Assurance System.

(f) The applicant authorises the persons listed in Section 3 of this application to issue certificates on his or her behalf.

(g) In the event of cancellation or non-renewal of this arrangement the certificate pad and any green copies must be returned as they remain the property of Plant Biosecurity Branch.

(h) Plant Biosecurity fees will apply to those businesses/persons that choose to participate in this ICA/CA arrangement. Plant Biosecurity Branch can be contacted for a schedule of the Plant Biosecurity fees.

The applicant agrees to abide by the accreditation conditions listed above and acknowledges that any accreditation is granted subject to those conditions.

The applicant certifies that all of the information contained in this application is true and correct.

Signature/s	**Date**

Note: ***Where the applicant is a corporation, the company seal must be applied, and signed, in the appropriate form. Where the applicants are members of a partnership, each of the partners must sign the application.***

Office Use Only

Desk Audit ☐ Passed ☐ Failed

Name (print) _____ Date received ____ / ____ / ____

Signature: _____ Date completed ____ / ____ / ____

Post your application/s to: Department of Industry, Tourism and Trade, Plant Biosecurity Branch
GPO Box 3000, DARWIN NT 0801

Plant Health Assurance Certificate

Consignment Details (PLEASE PRINT)

CONSIGNOR (FROM)
Name ***Sam's Mangoes Pty Ltd***
Address ***North Road***
Humpty Doo NT 0836

CONSIGNEE (TO)
Name ***Adelaide Produce Market***
Address ***Burma Road***
Pooraka South Australia 5095

RECONSIGNED TO (Splitting consignments or reconsigning whole consignments).
Name
Address

Certification Details (PLEASE PRINT)

IP NUMBER	FACILITY NUMBER	PROCEDURE
A ***9999***	***01***	ICA- ***07***

ACCREDITED BUSINESS THAT PREPARED THE PRODUCE
Name ***Sam's Mangoes Pty Ltd***
Address ***North Road***
Humpty Doo NT 0836
GROWER OR PACKER
Name ***As Above***
Address
OTHER FACILITIES SUPPLYING PRODUCE

BRAND NAME OR IDENTIFYING MARKS (as marked on packages)	DATE OR DATE CODE (as marked on packages)
Sam's Mangoes	***07072023***

Number of Packages	Type of Packages (e.g. trays, cartons)	Type of Produce	Authorisation for Split Consignment
2000	***Trays***	***Mangoes***	

Treatment Details

Treatment	Chemical (Active Ingredient)	Treatment Date	Concentration / Duration and Temperature
Cold	***Cold***	***07/07/2007***	***20 days at 3 °C or below***

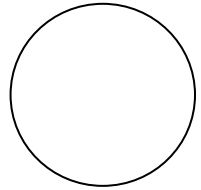
Additional Certification / Codes
Meets ICA07.

Declaration

I, an authorised Signatory of the accredited business that prepared the plants or plant produce described above, hereby declare that the plants or plant produce have been prepared in the business's approved facilities in accordance with the *Plant Health Act* and that the details shown above are true and correct in every particular.

AUTHORISED SIGNATORY'S NAME (PLEASE PRINT)	SIGNATURE	DATE
Joe Signatory	*Joe Signatory*	*27/07/2007*

FACILITY PLAN



INDICATE NORTH

FACILITY PLAN DETAILS

The facility plan (overleaf) is to include the following –

1. Road access including street name/s;
2. Internal roadways within the facility providing access to the coldrooms;
3. The location and identification of buildings at the facility;
4. The location and size (m^3) of each coldroom and the coldroom number or other code that uniquely identifies each coldroom at the facility.

COMPLETE THE FOLLOWING DETAILS FOR EACH COLDROOM SHOWN ON THE FACILITY PLAN –

Coldroom Reference Code or No.	Size (m^3)

ARRANGEMENT DETAILS

Applicant's Name (*as shown on the application form*)

Street Address of Facility (*as shown on the application form*)

Postcode

SCOPE OF ARRANGEMENT

Application is made for accreditation under Part A of ICA-07 Cold Treatment –

I .....(full printed name) the .....(position in business)

am authorised to sign on behalf of the business and I understand that-

a) accreditation will only be granted for the coldrooms nominated on the Facility Plan;

b) following accreditation, certification can only be issued in accordance with scope of accreditation detailed in the Certificate of Accreditation for an Interstate Certification Assurance (ICA) Arrangement covering the arrangement;

c) application must be made to amend any of the current details in the Application for Accreditation of a Business for an Interstate Certification Assurance Arrangement or this Facility Plan.

..... / /
Signature Date

CALIBRATION OF TEMPERATURE SENSORS AND RECORDING EQUIPMENT

1. Sensor Identification

Each senor shall be uniquely identified by means of a tag attached to the sensor or on the adjacent wall or fruit container.

Each sensor shall be matched with the output data recorder.

A plan showing the location and identity of each sensor shall be maintained with the data recording instrument.

2. **Equipment and supplies**

- An insulated container with a volume of at least 1 litre and an open neck.
- Thermometer clamp or similar device.
- 5 litres of chilled deionised water
- Crushed ice made from deionised water

3. **Sensor Calibration Procedure**

Sensor calibration shall be undertaken prior to commencing, and on completion of each cold treatment.

Calibration shall be conducted using a mixture of crushed ice made from deionised water, and deionised water in an insulated container using the following procedure –

- Fill the insulated container with crushed ice. Add sufficient pre-cooled deionised water to cover the ice.
- Thoroughly stir the ice/water mixture. Add additional ice as the ice melts.
- Using the thermometer clamp or similar device, submerge each sensor in the ice/water mixture. Sensors must not touch the sides or bottom of the container.
- Constantly stir the ice/water mixture while testing is being carried out. Allow the temperature shown by the sensors to stabilise at the lowest temperature obtainable.
- Two consecutive readings shall be recorded for each sensor at the lowest temperature obtainable. There shall be at least 50 second interval between the two readings for any one sensor.

Calibration shall be to the nearest 0.2°C. For low resolution mini data loggers, calibration shall be to the nearest 0.5°C.

Any sensor the records a temperature of ±0.5° C or more from the standard of 0.0°C shall be replaced. The temperature variance of each sensor shall be calculated as the mean of the calibration of the two readings from 0°C and shall be clearly identified for each sensor and traceable to the data recording instrument.

COLDROOM LOADING AND TREATMENT RECORD

Business Name _____ Interstate Produce No. **A** | | | | |

Coldroom _____ Treatment Lot Code or No. _____

Date of Loading	Owner's Name	Fruit (Type & Variety)	Quantity (No. & Type)	Comments

Date Treatment Commenced / / Date Treatment Completed / /

Treatment Temperature _____ Number of Sensors Used _____

I certify that this treatment lot has been treated in accordance with the requirements of the Operational Procedure *Cold Treatment* [ICA-07].

_____ _____ / /

Treatment Operator (Printed Name) Signature Date

COLD TREATMENT DECLARATION

A Cold Treatment Declaration must be provided to the certifying/packer business to cover each delivery (lot) of fruit delivered to the other business for certification under the Operation Procedure ICA-07.

I _____ *(full printed name)*

An Authorised Signatory of –

_____ *(Business name)*,

Interstate Produce (IP) No. **A** | | | | |

Hereby declare that the fruit listed below and deliver to –

_____ *(Business name)*,

Interstate Produce (IP) No. **A** | | | | |

On - / / *(date)*

For certification under the Operational Procedure *Cold Treatment* [ICA-07], were cold treated as follows –

Treatment Lot Code or Number	Fruit Type and Variety	Number and Type of Packages	Date Treatment Commenced	Date Treatment Completed	Number of Treatment Days	Maximum Temperature (°C)

_____ / /

Signature Date

COLD TREATMENT PACKING RECORD

Business Name _____ Interstate Produce No. **A** | | | | |

Date of Packing	Treatment Lot Code or Number	Fruit Type & Variety	Quantity of Bins Packed	Number & Type of Packages	PHAC Number	Certification Controller's Initials

COLDROOM SENSOR PLACEMENT PLAN

The Coldroom Sensor Placement Plan should comprise a diagram of the coldroom and include the location and identification of each temperature sensor.

COLDROOM SENSOR CALIBRATION TEST RECORD

Business Name ---------- Interstate Produce No. **A** | | | | |

Coldroom ---------- Data Recording Instrument ID. ----------

Date of Testing	Sensor Identification	First Reading at 0.0°C	Second Reading at 0.0°C	Sensor Correction Value (± °C)	Treatment Operator	
					Printed Name	Signature

COLD TREATMENT RECORD

Business Name _____ Interstate Produce No. **A** | | | | |

Coldroom _____ Page No. _____

Date	Time	Sensor	Sensor	Sensor	Sensor	Sensor	Sensor	Printed Name	Initials

COLD TREATMENT RECORD

Business Name: ***Sam's Mangoes Pty Ltd*** Interstate Produce No.: **A** | *9* | *9* | *9* | *9* |

Coldroom: ***1*** Page No.: ***1***

Date	Time	Sensor	Sensor	Sensor	Sensor	Sensor	Sensor	Printed Name	Initials
		Air 1	*Pulp 1*	*Pulp 2*	*n/a*	*n/a*	*n/a*		
7/7/2007	*6am*	*2.3*	*2.5*	*2.5*	-	-	-	*Joe Signatory*	*J.S.*
7/7/2007	*1pm*	*2.2*	*2.5*	*2.4*	-	-	-	*Joe Signatory*	*J.S.*
7/7/2007	*6pm*	*2.2*	*2.4*	*2.4*	-	-	-	*Joe Signatory*	*J.S.*
8/7/2007	*6am*	*2.3*	*2.5*	*2.5*	-	-	-	*Joe Signatory*	*J.S.*
8/7/2007	*1pm*	*2.4*	*2.5*	*2.6*	-	-	-	*Joe Signatory*	*J.S.*
8/7/2007	*6am*	*2.2*	*2.3*	*2.4*	-	-	-	*Joe Signatory*	*J.S.*
Continue...									