

COLD TREATMENT

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COLD TREATMENT

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COLD TREATMENT**1. PURPOSE**

The purpose of this procedure is to describe -

- (a) the principles of operation, design features and standards required for cold treatment facilities; and
- (b) the responsibilities and actions of personnel;

that apply to the certification of cold treatment of fruit for fruit fly 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 Queensland.

This procedure covers verification of cold treatment using fruit pulp temperatures and return air temperatures.

This procedure is applicable where the requirements specified in [6. Requirement](#) are a specified entry condition of an interstate authority for Queensland fruit fly.

Certification of cold treatment under this Operational Procedure may not be an accepted quarantine entry condition for all produce to all intrastate and interstate markets.

Some intrastate or interstate markets may require additional quarantine certification for pests and diseases other than fruit fly as a condition of entry.

It is the responsibility of the business consigning the produce to ensure compliance with all applicable quarantine requirements.

Information on intrastate and interstate quarantine requirements can be obtained from the ICA Supervisor for your district.

3. REFERENCES

WI-02 *Guidelines for Completion of Plant Health Assurance Certificates*

4. DEFINITIONS

accredit means to accredit a person to issue Assurance Certificates under section 21 of the *Plant Protection Act 1989*.

Accrediting Authority means the Department of Primary Industries.

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Application for Accreditation	means an <i>Application for Accreditation of a Business for an Interstate Certification Assurance (ICA) Arrangement</i> [FDU 385].
Assurance Certificate	means a <i>Plant Health Assurance Certificate</i> [FDU 384].
Authorised Signatory	means an officer of an ICA accredited Business whose name and specimen signature is provided as an authorised signatory with the Business's Application for Accreditation.
Business	means the legal entity responsible for the operation of the facility and ICA arrangement detailed in the Business's Application for Accreditation.
Certification Assurance	means a voluntary arrangement between the Department of Primary Industries and a Business that demonstrates effective in-house quality management and provides assurance through documented procedures and records that produce meets specified requirements.
certified/certification	means covered by a valid <i>Plant Health Assurance Certificate</i> [FDU 384].
cold treatment	means the maintenance of produce at specified cold temperatures over a specified time to control possible fruit fly infestation.
facility	means the location where the cold treatment and/or post-harvest packing and certification operations covered by the ICA arrangement are carried out.
fruit fly	means Queensland fruit fly.
ICA	means Interstate Certification Assurance.
Inspector	means an inspector appointed under the <i>Plant Protection Act 1989</i> .
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.
nonconformance	means a nonfulfilment of a specified requirement.
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 identifies a treatment lot and the coldroom and facility in which it was treated.
Queensland fruit fly	means all stages of the species <i>Bactrocera tryoni</i> and related species <i>B. neohumeralis</i> .

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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 and duties under 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 [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 [7.2](#));
- ensuring coldrooms and temperature sensing and recording equipment conforms to the requirements of this Operational Procedure (refer [7.3](#));

PART B (covering fruit receipt, packing and certification)

- ensuring the Business has current accreditation for an ICA arrangement under Part B of this Operational Procedure (refer [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 [7.8](#));
- overseeing the packing of fruit for certification under this Operational Procedure (refer [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 [7.9.1](#)).

The **Treatment Operator** is responsible for -

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

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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 [7.11.1](#));
- maintaining copies of all Assurance Certificates issued by the Business under the ICA arrangement (refer [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 [7.11.2](#)).

6. REQUIREMENT

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	Minimum Number of Days
0.0° C ± 0.5° C	14
1.0° C ± 0.5° C	16
1.5° C ± 0.5° C	18
2.5° C ± 0.5° C	22

Tasmania

Temperature	Minimum Number of Days
-0.5° C ± 0.5° C	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 Primary Industries accepts no responsibility for any damage to produce from this treatment.

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The Department of Primary Industries and interstate quarantine authorities maintain the right to inspect certified produce at any time and to refuse to accept a certificate where produce is found not to comply with 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 make application for accreditation (refer [Attachment 1](#)) at least 10 working days prior to the intended date of commencement of treatment of produce.

If the Business cold treats 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

Initial Audit

Prior to accrediting a Business, an Inspector carries out an initial audit of the Business to verify the ICA system is in place 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 and posted a Certificate of Accreditation (refer [7.1.3 Certificate of Accreditation](#)).

Compliance Audits

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

Compliance audits are, wherever practical, conducted when the ICA system is operating.

A compliance audit is conducted within four weeks of the commencement of treatment following the initial audit and accreditation of the Business.

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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 [7.1.3 Certificate of Accreditation](#)).

A compliance audit is conducted between six and nine months after the date of accreditation for an ICA arrangement that operates for more than six months of the 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 documentation.

Unscheduled compliance audits may be conducted at any time to investigate reported or suspected nonconformances.

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 commencing further treatment and certification of produce under the ICA arrangement.

A compliance audit is conducted each year within twelve weeks of the Business commencing treatment of produce following re-accreditation.

A compliance audit is conducted between six and nine months after the date of re-accreditation for an ICA arrangement that operates for more than six months of the year.

7.1.3 Certificate of Accreditation

An accredited Business will receive a *Certificate of Accreditation for an Interstate Certification Assurance Arrangement* detailing the scope of the arrangement including –

- the facility location;
- the Operational Procedure;
- any restrictions on the accreditation such as the type of produce covered;
- the period of accreditation.

The Business must maintain a current Certificate of Accreditation 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 the procedure and produce type covered by the Assurance Certificate.

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 (m³) 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 [7.1.1 Application for Accreditation](#)).

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 $\pm 0.5^{\circ}\text{C}$ in the range of -3°C to $+3^{\circ}\text{C}$ and a resolution of up to 0.1°C (ie. 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 $\pm 0.5^{\circ}\text{C}$ 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 (eg. if the maximum temperature reading during treatment is 1.0°C , then treatment duration and certification shall be at 1.5°C).

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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 $\pm 0.2^{\circ}\text{C}$ in the range of -3°C to $+3^{\circ}\text{C}$.

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 11](#).

7.3.4 Temperature Recording Equipment

Reading of recording instruments shall be accurate to within $\pm 0.2^{\circ}\text{C}$ of the true temperature in the range of -3°C to $+3^{\circ}\text{C}$ in the normal operating environment. The instrument must be capable of repeatability in the range of -3°C to $+3^{\circ}\text{C}$.

For low resolution mini data loggers, temperature recording shall be accurate to within $\pm 0.5^{\circ}\text{C}$ at 0°C .

Strip Chart Recorder Display Standards

The scale deflection for strip chart recorders shall not be less than 5 mm for each degree Celsius. A print interval of approximately two minutes and a chart speed of approximately 500 mm per hour shall be used.

The chart scale shall be graduated with major scale marks at every degree Celsius and minor scale marks at every 0.2°C . Temperature values for each sensor shall be printed at least once every hour.

Each symbol on the wheel shall correspond to and identify the sensor it represents. The chart shall be of sufficient length to display a complete treatment record.

Data Logger Display Standards

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.

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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 [7.5 Treatment Records](#)).

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.

An example of a manual data log sheet is included as [Attachment 13](#).

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.

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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 12](#)) 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 [6. Requirement](#).

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 coldstorage 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.

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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 [6. Requirement](#)).

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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 [6. Requirement](#)) 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 shall 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 y) 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.

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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 and a strip chart, continuous data log sheet or manual data log sheet for each cold treatment.

Strip charts, continuous data log sheets or manual data log sheets shall be maintained with the *Coldroom Loading and Treatment Record* to which they relate.

A completed example of a *Coldroom Loading and Treatment Record* is included as [Attachment 6](#).

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.

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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.

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 7](#)) with each delivery of fruit supplied to the packing business for certification.

An example of a completed Cold Treatment Declaration is included as [Attachment 8](#).

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 receipt, packing and certification)

7.8 Fruit Receipt

The Fruit Receipt 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 Receipt 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 [7.7 Cold Treatment Declaration](#));
- (b) fruit supplied for certification has undergone a cold treatment regime in accordance with [6. Requirement](#);
- (c) the treatment lot number and cold treatment details are maintained for all produce received and certified under this Operational Procedure from receipt 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 [6. Requirement](#) 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 9](#)) or records which capture the same information.

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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.

An example of a completed *Cold Treatment Packing Record* is included as [Attachment 10](#).

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.

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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.

COLD TREATMENT

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* [FDU 384].

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 [7.4.3 Verification of Cold Treatment Using Return Air Temperature](#)) 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].

COLD TREATMENT

7.11.3 Assurance Certificate Distribution

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

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

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 [7.4.1](#) and [7.5](#));
- (c) Coldroom Sensor Placement Plans (refer [7.3.3](#));
- (d) Coldroom Sensor Calibration Test Records (refer [7.3.5](#));
- (e) cold treatment temperature records (strip charts, data log sheets etc.) (refer [7.5](#))

PART B

- (a) if applicable, a copy of each Cold Treatment Declaration received (refer [7.8.1](#));
- (b) Cold Treatment Packing Records (refer [7.9.1](#))
- (c) a copy of each *Plant Health Assurance Certificate* [FDU 384] issued by the Business (refer [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*.

COLD TREATMENT

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

8. ATTACHMENTS

<u>Attachment 1</u>	<i>Application for Accreditation of a Business for an Interstate Certification Assurance (ICA) Arrangement</i>	FDU 385 (FRONT PAGE ONLY)
<u>Attachment 2</u>	<i>Plant Health Assurance Certificate</i>	FDU 384 (COMPLETED EXAMPLE)
<u>Attachment 3</u>	Facility Plan	(BLANK)
<u>Attachment 4</u>	Calibration of Temperature Sensors and Temperature Recording Equipment	
<u>Attachment 5</u>	Cold Room Loading and Treatment Record	(BLANK)
<u>Attachment 6</u>	Cold Room Loading and Treatment Record	(COMPLETED EXAMPLE)
<u>Attachment 7</u>	Cold Treatment Declaration	(BLANK)
<u>Attachment 8</u>	Cold Treatment Declaration	(COMPLETED EXAMPLE)
<u>Attachment 9</u>	Cold Treatment Packing Record	(BLANK)
<u>Attachment 10</u>	Cold Treatment Packing Record	(COMPLETED EXAMPLE)
<u>Attachment 11</u>	Coldroom Sensor Placement Plan	(BLANK)
<u>Attachment 12</u>	Coldroom Sensor Calibration Test Record	(BLANK)
<u>Attachment 13</u>	Cold Treatment Record	(BLANK)



Application for Accreditation of a Business for an Interstate Certification Assurance (ICA) Arrangement

Indicate the type of application being made

- New
 Renewal
 Amendment

Tick each box that describes your business and the ICA arrangement and provide specific details where required.

Only one ICA arrangement, that is one Operational Procedure at one Facility, may be covered in one application.

1. Business Details

(a) Type of Ownership of Business

- Individual
 Incorporated Company
 Other
 Partnership
 Cooperative Association

(please specify)

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 Department of Justice).

ACN
 ARBN

(b) Name of Applicant/s

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

(d) Postal address of the business

Postcode

Telephone ()

Facsimile ()

Mobile

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

If yes, give the business's Interstate Produce (IP) Number

Q

2. Operational Procedure and Facility Details

(a) Operational Procedure used in this ICA arrangement (refer to list of Operational Procedures)

Reference No.

I C A

If the Operational Procedure is documented in two parts, indicate the part or parts for which you are seeking accreditation.

- Part A
 Part B
 Parts A & B

Title of Operational Procedure

(b) Street address of the facility

Postcode

Telephone ()

Facsimile ()

Mobile

3. Authorised Signatories (for Assurance Certificates)

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



Original (yellow) - Consignment Copy
Duplicate (white) - Business Copy

Plant Health Assurance Certificate

ORIGINAL

Consignment Details (Please print)

Certificate Number

9999999

Consignor

Name **Joe's Apples Pty Ltd**
Address **Orchard Road**
Stanthorpe QLD 4380

Consignee

Name **Produce Agents Pty Ltd**
Address **Footscray Markets**
Footscray VIC 3011

Reconsigned To (Splitting consignments or reconsigning whole consignments)

Name

Address

Method of Transport (Provide details where known)

Road Truck/Trailer Registration no. **AXD 199**

Rail Consignment no.

Air Airline/Flight no.

Sea Vessel Name & Voyage no.

Certification Details (Please print)

Accredited Business that Prepared the Produce

Name **Coldrooms Co. P/L**
Address **Orchard Road**
Stanthorpe QLD 4380

Grower or Packer

Name **Joe's Apples Pty Ltd**
Address **Orchard Road**
Stanthorpe QLD 4380

IP No. of Acc. Business Brand Name or Identifying Marks (as marked on packages)

Q9999

Joe's Apples

Date Code (as marked on packages)

991130

Number of Packages	Type of Packages (eg. trays, cartons)	Type of Produce	Authorisation for Split Consignment
2000	Cartons	Granny Smith Apples	

Date	Treatment	Chemical (Active Ingredient)	Concentration	Duration and Temperature
/ /	<input type="checkbox"/> Dipping	Dimethoate	400ppm	<input type="checkbox"/> One min. <input type="checkbox"/> 10 sec. then wet for 60 sec.
/ /	<input type="checkbox"/> Dipping	Fenthion	412.5ppm	<input type="checkbox"/> One min. <input type="checkbox"/> 10 sec. then wet for 60 sec.
/ /	<input type="checkbox"/> Flood Spraying	Dimethoate	400ppm	10 seconds then wet for 60 seconds
/ /	<input type="checkbox"/> Flood Spraying	Fenthion	412.5ppm	10 seconds then wet for 60 seconds
/ /	<input type="checkbox"/> Non-recirculated Spray	Fenthion	412.5ppm	10 seconds then wet for 60 seconds
/ /	<input type="checkbox"/> Fumigation	Methyl Bromide	g/m³	Two hours @ C°
/ /	<input type="checkbox"/> Heat Treatment	<input type="checkbox"/> Hot Air <input type="checkbox"/> Hot Water		min. @ °
27/10/99	<input checked="" type="checkbox"/> Cold Treatment			14 days at 0.5° C or below
/ /	<input type="checkbox"/> Bananas in a hard green condition with unbroken skin			

Additional Certification

(This area is currently blank and crossed out with a large diagonal line.)

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 business's Certification Assurance arrangement under the *Plant Protection Act 1989* and that the details shown above are true and correct in every particular.

Authorised Signatory's Name (Please print)

Signature

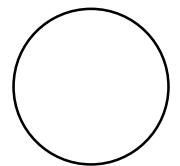
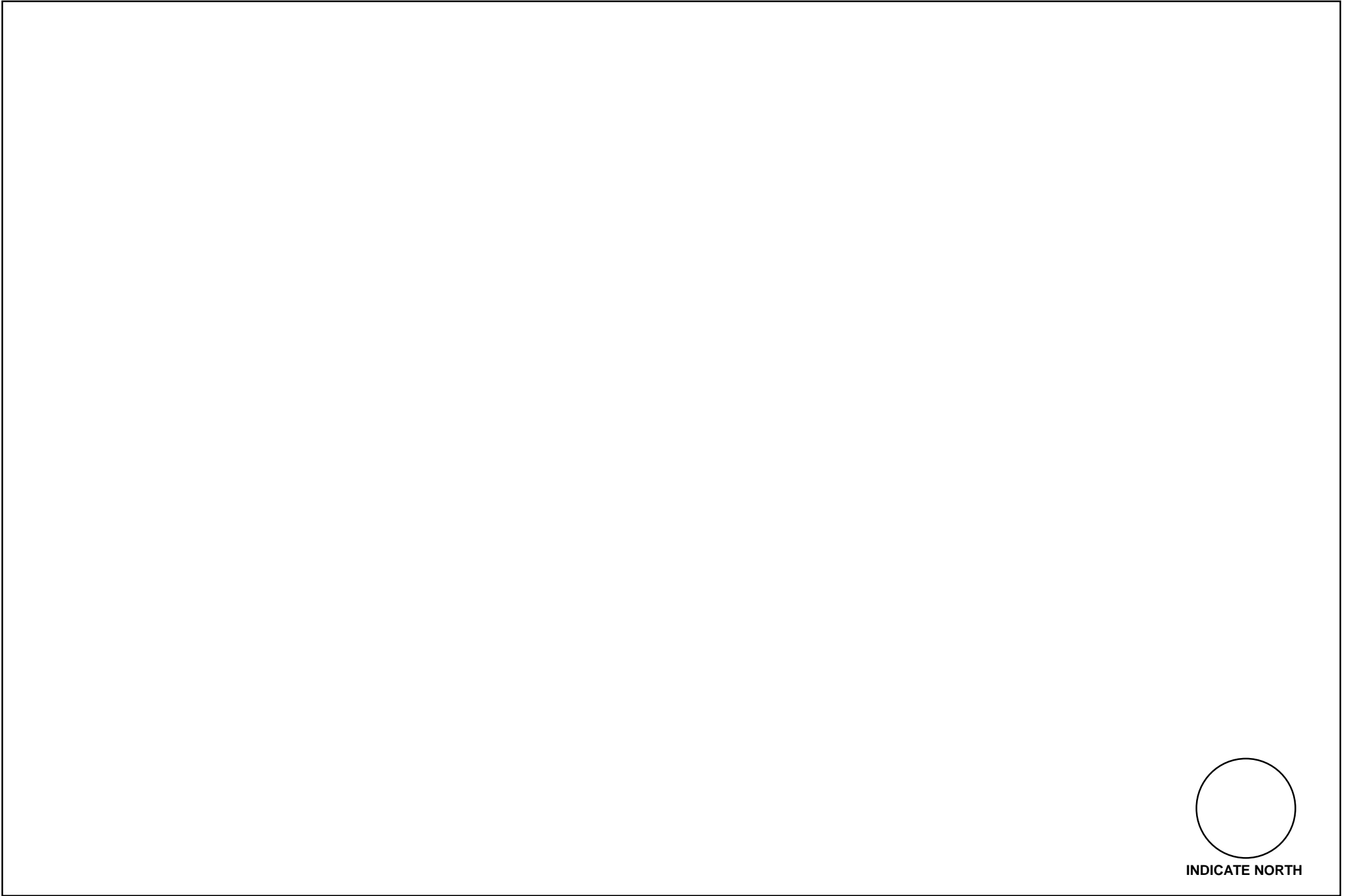
Date

Arthur John Signatory

AJ Signatory

3/ 11 / 99

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 (m³) 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 [FDU 385]* or this Facility Plan.

.....
Signature

/ /
Date

CALIBRATION OF TEMPERATURE SENSORS AND RECORDING EQUIPMENT

1. Sensor Identification

Each sensor 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 a 60 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 that records a temperature of $\pm 0.5^{\circ}$ 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 variation 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
 Coldroom

Interstate Produce No. **Q**
 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 °C 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

COLDROOM LOADING AND TREATMENT RECORD

 Business Name Coldroom Co. Pty. Ltd.

 Interstate Produce No.
 Treatment Lot Code or No.

Q 9 9 9 9

 Coldroom Room A
A1234

Date of Loading	Owner's Name	Fruit (Type & Variety)	Quantity (No. & Type)	Comments
12/10/99	Joe's Apples	G. Smith Apples	66 Bulk Bins	

Date Treatment Commenced 12/ 10 /99
 Date Treatment Completed 27/ 10 /99
 Treatment Temperature 0.5 °C
 Number of Sensors Used 4

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

Terrence Operator
T Operator
27/ 10 /99
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 Operational Procedure ICA-07.

I _____ (full printed name)

an Authorised Signatory of -

_____ (Business name),

Interstate Produce (IP) No. **Q**

--	--	--	--

hereby declare that the fruit listed below and delivered to -

_____ (Business name)

Interstate Produce (IP) No. **Q**

--	--	--	--

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 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 Operational Procedure ICA-07.

I John Controller (full printed name)

an Authorised Signatory of -

Coldroom Co. Pty Ltd (Business name),

Interstate Produce (IP) No. **Q**

9	9	9	9
---	---	---	---

hereby declare that the fruit listed below and delivered to -

Joe's Apples Pty. Ltd. (Business name)

Interstate Produce (IP) No. **Q**

9	0	0	9
---	---	---	---

on - 28 / 10 / 99 (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)
A1234	G. Smith Apples	16 Bins	12/10/99	27/10/99	14 days	0.5°C
A1237	Red Del. Apples	14 Bins	12/10/99	27/10/99	14 days	0.5°C

John Controller
Signature

28 / 10 / 99
Date

COLD TREATMENT PACKING RECORD

Business Name _____

Interstate
Produce No.

Q

--	--	--	--	--

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

COLD TREATMENT PACKING RECORD

Business Name Joe's Apples Pty Ltd

Interstate
Produce No.

Q

9	0	0	9
---	---	---	---

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
29/10/99	A1234	G. Smith Apples	40	565	900909	JC
29/10/99	A1237	Red Del. Apples	10	140	900910	JC
30/10/99	B1211	Packham Pears	32	448	900915	JC
31/10/99	A1234	G. Smith Apples	26	415	900911	JC

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. **Q**

--	--	--	--

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.

Q

Coldroom

Page Number

Date	Time	Sensor	Sensor	Sensor	Sensor	Sensor	Sensor	Printed Name	Initials