



FLOOD SPRAYING WITH DIMETHOATE OR FENTHION

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 flood spraying equipment; and
- (b) the responsibilities and actions of personnel;

that apply to flood spraying produce with dimethoate or fenthion for fruit fly under an Interstate Certification Assurance (ICA) arrangement.

2. SCOPE

This procedure covers all certification of flood spraying with dimethoate and fenthion by a Business operating under an Interstate Certification Assurance arrangement in the Northern Territory.

Flood spraying with dimethoate may be used for citrus fruit (excluding all edible skin species and mandarins that have received pre-harvest treatment with dimethoate), tropical and sub-tropical fruit with inedible peel include (avocado, banana, bread fruit, custard apple, durians, feijoa, guava, jack fruit, kiwi fruit, lychee, longan, mango, mangosteen, melons, papwpaw, passionfruit, tamarillo, pineapple, rambutan, sapodilla, sapote, tamarind and watermelon), and hot chilli peppers (excluding all sweet chilli peppers and capsicum).

Flood spraying with fenthion may be used for tropical and sub-tropical fruit with inedible peel and melons (including watermelon) and hollow-fruited chillies (excluding capsicum).

IMPORTANT

Suspension of dimethoate.

The Australian Pesticides and Veterinary Medicines Authority (APVMA) has suspended certain use patterns for dimethoate. Flood spraying of some host fruit previously eligible for treatment are no longer permitted. Check the APVMA website at www.apvma.gov.au for further details.

Flood spraying with dimethoate or fenthion may not be an accepted quarantine entry condition for all fruits to all intrastate or interstate markets.

Some intrastate or interstate markets may require additional quarantine certification 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 Northern Territory Quarantine.



3. REFERENCES

WI-02	Guidelines for Completion of Plant Health Assurance Certificates.
APVMA Permit No. PER13158	Permit to Allow Minor Use of an AgVet Chemical Product for Postharvest Treatment of Specified Citrus and Tropical Fruit to Control Various Fruit Fly Species. 24 September 2013 to 5 October 2014.
APVMA Permit No. PER13170	Permit to Allow Minor Use of an AgVet Chemical Product for Postharvest Treatment of Melons, Including Water Melon to Control Pests of Quarantine Concern. 24 September 2013 to 5 October 2014.
APVMA Permit No. PER13841	Permit to Allow Possession, Supply and Use of the Suspended Agricultural Chemical Product Lebatcid Insecticide Spray Containing Fenthion in SA, VIC, TAS, NSW, ACT, QLD and NT. 31 October 2012 to 30 October 2014.

4. DEFINITIONS

Accredit	means to authorise nominated staff within a business to issue Assurance Certificates.
Act	means the <i>Plant Health Act</i> .
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).
Approved Laboratory	means a laboratory approved by the National Association of Testing Authorities (NATA) or the Northern Territory Department of Primary Industry and Fisheries.
APVMA	means the Australian Pesticides and Veterinary Medicines Authority.
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.
Business	means the legal entity responsible for the operation of the flood spraying facility and an ICA arrangement detailed on the business's Application for Accreditation.
Certification Assurance	means a voluntary arrangement between the Department of Primary Industry and Fisheries 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 Plant Health Assurance Certificate (Attachment 2).
Facility	means the location of the flood spraying operation covered by the Interstate Certification Assurance arrangement.



Flood Spraying	means flooding with a high volume application which applies at least 16L/minute of the chemical mixture per square metre of the area being flood sprayed. Flood spraying is a recirculated spray.
Fruit Fly	means Queensland fruit fly (<i>Bactrocera tryoni</i>), Lesser Queensland fruit fly (<i>Bactrocera neohumeralis</i>) and Northern Territory fruit fly (<i>Bactrocera aquilonis</i>).
ICA	means Interstate Certification Assurance.
Inspector	means an inspector appointed under the <i>Plant Health Act</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.
NTQ	means Northern Territory Quarantine.

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;
- ensuring the business has current accreditation for an ICA arrangement under this Operational Procedure;
- 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 all dimethoate or fenthion flood spraying certified under the business's ICA arrangement is carried out in accordance with this Operational Procedure.

The **Treatment Operator** is responsible for -

- preparing and maintaining flood spray mixtures and top-up mixtures (refer 7.2);
- maintaining spray mixture preparation, top-up and treatment records (refer 7.5);
- maintaining spray mixture concentration testing analysis records (refer 7.6.4);
- calibrating flood spray equipment to ensure -
 - the fruit is sprayed in a single layer,
 - fruit is completely covered by the flood spray for a period of not less than ten seconds and fruit remains wet for at least a further sixty seconds (refer 7.8.1), and
 - the application rate is at least 16L/minute per each square metre of the area being flood sprayed (refer 7.8.3);



- maintaining spray coverage and spray application rate test records (refer 7.8.2 and 7.8.4);
- maintaining flood spraying equipment (refer 7.9).

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 7.11.2).

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

6.1 Dimethoate

Flood spraying the fruit in a single layer with a mixture containing **400mg/L dimethoate** in a high volume application of at least **16L/minute per each square metre of the area being sprayed**, which provides complete coverage of the fruit for a **minimum of 10 seconds**, after which the fruit **must** remain wet for **not less than 60 seconds**.

Flood spraying **must** be the last treatment before packing.

Citrus fruit only

A non-recovery gloss coating ("wax") may be applied to citrus not less than 60 seconds after treatment;

OR

Citrus fruit may be washed, treated with a fungicide and/or a gloss coating applied a minimum of 24 hours after flood spraying.

6.2 Fenthion

Flood spraying the fruit in a single layer with a mixture containing **412.5mg/L fenthion**, in a high volume application of at least **16L/minute per each square metre of the area being sprayed**, which provides complete coverage of the fruit for a **minimum for 10 seconds**, after which the fruit **must** remain wet for **not less than 60 seconds**.

Flood spraying **must** be the last treatment before packing.



The Department of Primary Industry and Fisheries and interstate quarantine authorities maintain the right to inspect at any time certified produce and to refuse to accept a certificate where produce is found not to conform to specified requirements.

Some produce may be damaged by chemical treatments. Businesses applying chemical treatments should check with experienced persons such as departmental officers for any available information. Testing of small quantities is recommended.

The business must use products in accordance with the instructions included on the product's approved label or an applicable APVMA permit, and follow any first aid, safety, protection, storage and disposal directions on the product label or permit. Treatment facilities must comply with the requirements of the local government, environmental and workplace health and safety authorities.

Following the required treatments in this procedure does not absolve the business from the responsibility of ensuring that treated produce does not contain a pesticide residue above the Maximum Residue Level (MRL).

7. PROCEDURE

7.1 Accreditation

7.1.1 Application for Accreditation

A business seeking accreditation for an ICA/CA 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.

Applicants **must** provide the details of all produce, plants and plant products they intend to pack and certify under this ICA/CA arrangement in Section 4 of the Application for Accreditation. Ensure application form is completed correctly and all required attachments are provided. A copy of the application form **must** be maintained for audit purposes.

Each accredited business is provided with a unique Interstate Produce (IP) number to identify the business and its produce for all interstate plant quarantine purposes as ministered by the Certificate of Accreditation.

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/CA system is implemented will be 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/CA 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 7.1.3).

Initial Compliance Audit

In the first year of accreditation an initial compliance audit will be conducted within 4 weeks of accreditation. 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 7.1.3).

Compliance Audits

Compliance audits are conducted to verify that the ICA/CA system continues to operate in accordance with the requirements of 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/CA system records or ICA/CA 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/CA 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/CA 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/CA 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

7.1.4.1 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.

7.1.4.2 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.

7.1.4.3 Suspension and Cancellation

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

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

Any action taken by the NTQ 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 be reviewed.

7.1.4.4 Prosecution

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

7.1.4.5 Charging Policy

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



7.2 Flood Spray Preparation

The Treatment Operator **shall** prepare the spray mixture at a maximum of every 48 hours or more frequently as required.

Unused spray mixture may be held overnight for use the next day however the mixture **must** be thoroughly mixed for at least two minutes prior to further use.

Periods longer than 48 hours may be considered where a business can demonstrate by analysis of the chemical mixture (refer 7.6) the ability to control and maintain concentration for a specified longer period.

7.2.1 Volume Of The Spray Tank

Permanent volume indicator marks **shall** be made on the inside of the tank, or on a sight tube or sight panel on the outside of the tank, or by some other device which clearly and accurately indicates the **maximum mixture level** and **incremental volumes** used.

Volume indicator marks **shall** include the volume in litres required to fill the tank to that level.

7.2.2 Calculating The Quantity Of Concentrate To Add To The Flood Spray Mixture

Dimethoate

Using the calibrated volume of the flood spray tank, calculate 1ml of a concentrate containing 400gm/L dimethoate for every litre of mixture in the spray tank.

Fenthion

Using the calibrated volume of the flood spray tank, calculate 0.75ml of a concentrate containing 550mg/L fenthion for every litre of mixture in the spray tank.

A similar calculation may be used when part filling the tank to a known incremental volume.

7.2.3 Spray Mixture Preparation Chart

The business **shall** maintain a Spray Mixture Preparation Chart (refer Attachments 4 and 5) or similar record in close proximity to the flood spraying equipment.

The chart **shall** provide the following details -

- (a) the total volume in litres of the spray tank when filled to the **maximum mixture level** mark;
- (b) the volume in millilitres (ml) of concentrate required to achieve 400mg/L dimethoate or 412.5mg/L fenthion in a full tank of the made up spray mixture;
- (c) the volume in millilitres (ml) of concentrate required to achieve 400mg/L dimethoate or 412.5mg/L fenthion in a made up spray mixture for known **incremental volumes** or top-up volumes used (refer 7.41.);
- (d) the printed name and signature of the person responsible for the chart's preparation and the date of preparation.



7.2.4 Ensuring Correct pH

Dimethoate flood sprays **shall** be maintained at a pH below 7.0 to prevent breakdown of the pesticide.

The Treatment Operator **shall** regularly check the flood spray mixture to ensure correct pH by testing the water with a pH tester. The Treatment Operator **shall** record spray mixture pH checks.

After measuring the water pH, the Treatment Operator **shall** determine if a pH buffer is required.

An acidifying buffer (eg vinegar) may be used to achieve and maintain an acceptable pH level.

7.2.5 Preparing the Spray Mixture

If a buffer is required, add it to the empty spray tank or during filling.

Using a clean graduated measuring vessel, measure the required amount of chemical needed to achieve either 400mg/L of dimethoate or 412.5mg/L of fenthion for the required volume of **mixture**, as specified on the Spray Mixture Preparation Chart.

Suitable measuring vessels are glass measuring cylinders or syringes.

Add the required amount of concentrate to the spray tank in accordance with the manufacturer's directions on the label.

Fill the spray supply tank with clean water to the appropriate **incremental volume** mark or **maximum mixture level** mark.

Other ingredients may only be added to the mixture if they are known to be compatible with the chemical used to control fruit flies.

Ensure that the chemical is completely diluted in all of the water by vigorously mixing the tank for a minimum of two minutes before commencing the spray operation. Some facilities may require extended periods of mixing to fully dilute the chemical in the water.

The flood spraying facility **must** have a means of mixing the spray mixture in the spray tank throughout the spray operation to avoid settling or separation of the concentrate. This can be achieved by mechanical mixing devices in the spray tank, or agitation from spray mixture returned via a by-pass from the spray pump.

7.2.6 Pre-Flood Spraying Treatments

Fruit can be treated with water or other chemical treatments prior to flood spraying with dimethoate or fenthion provided there is enough time for the majority of the water to drain off to minimise the dilution of the spray mixture.



The direct addition of chemicals to the wash water, or carriage of chemicals on fruit, that raise pH or otherwise destroy the pesticide **must** be avoided.

Where fruit has undergone pre-flood spraying washing or chemical treatments a spray mixture top-up program may be required to maintain the spray mixture concentration within the required tolerance (refer 7.4).

7.2.7 Flood Spray Preparation Records

Records of spray mixture preparation **shall** be maintained by the Treatment Operator which record the date, time and volumes of concentrate and water used to prepare the spray mixture (refer 7.5).

7.3 Flood Spraying

Fruit should be clean before spray treatment is applied to avoid fouling the spray mixture and restricting or reducing contact of the chemical with the fruit surface.

7.3.1 Method of Flood Spraying

The Treatment Operator **shall** ensure that flood spraying equipment is designed and operated to ensure fruit passes under the spray in a single layer and the entire surface of the fruit is completely covered for at least ten (10) seconds.

All surfaces of the fruit **must** be in contact with the spray mixture either by rotating the fruit as it passes under the spray, or through designing the spray system to ensure complete coverage of the fruit as it passes through the spray.

Fruit feed mechanisms **must** be designed in a manner that prevents fruit from passing through the spray before it has been completely covered with spray for ten (10) seconds or more, or allows hand-operated processes to be accurately timed.

Operation of equipment and volume of fruit feeding through the spray **shall** be carefully monitored by the Treatment Operator to ensure fruit is prevented from being pushed or carried through the spray in less than ten (10) seconds.

Fruit **must** be allowed to remain wet with chemical for at least a further sixty (60) seconds after it has been completely covered with spray for ten (10) seconds.

7.3.2 Last Treatment Before Packing

Flood spraying **must** be the last treatment before packing.

The Treatment Operator **shall** ensure that no other treatments, such as fungicide treatment or washing, are applied to fruit between flood spraying and packing. However, other processes may be approved provided they do not affect the efficacy of the flood spray treatment.



Citrus fruits only may –

(a) have a non-recovery gloss coating (wax) applied at least (60) seconds after flood spraying with dimethoate;

OR

(b) be washed, fungicide treated and/or have a gloss coating applied a minimum of 24 hours after flood spraying with dimethoate.

7.4 Maintaining Spray Concentration and Volume

Concentration of the chemical mixture **must** be maintained within $\pm 15\%$ of the required concentration at all times as specified (refer 6.).

7.4.1 Topping Up

During the spraying process, it may be necessary for the Treatment Operator to top-up the spray mixture to maintain the required concentration and/or volume. This is done by adding the required quantity of water with the required amount of concentrate to the spray mixture as determined by the facility's top-up program (refer 7.4.2).

Calculate the required amount of concentrate and water by first determining the required volume of spray mixture to be added during the top-up procedure. Calculate the quantity of concentrate required for every litre of **mixture** added in the top-up procedure (refer 7.2.2.).

Preparation of top-up mixtures can be carried out in a separate mixing tank and added to the spray tank as required to minimise disruption to the treatment process.

Where top-up mixtures are prepared in the spray tank, volume of the top-up mixture must be calculated by using either the incremental volume marks, or a calibrated measuring vessel or liquid metering device so that allowance is made for mixture already in the spray tank.

Refer to the facility's Spray Mixture Preparation Chart.

Add the required amount of concentrate to the spray tank prior to topping-up with water (if required) to assist mixing of the chemical and the water.

Add the required volume of water (if required) to the spray tank using a graduated measuring vessel or a liquid metering device, or use **incremental volume** marks marked on the side of the spray tank.

Ensure that the chemical is completely diluted in all of the water by thoroughly mixing the tank for a minimum of two minutes before recommencing flood spraying.

7.4.2 Top-Up Program

A facility which uses topping-up as a means of maintaining spray volume and/or concentration **must** develop and document a top-up program for maintaining spray mixture concentration.

The top-up program **shall** state -

- (a) the frequency of topping-up based on the quantity of fruit treated or time; and
- (b) the quantity of concentrate and water required to be added.

The business **shall** provide evidence that the spray top-up program is effective in achieving and maintaining spray mixture concentration within $\pm 15\%$ of the required concentration (refer 7.6).

7.4.3 Top-Up preparation Records

Records of spray top-up preparation **shall** be maintained by the Treatment Operator which record the date, time and volumes of concentrate and water added to the spray mixture (refer 7.5).

7.5 Treatment Records

The Treatment Operator **must** record all spray mixture preparation, top-up mixture preparation and fruit treatment using a Spray Mixture Preparation, Top-Up and Treatment Record (refer Attachment 3) or records which capture the required information.

The business's treatment records **must** record -

- the date of flood spray mixture or top-up mixture preparation;
- the time of flood spray mixture or top-up mixture preparation;
- the volume of concentrate used (millilitres);
- the volume of the made-up spray mixture or top-up mixture (litres);
- the trade name of the concentrate used and the chemical used;
- the date the spray mixture was discarded;
- the date of treatment;
- treatment commencement time;
- treatment completion time;
- the type of fruit treated;
- the approximate quantity of fruit treated;
- the identification of the Treatment Operator;

7.6 Spray Concentration Testing

The business **must** verify the ability to achieve and maintain spray concentrations by providing the results of analysis of samples of a spray mixture from an approved laboratory.

7.6.1 Frequency of Sampling

Newly purchased dimethoate concentrate **must** be sampled before use and at least every 3 months during use thereafter.

Fenthion concentrate need not be sampled as long as it is within expiry date.



Spray mixtures of either dimethoate or fenthion **must** be sampled at least every 3 months and at any time the species of fruit being handled is changed or there is a change to the method of processing the same species of fruit which could affect the concentration of insecticide. Such a change may be whether fruit is wet or dry before treatment.

Samples **shall** be collected -

- (a) once prior to initial approval of the facility (so an analysis result is available for the Inspector carrying out the initial audit of the business's facility and operating procedures); and
- (b) immediately following preparation of the spray mixture; and
- (c) at cessation of treatment after the chemical mixture has been used to treat the maximum quantity of fruit that will be treated in the facility before a spray mixture is discarded.

An additional spray mixture sample is required for a facility using a top-up program after topping-up the mixture according to the facility's documented top-up program.

7.6.2 Collection of the Sample

Samples of the spray **shall** be taken from the centre of the spray tank, or if this is not practical, from a spray nozzle after the spray has run for a minimum of five minutes, and placed in a clean glass sample bottle with a secure water tight lid. The sample size will be of sufficient quantity for chemical analysis.

7.6.3 Storing and Packaging the Sample

Samples should be stored under refrigeration and dispatched within 24 hours of collection to minimise losses in chemical concentration.

Samples **must** be carefully packaged to prevent damage in transit and comply with any hazardous chemical packaging and transport requirements.

Samples **shall** be accompanied by a completed Sample Analysis Request form for chemical used in fruit fly spray (refer Attachment 6).

7.6.4 Chemical Mixture Analysis Records

Results of the analysis **must** be retained by the business for a minimum of 24 months from receipt and be made available when requested by an Inspector (refer 7.12).

Details of chemical mixture analysis results **shall** be maintained using a Chemical Mixture Analysis Record (refer Attachment 7 and 8) or records which capture the required information.

The business's chemical mixture analysis records **must** include -

- the date and time of collection of the sample;
- the full trade name and batch no. and expiry date of the concentrate used;
- the total volume of concentrate added to the spray mixture;



- the total volume of the prepared spray mixture from which the sample was taken.

Additional data that should be recorded by the business includes –

- the name and quantity of any detergents, fungicides or other additives added to the spray mixture;
- type and quantity of fruit treated prior to collection of the sample;
- whether the fruit was dry, moist or wet when it entered the spray mixture.

Once accredited, any deficiency in an analysis result (refer 7.4) **must**, as soon as practical, be reported to the Operations Manager at NTQ so an investigation may be carried out to determine the cause and rectify any problems.

7.7 Disposal of the Spray Mixture

The treatment facility **must** have the facilities to dispose of the spray mixture in a manner consistent with the label instructions or as recommended by relevant governing authorities.

7.8 Flood Spray Equipment Calibration

The Treatment Operator **shall** carry out calibration tests on flood spray equipment at regular intervals to verify spray coverage and spray application rates are in accordance with requirements (refer 6.).

Spray coverage and spray application rate calibration tests **shall** be carried out at a minimum of -

- (a) once immediately prior to commencement of treatment and certification of produce each season for each fruit type being treated; and
- (b) within a minimum of four weeks of commencement of treatment each season, or prior to the compliance audit, whichever is the earlier; and
- (c) once a month during each fruit season.

7.8.1 Spray Coverage Calibration

The Treatment Operator **shall** ensure fruit is completely covered by the flood spray for a minimum of ten (10) seconds.

The Treatment Operator **shall** ensure that fruit remains wet and does not undergo any drying process (eg fans, blowers or heaters) for at least a further sixty (60) seconds after the fruit has been flood sprayed for ten (10) seconds.



Calibration tests may be carried out by placing an identifiable piece of fruit (eg. marked with a waterproof ink) on the feed mechanism with a normal flow rate of other fruit. The Treatment Operator times the period that the marked piece of fruit is under the spray.

This process is repeated three times and on each occasion the fruit must remain completely covered with the spray mixture for at least ten (10) seconds and remains wet for a further sixty seconds (60) after flood spraying for ten seconds.

If any of the tests reveal that fruit is not remaining fully under the spray for at least ten (10) seconds, or fruit is undergoing a drying process within sixty (60) seconds of treatment, the equipment shall be adjusted and the procedure repeated until a satisfactory result is achieved.

7.8.2 Spray Coverage Calibration Records

Records of spray coverage calibration tests **shall** be maintained by the Treatment Operator which record -

- (a) the name of the person conducting the test;
- (b) the date of testing; and
- (c) the results achieved during the tests.

An example Spray Coverage Calibration Record is included as Attachment 9.

7.8.3 Spray Application Rate Calibration

The Treatment Operator **shall** ensure that the application rate of the flood spray equipment is at least 16 Litre per minute per each square metre of the area being flood sprayed.

Calibration tests may be carried out by calculating the size of the spray area in square metres. The boundary is the line at which a fruit's surface is fully wetted in ten seconds.

For example: *spray area width = 1.5 metres*
 spray area length = 2.0 metres
 Total spray area = 1.5 x 2.0 = 3.0 m²

Place a collection vessel under each of the spray nozzles for a measured time period and determine the volume of output from each nozzle over a one minute period.

For example: Spray equipment with 16 spray nozzles gives the following Total output volume over a one minute period.

3.05L + 3.07L + 3.08L + 3.03L + 3.04L + 3.08L + 3.05L + 3.06L + 3.05L + 3.06L + 3.07L + 3.04L + 3.05L + 3.04L + 3.06L + 3.07L = 48.9 L/min Total output



Calculate the application rate per square metre over the spray area using the following calculation:

$$\text{Total output (L/min)} \div \text{Total Spray Area (m}^2\text{)} = \text{Application Rate (L/min/m}^2\text{)}$$

$$\text{Total output 48.9 L/min} \div \text{3.0 m}^2 = \text{16.3 L/minute/m}^2$$

If any test reveals that the application rate is below 16 L/min per square metre of the area being sprayed, the equipment shall be adjusted by increasing the output volume or decreasing the spray area (provided the fruit remains under the spray for a period of at least ten seconds) and the procedure repeated until a satisfactory result is achieved.

7.8.4 Spray Application Rate Calibration Records

Records of spray application rate calibration tests **shall** be maintained by the Treatment Operator which record -

- (a) the name of the person conducting the test;
- (b) the date of testing; and
- (c) the results achieved during the tests.

Results of testing **shall** include the full calculations used to determine the spray equipment's application rate.

An example Spray Application Rate Calibration Record is included as Attachment 10.

7.9 Flood Spray Equipment Maintenance

The Treatment Operator **shall** carry out regular checks of flood spraying equipment to ensure it continues to operate effectively according to the required standards and remains free from soiling, malfunction, blockages, damage or excessive wear.

7.10 Post Treatment Security (Tasmania only)

Packing **shall** commence as soon as practicable after treatment. Fruit may be allowed to dry adequately prior to packing.

Treated fruit **shall** be held for the minimum practical period after treatment before it **must** be secured against reinfestation.

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

Any treated fruit which remains unpacked at the end of the day **must** be held in secure conditions until packed. Completed pallets **shall** be held for the minimum practical period before placing in secure conditions.



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

Certification Assurance certificates **must** state that fruit was; "Packed in such a way as to prevent re-infestation of insects".

Secure conditions are -

- (a) unvented packages;
- (b) vented packages with the vents secured with gauze/mesh with a maximum aperture of 1.6mm;
- (c) fully enclosed under tarpaulins, hessian, shade cloth, mesh or other covering which provides a maximum aperture of 1.6mm;
- (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 1.6mm.

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 additional declaration 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 shrink-wrap 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.

The business **shall** have adequate procedures in place which prevent mixing of treated and untreated fruit at the facility.

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 5mm, on the end of each package with -

- the "A" Registration (IP) number of the business that operates the approved facility in which the produce was treated; and
- the words "MEETS ICA-02"; and
- the date (or date code) on which the fruit was treated;

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

Any Packages containing fruit that has not been 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 dimethoate or fenthion flood spray treatment.

Assurance Certificates **shall** be in the form of a Plant Health Assurance Certificate (PHAC). A completed example is shown (refer Attachment 2).

Individual Assurance Certificates **shall** be issued to cover each consignment (ie. a specified quantity of produce 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 NTQ.

7.12 ICA System Records

The business **shall** maintain the following records -

- (a) Spray Mixture Preparation Chart (refer 7.2.3);
- (b) Spray Mixture Top-Up Program (if spray mixture is topped-up) (refer 7.4.2);
- (c) Spray Mixture Preparation, Top-Up and Treatment Record (refer 7.5);
- (d) Chemical Mixture Analysis Record (refer 7.6.4);
- (e) Spray Coverage Calibration Record (refer 7.8.2);
- (f) Spray Application Rate Calibration Record (refer 7.8.4);
- (g) the duplicate copy of each Plant Health Assurance Certificate (Attachment 2) issued by the business (refer 7.11.3).

ICA system records **shall** be retained for a period of not less than 24 months from completion.

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.

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) and/or Certification Assurance (CA) Arrangement	(BLANK)
Attachment 2	Plant Health Assurance Certificate (PHAC)	(COMPLETED EXAMPLE)
Attachment 3	Spray Mixture Preparation, Top-Up and Treatment Record	(BLANK)
Attachment 4	Spray Mixture Preparation Chart	(BLANK)
Attachment 5	Spray Mixture Preparation Chart	(COMPLETED EXAMPLE)
Attachment 6	Sample Analysis Request	(BLANK)
Attachment 7	Chemical Mixture Analysis Record	(BLANK)
Attachment 8	Sample Analysis Report	(BLANK - EXAMPLE)
Attachment 9	Spray Coverage Calibration Record	(BLANK)
Attachment 10	Spray Application Coverage Calibration Record	(BLANK)



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, Partnership, Incorporated Company, Cooperative Association, Other (please specify)

(b) Name of Business/Person

Name of Business/Person input fields

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 input fields

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

Trading Name/s input field

(d) Postal address of the Business/Person

Postal address input fields

Telephone, Facsimile, Mobile input fields

E-mail input field

(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

IP Number input field with 'A' label

2. Operational Procedure and Facility Details

a) Operational Procedure used in this arrangement

Reference No. and Title of Operational Procedure input fields

(b) Street address of the facility

Street address input fields

Telephone, Facsimile, Mobile input fields

3. Authorised Signatories (for Plant Health Assurance Certificates)

Table with columns: Family Name, Given Name/s, Specimen Signature. Rows: Certification Controller, Back-up Certification Controller, Additional Authorised Signatories

4. Types 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 Fisheries
Interstate Certification Assurance System means the processes, equipment, personnel and resources used to implement the Operational 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 Northern Territory Quarantine.
(h) Plant Biosecurity fees will apply to those businesses/persons that choose to participate in this ICA/CA arrangement. Northern Territory Quarantine 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	<input type="checkbox"/> Passed	<input type="checkbox"/> Failed	
Name (print) _____	Date received ____/____/____		
Signature: _____	Date completed ____/____/____		

Post your application/s to: Department of Primary Industry and Fisheries, NT Quarantine
GPO Box 3000, DARWIN NT 0801

Plant Health Assurance Certificate

Consignment Details (PLEASE PRINT)

CONSIGNOR (FROM)
Name <i>Joe's Guava Farm Pty Ltd</i>
Address <i>Lot 2000 Beddington Road</i> <i>Humpty Doo NT 0836</i>

CONSIGNEE (TO)
Name <i>Adelaide Produce Market</i>
Address <i>Burma Road</i> <i>Pooraka South Australia 5095</i>

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

Certification Details (PLEASE PRINT)

IP NUMBER	FACILITY NUMBER	PROCEDURE
A 9999	01	ICA- 02

ACCREDITED BUSINESS THAT PREPARED THE PRODUCE
Name <i>Joe's Guava Farm Pty Ltd</i>
Address <i>Lot 2000 Beddington Road</i> <i>Humpty Doo NT 0836</i>

GROWER OR PACKER
Name <i>Joe's Guava Farm Pty Ltd</i>
Address <i>Lot 2000 Beddington Road</i> <i>Humpty Doo NT 0836</i>

OTHER FACILITIES SUPPLYING PRODUCE

BRAND NAME OR IDENTIFYING MARKS (as marked on packages)	DATE OR DATE CODE (as marked on packages)
<i>Joe's Guava Farm</i>	<i>18032014</i>

Number of Packages	Type of Packages (e.g. trays, cartons)	Type of Produce	Authorisation for Split Consignment
<i>40</i>	<i>Cartons</i>	<i>Guavas</i>	

Treatment Details

Treatment	Chemical (Active Ingredient)	Treatment Date	Concentration / Duration and Temperature
<i>Flood Spray</i>	<i>Dimethoate</i>	<i>16/03/2014</i>	<i>400g/L @ 1ml/L (400 ppm) for 10 secs</i>

Additional Certification / Codes

Meets ICA02

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
<i>Joe Signatory</i>	<i>Joe Signatory</i>	<i>18/3/2014</i>

SPRAY MIXTURE PREPARATION TOP-UP AND TREATMENT RECORD

Attachment 3

SPRAY MIXTURE PREPARATION & TOP-UP PREPARATION								FRUIT TREATMENT						
DATE	TIME	TOP-UP (✓)	PFF CHECK (✓)	VOLUME OF CONCENTRATE (Millilitres)	VOLUME OF MIXTURE (Litres)	TRADE NAME OF CONCENTRATE	DATE MIXTURE DISCARDED	DATE OF TREATME NT	START TIME	FINISH TIME	TYPE OF FRUIT TREATED	QUANTITY OF FRUIT TREATED (Kg or Packages)	TREATMENT OPERATOR'S NAME	SIGNATURE

SPRAY MIXTURE PREPARATION CHART

Attachment 4

CHEMICAL CONCENTRATE = _____

FULL SPRAY TANK VOLUME = _____ LITRES

CONCENTRATE TO FULL TANK = _____ MILLILITRES

Part Fill or Top-Up (Concentrate [ml]/Mixture [L])

_____ ml Concentrate/_____ Litres Mixture

_____ ml Concentrate/_____ Litres Mixture

_____ ml Concentrate/_____ Litres Mixture

_____ ml Concentrate/_____ Litres Mixture

_____ ml Concentrate/_____ Litres Mixture

_____ ml Concentrate/_____ Litres Mixture

_____ ml Concentrate/_____ Litres Mixture

Prepared by: _____ / /
Printed Name Signature Date

SPRAY MIXTURE PREPARATION CHART

Attachment 5

CHEMICAL CONCENTRATE = DIMETHOATE
FULL SPRAY TANK VOLUME = 1,400 LITRES
CONCENTRATE TO FULL TANK = 1,400 MILLILITRES

Part Fill or Top-Up (Concentrate [ml]/Mixture [L])

100 ml Concentrate / **100** Litres Mixture

250 ml Concentrate / **250** Litres Mixture

400 ml Concentrate / **400** Litres Mixture

500 ml Concentrate / **500** Litres Mixture

750 ml Concentrate / **750** Litres Mixture

1000 ml Concentrate / **1000** Litres Mixture

1200 ml Concentrate / **1200** Litres Mixture

Prepared by: *T OPERATOR*
Printed Name

T Operator
Signature

12/03/97
Date



Agricultural Chemistry Sample Analysis Request

Department of Primary Industry and Fisheries
Berrimah Farm Makagon Rd BERRIMAH NT 0828
PO Box 3000 DARWIN NT 0801
Tel 08 8999 2276 Fax 08 8999 2191

<i>Lab Job No.</i>	
--------------------	--

Attachment 6

Client/Grower		Contact	
Postal address		- tel	
		- fax	
		- email	
Project code		Order no.	
Sample type		Date sampled	/ /
Property/yards/location		No. of samples	

<i>Lab sample no.</i>	Sample identification	Analysis required

Comments

.....

Notes

NB: Include only relevant information to identify samples, submitter and testing required.
 Samples will be disposed of 3 months after analysis reports are generated unless you request otherwise. Sample return will be at originators expense.

<i>Date received at Lab</i>	/ /	<i>Comments</i>
<i>Logged by</i>		

CHEMICAL MIXTURE ANALYSIS RECORD

Attachment 7

SAMPLE DETAILS		CHEMICAL MIXTURE DETAILS		FRUIT DETAILS	ANALYSIS DETAILS
Date of Sampling -	Trade Name of Concentrate -	Other Additive/s -	Fruit Treated -	Laboratory -	
Time of Sampling -	Batch No.-	Volume of Additive/s -	Quantity Treated -	Analysis No.-	
Sample No.-	Volume of Concentrate - ml	Total Volume of Mixture - ml	Condition <input type="checkbox"/>	Analysis Result -	
			<input type="checkbox"/> Dry <input type="checkbox"/> Moist <input type="checkbox"/> Wet		
Date of Sampling -	Trade Name of Concentrate -	Other Additive/s -	Fruit Treated -	Laboratory -	
Time of Sampling -	Batch No.-	Volume of Additive/s -	Quantity Treated -	Analysis No.-	
Sample No.-	Volume of Concentrate - ml	Total Volume of Mixture - ml	Condition <input type="checkbox"/>	Analysis Result -	
			<input type="checkbox"/> Dry <input type="checkbox"/> Moist <input type="checkbox"/> Wet		
Date of Sampling -	Trade Name of Concentrate -	Other Additive/s -	Fruit Treated -	Laboratory -	
Time of Sampling -	Batch No.-	Volume of Additive/s -	Quantity Treated -	Analysis No.-	
Sample No.-	Volume of Concentrate - ml	Total Volume of Mixture - ml	Condition <input type="checkbox"/>	Analysis Result -	
			<input type="checkbox"/> Dry <input type="checkbox"/> Moist <input type="checkbox"/> Wet		
Date of Sampling -	Trade Name of Concentrate -	Other Additive/s -	Fruit Treated -	Laboratory -	
Time of Sampling -	Batch No.-	Volume of Additive/s -	Quantity Treated -	Analysis No.-	
Sample No.-	Volume of Concentrate - ml	Total Volume of Mixture - ml	Condition <input type="checkbox"/>	Analysis Result -	
			<input type="checkbox"/> Dry <input type="checkbox"/> Moist <input type="checkbox"/> Wet		

SAMPLE ANALYSIS REPORT

Attachment 8



ANALYSIS REPORT

DEPARTMENT OF RESOURCES
Plant Industries Division, Agricultural Chemistry
BAL Building, Berrimah Farm
Makagon Road, BERRIMAH NT 0828
GPO Box 3000, DARWIN NT 0801
Tel 08 8999 2276 Fax 08 8999 2191
Email graeme.patch@nt.gov.au

Lab Job No.
Project
Order No.
No. of Samples
Notes

Client
Contact

Sampled
Received
Completed
Reported

Table with columns: Sample Description, Detection Limit, Unit, Lab No., Scheme

Analyst

Senior Chemist - Graeme Patch

1 of 1

SPRAY COVERAGE CALIBRATION RECORD

Attachment 9

Date of Test	Fruit Type	Time Fully Under Spray (seconds)			Time of Drying Process (seconds)	Name of Testing Officer	Comments
		Test 1	Test 2	Test 3			

NOTES

- Spray application rate calibration tests **must** be carried out immediately prior to commencement of treatment and certification of produce, within four weeks of commencement of treatment or prior to the business’s compliance audit, and once a month during the season for each fruit type being treated.
- Three tests **must** be carried out. For each test, record the number of seconds an identifiable piece of fruit is completely covered with the spray mixture in the normal flow of fruit.
- For small fruits requiring only a ten second flood spray, record the minimum time period between completion of the ten second flood spray and any drying process (eg fans, blowers or heaters) is applied to the fruit. Where no drying process is applied show not applicable (N/A).

Adjust the equipment and repeat the test if any of the three tests are below the minimum specified time period for complete spray or drying of small fruits.

SPRAY APPLICATION COVERAGE CALIBRATION RECORD

Attachment 10

Date of Test	No. of Nozzles	Output for Individual Nozzles (Litres/minute/nozzle)	Total Output (L/min)	Total Spray Area (m ²)	Application Rate	Testing Officer's Name
/ /					L/m ² /min	
/ /					L/m ² /min	
/ /					L/m ² /min	
/ /					L/m ² /min	
/ /					L/m ² /min	
/ /					L/m ² /min	
/ /					L/m ² /min	
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/ /					L/m ² /min	
/ /					L/m ² /min	
/ /					L/m ² /min	
/ /					L/m ² /min	
/ /					L/m ² /min	

NOTES

1. Calculate the Total output of the spray equipment by placing a collection vessel under each spray nozzle for a measured time period and determine the volume of output from each nozzle over a one minute period. Total the output (L/min) from each of the nozzles to give the Total Output (L/min).
2. Calculate the Total Spray Area (m²) by multiplying the spray area width by the spray area length, the boundary being the line at which the fruit's surface is fully wetted.
3. Divide the Total output (L/min) by the Total Spray Area (m²) to give the Application Rate (L/min/m²)-

$$\text{Total Output (L/min)} \div \text{Total Spray Area (m}^2\text{)} = \text{Application Rate (L/min/m}^2\text{)}$$

Adjust the equipment and repeat the test if the test shows a spray application rate below the minimum specified requirement.