

# TREATMENT OF NURSERY STOCK AND SOIL-LESS MEDIA

## REVISION REGISTER

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## 1. PURPOSE

The purpose of this procedure is to describe -

- (a) the principles of operation, design features, treatment equipment and standards required; and
- (b) the responsibilities and practices of personnel;

that apply to the cover spraying of plants and treatment of potting media under an Interstate Certification Assurance (ICA) arrangement.

## 2. SCOPE

This procedure covers certification for cover spraying of plants and the treatment of potting media from a business operating under an ICA arrangement in Queensland.

This procedure is applicable where the requirement(s) specified in **Section 6. Requirement** is a specified condition of entry of an interstate quarantine authority.

***Certification of nursery stock under this Operational Procedure is currently only accepted by Western Australia and is not an accepted quarantine entry condition for other interstate markets.***

***Some intrastate or interstate markets may require additional quarantine certification for pests and diseases 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.*

**APVMA Permit Nos 9688, 9795, 9796, 10043 and 10167, 10213** *Permit to Allow Minor use of an AGVET Chemical Product.*

#### 4. DEFINITIONS

<b>accredit</b>	means to accredit persons to issue Assurance Certificates under section 21 of the <i>Plant Protection Act 1989</i> .
<b>APVMA</b>	means the Australian Pesticides and Veterinary Medicines Authority.
<b>Agvet Code</b>	means the <i>Agvet Code of Queensland</i> .
<b>Application for Accreditation</b>	means an <i>Application for Accreditation of a Business for an Interstate Certification Assurance (ICA) Arrangement</i> [FDU 385].
<b>assurance certificate</b>	means a <i>Plant Health Assurance Certificate</i> [FDU 384].
<b>Authorised Signatory</b>	means an officer of an ICA accredited business whose name and specimen signature is provided as an authorised signatory with the business' Application for Accreditation.
<b>bulk media</b>	means a quantity of media that has not been placed into containers such as plant pots.
<b>business</b>	means the legal entity responsible for the operation of the facility and ICA arrangement detailed in the business' Application for Accreditation.
<b>Certification Assurance</b>	means a voluntary arrangement between the Department of Primary Industries 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.
<b>certified/certification</b>	means covered by a valid <i>Plant Health Assurance Certificate</i> [FDU 384].
<b>cover spraying</b>	means saturating all exposed parts of the plant, trunks, stems, leaves, buds, flowers, fronds or isolated parts to the point of run-off with a chemical solution or suspension.
<b>DPI&amp;F</b>	means the Queensland Department of Primary Industries and Fisheries.
<b>drench</b>	means to wet thoroughly by immersion in, or application of, liquid to the point of saturation.
<b>emulsifiable concentrate (EC)</b>	means a liquid homogenous formulation of a pesticide with emulsifiers in an organic solvent which forms a dispersion (suspension) when added to water as a diluent.
<b>facility</b>	means the location where the operations covered by the ICA arrangement are carried out.

<b>granule/s</b>	means a solid formulation comprising particles of defined size for application without further dilution, usually to soil.
<b>ICA</b>	means Interstate Certification Assurance.
<b>Inspector</b>	means an inspector appointed under the <i>Plant Protection Act 1989</i> .
<b>Interstate Certification Assurance</b>	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.
<b>liquid treatment</b>	meaning of liquid state.
<b>lot</b>	means a discrete quantity of product treated at one time.
<b>media</b>	means washed river sand, decayed vegetable material such as peat, sphagnum peat moss, hypnaceous peat moss, bark, perlite, vermiculite, rice husk, gravel and rock, or any combination of these but excludes soil.
<b>non-conformance</b>	means a non-fulfilment of a specified requirement.
<b>plant</b>	means living plants and parts of plants but excludes seeds, fruit, dried or processed plant materials.
<b>potted/ing media</b>	means media contained within a pot or other container in preparation for planting plants.
<b>suspension concentrate (SC)</b>	means a formulation in which the active ingredient is in the form of a stable dispersion (suspension) of fine particles in water or organic liquid.
<b>wettable (or water dispersible) powder (WP)</b>	means a pesticide in a dry form with surfactant, often mixed with, or coated on, a fine solid carrier, for dispersion in water to form a suspension.

## 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;
- ensuring the preparation of chemicals and treatment of plants for certification under the ICA Arrangement is carried out in accordance with the Operational Procedure, manufacturer's instructions for use or APVMA permits;
- ensuring plants and media intended for certification are kept within the designated treatment area until potting of media or dispatch of plants has occurred ([refer 7.3.2](#)).

The **Treatment Operator** is responsible for –

- applying treatments according to specified requirements ([refer 7.5](#));
- preparing media and plant treatment mixtures ([refer 7.5.3](#));
- performing equipment calibrations and maintaining calibration records ([refer 7.6](#));
- maintaining tank calibration certificates for the treatment tank(s) used for treatment of plants or media under this Operational Procedure ([refer 7.6.3](#)).

The **Authorised Dispatcher** is responsible for –

- ensuring all plants covered by an Assurance Certificate issued by the business under this Operational Procedure are identified ([refer 7.7.2](#));
- maintaining copies of all Assurance Certificates issued by the business under the ICA arrangement ([refer 7.8](#)).

**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' ICA arrangement and that the details on the certificate are true and correct in every particular ([refer 7.7](#)).

## 6. REQUIREMENT

- Plants in pots greater than 20 Litres; and
  - Potting media including soil; and
  - Culinary herbs and leafy vegetables **intended for immediate consumption;**
- cannot be certified under the Operational Procedure.**

All produce certified under this operational procedure shall be treated in accordance with the following requirements;

Commodity	Item	Treatment
All Plants	All Parts of Plants	<ul style="list-style-type: none"> <li>• Treatments other than treatments to culinary herbs and leafy vegetables are to be applied with a commercial wetting agent in accordance with the manufacturer's recommended rate to attain 100% coverage, until the point of run off, except where otherwise specified on the label of the relevant chemical.</li> <li>• All spray and drench treatments shall be applied within 10 days prior to export or chilling.</li> <li>• Each species name in the consignment must be identified by scientific name (genus and species).</li> </ul>
Plants in non-soil potting media	Non-soil Potting Media	<ul style="list-style-type: none"> <li>• 16 to 61 g of a bifenthrin 2 g/kg granule product/10 L of bulk media as per APVMA permit 9796 applied within 60 days prior to export; <b>or</b></li> <li>• SuSCon Green® at 100 g/kg chlorpyrifos as per APVMA permit 10167 up to 1 kg/m<sup>3</sup> applied within 180 days prior to export; <b>or</b></li> <li>• Full immersion or drenching of the container and root ball               <ul style="list-style-type: none"> <li>○ in a solution of 2.5 ml of a 80 g/L bifenthrin product/10 L water as per APVMA permit 10043; <b>or</b></li> <li>○ in a solution of at least 4 mL of chlorpyrifos 500 g/L product/10 L of water; <b>and</b></li> <li>○ a commercial wetting agent used at the manufacturer's recommended rate; <b>and</b></li> <li>○ applied at a volume of 20% the volume of the container; <b>and</b></li> <li>○ applied when the media is not saturated and has been contained; <b>and</b></li> <li>○ within 10 days prior to export;</li> </ul> </li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>• Thiophanate-Methyl 250 g/kg /etrizazole 150 g/kg product at manufacturer's label recommendations; <b>or</b></li> <li>• Thiophanate-Methyl 50 g/kg /etrizazole 30 g/kg at label recommendations; <b>or</b></li> <li>• Etridiazole 350 g/kg product at label recommendations; <b>and</b></li> <li>• applied within 10 days prior to export.</li> </ul>

**TREATMENT OF NURSERY STOCK AND SOIL-LESS MEDIA**

Commodity	Item	Treatment
	Above Ground Parts	<ul style="list-style-type: none"> <li>• Imidacloprid 200 g/L product as per label recommendations and APVMA permit 9795; <b>or</b></li> <li>• 44 mL of an acetamiprid 225 g/L product/100 L water as per manufacturer's label recommendation;</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>• 5 mL of a bifenthrin (EC) 100 g/L product/10 L water as per APVMA permit 9795; <b>or</b></li> <li>• At 6 mL of a bifenthrin (SC) 80 g/L product/10 L water as per APVMA permit 9795;</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>• 15 g of a mancozeb 800 g/kg product/10 L water as per APVMA permit 9795.</li> </ul>
Plants with leaves – bare rooted and cuttings	Above Ground Parts	<ul style="list-style-type: none"> <li>• Imidacloprid 200 g/L product as per label recommendations and APVMA permit 9795; <b>or</b></li> <li>• 44 mL of an acetamiprid 225 g/L product/100 L water as per label recommendation;</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>• 5 mL of a bifenthrin (EC) 100 g/L product /10 L water as per APVMA permit 9795; <b>or</b></li> <li>• 6 mL of a bifenthrin (SC) 80 g/L product /10 L water as per APVMA permit 9795;</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>• 15 g of a mancozeb 800 g/kg product /10 L water as per APVMA permit 9795.</li> </ul>
Bulbs, corms, rhizomes, and other below ground vegetative structures free from leaves potting medium and soil	All Parts	<ul style="list-style-type: none"> <li>• Imidacloprid 200 g/L product as per label recommendations and APVMA permit 9795; <b>or</b></li> <li>• 44 mL of an acetamiprid 225 g/L product /100 L water as per label recommendation;</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>• 5 mL of a bifenthrin (EC) 100 g/L product/10 L water as per APVMA permit 9795; <b>or</b></li> <li>• 6 mL of a bifenthrin (SC) 80 g/L product/10 L water as per APVMA permit 9795;</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>• 15 g of a mancozeb 800 g/kg product/10 L as per APVMA permit 9795.</li> </ul>
Plants without leaves – bare rooted (free from soil and potting media) and cuttings	All Parts or Plants	<ul style="list-style-type: none"> <li>• 5 mL of a bifenthrin (EC) 100 g/L product/10 L water as per APVMA permit 9795; <b>or</b></li> <li>• 6 mL of a bifenthrin (SC) 80 g/L product/10 L water as per APVMA permit 9795;</li> </ul>
	Above Ground Parts	<ul style="list-style-type: none"> <li>• 15 g of a mancozeb 800 g/kg product/10 L water as per permit 9795;</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>• White oil 120 mL in 10 L water.</li> </ul>



**TREATMENT OF NURSERY STOCK AND SOIL-LESS MEDIA**

Commodity	Item	Treatment
Culinary herbs and leafy vegetables in non-soil potting media not intended for immediate consumption	Non-soil Potting Media	<ul style="list-style-type: none"> <li>• Full immersion or drenching of the container and root ball               <ul style="list-style-type: none"> <li>○ in a solution of 2.5 ml of a 80 g/L bifenthrin product/10 L water as per APVMA permit 10043; <b>or</b></li> <li>○ in a solution of at least 4 mL of chlorpyrifos 500 g/L product/10 L of water; <b>and</b></li> <li>○ a commercial wetting agent used at the manufacturer's recommended rate; <b>and</b></li> <li>○ applied at a volume of 20% the volume of the container; <b>and</b></li> <li>○ applied when the media is not saturated and has been contained; <b>and</b></li> <li>○ within 10 days prior to export;</li> </ul> </li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>• Thiophanate-Methyl 250 g/kg /etrizazole 150 g/kg product at manufacturer's label recommendations; <b>or</b></li> <li>• Thiophanate-Methyl 50 g/kg /etrizazole 30 g/kg at label recommendations; <b>or</b></li> <li>• Etridiazole 350 g/kg product at label recommendations; <b>and</b></li> <li>• applied within 10 days prior to export.</li> </ul>
	Above Ground Parts	<ul style="list-style-type: none"> <li>• Imidacloprid 200 g/L product as per label recommendations and APVMA permit 9795; <b>or</b></li> <li>• 44 mL of an acetamiprid 225 g/L product/100 L water as per manufacturer's label recommendation;</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>• At 6 mL of a bifenthrin (SC) 80 g/L product/10 L water as per APVMA permit 9688;</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>• 20 mL of a Chlorothalonil (SC) 500 g/L product/10 L water as per APVMA permit 10213.</li> </ul>

***APVMA Permit No. 9795 states imidacloprid must only be used in situations that are either currently approved on imidacloprid product labels or under a permit at the rates specified on the product label or permit for that situation.***

***There are a range of compatibility statements in imidacloprid labels including some statements that do not allow the product to be mixed with other products. Businesses must note that mixing of imidacloprid products with other chemicals will only be allowed where the label has appropriate compatibility statements about the use of the product.***

***Culinary herbs and leafy vegetables intended for immediate consumption are not to be treated in accordance with this Operational Procedure. Please refer to Department of Agriculture Western Australia (DAFWA) plant quarantine website at <http://agwdsrv02.agric.wa.gov.au/quarantine/> for entry conditions of these commodities.***

***The Department of Primary Industries and Fisheries 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.***

***Some plants may be damaged by chemical treatments. Businesses applying chemical treatments should check with the chemical manufacturer/s in the first instance or request guidance from Departmental officers. Test the mixture on a small scale before widespread use.***

***The business must use products registered under the Agvet Code 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 arrangement under this Operational Procedure shall make application for accreditation ([Attachment 1](#)) at least 10 working days prior to the intended date of commencement of operation under the ICA arrangement.

#### 7.1.2 Audit Process

##### *Initial Audit*

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

On completion of a successful initial audit, applicants will be granted provisional accreditation and posted a Certificate of Accreditation ([refer 7.1.3](#)).

##### *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 certification under the ICA arrangement by the business.

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](#)).

A second 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 non-conformances.

### **Re-Accreditation**

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

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

A second 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;
- Operational Procedure;
- any restrictions on the accreditation such as –
  - type of produce covered,
  - chemicals covered; and
- 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 facility, procedure and produce type covered by the Assurance Certificate.**

## **7.2 Preparation of Chemical Treatments**

The chemical treatments used in this procedure are available in granular, wettable powder and liquid (emulsifiable, soluble and suspension concentrates) formulations. All treatments shall be applied in accordance with the manufacturer's product label or current APVMA permit for use.

### **7.2.1 Liquid Treatments**

The Treatment Operator shall prepare the treatment mixture at least daily or more frequently as required.

Using a clean graduated measuring vessel, measure the amount of product required for the required volume of mixture. Suitable measuring vessels include graduated plastic or glass measuring cylinders or syringes.

For wettable powder concentrates, the required amount of grams (g) must be weighed on a balance with tare or measured allowance taken into consideration for the weight of container used.

Add the required amount of product to the spray tank in accordance with the manufacturer's directions on the label. Solid concentrates should be mixed with water before adding to the tank.

Add the required amount of commercial wetting agent in accordance with the manufacturer's directions on the label.

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

Ensure that the product is completely diluted in all of the water by 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 product in the water.

Spray equipment must have a means of continuous mixing of 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.

The Treatment Operator shall record preparation of a mixture on the *Treatment Mixture and Preparation Record* ([Attachment 9](#)).

### 7.2.2 Wetting Agent

All cover spray treatments other than treatments to culinary herbs and leafy vegetables shall be applied with wetting agent at the manufacturer's recommended rate to attain 100% coverage, till the point of run off (except where otherwise specified on the label). Follow the label instructions for the compatible product recommended, and record amounts used on the *Treatment Mixture and Preparation Record* ([Attachment 9](#)).

## 7.3 Treatment Application

The treatment mixtures shall be applied to -

- (a) media as a drench, or an incorporated treatment;
- (b) plants as a cover spray to both sides of the leaves to the point of run-off.

Application of each of these methods shall be in accordance with the manufacturer's label requirements or relevant APVMA permit.

A fresh chemical treatment mixture is prepared for each day that treatment is to be applied.

### 7.3.1 Media Treated by a 3rd Party Business

A business who receives media with a granular treatment already incorporated into the media shall ensure a *Supplier Declaration for the Supply of Treated Media* ([Attachment 3](#)) is received with each delivery of treated media. The declaration must identify –

- (a) the name and address of the person who prepared the treatment;
- (b) the name and address of the business to whom the media is supplied;
- (c) the Interstate Produce (IP) No. of the accredited business to whom the media is supplied;
- (d) the trade name of the concentrate;
- (e) the quantity of product used in the treatment mixture per litre (L) or per cubic metre (m<sup>3</sup>);
- (f) the date of application;
- (g) the name and signature of the person responsible for the incorporation of the treatment into the media.

The business shall maintain a *Supplier Declaration for the Supply of Treated Media* for each delivery of treated media the business receives. Declarations shall be made available to an inspector upon request.

### 7.3.2 Designated Treatment Area

All treatment of plants and media shall be performed in a designated treatment area. The Treatment Operator shall identify the treatment area by placing signage on the outer perimeter of the treatment area. The signs must clearly identify the area as a '*Quarantine Treatment Area*'. The designated treatment area may be cordoned off with a barrier such as tape surrounding the perimeter of the area.

No plants or media shall be introduced to a designated treatment area once treatments have commenced. Several designated treatment areas can be active within the business' accredited facility at one time.

A designated treatment area can be portable and move to different areas within the accredited business' facility. All media treated within a treatment area shall remain within the area until potted into containers. All plants within a treatment area shall remain within a designated treatment area until dispatch.

### 7.3.3 Schedule of Treatments

The Treatment Operator shall determine a schedule for treatments of media and plants. All liquid treatments must be applied within 10 days prior to consignment.

A *Treatment Schedule* record is required where granular media treatments are applied greater than 10 days prior to consignment. The *Treatment Schedule* record ([Attachment 4](#)) shall include all treatments applied and record –

- (a) the date of treatment for each chemical product used;
- (b) the formulation of the chemical product used (granular, wettable powder or type of liquid formulation);
- (c) the item being treated - either media or plants;
- (d) the concentration of active ingredient applied;
- (e) the method of treatment applied to either media or plants;
- (f) the intended date of certification; and
- (g) at time of consignment, the number of the Plant Health Assurance Certificate issued for the consignment of plants or plant products.

## 7.4 Calculating Bulk and Potted Media Volumes

### 7.4.1 Media Density

The rate of chemical product to add to media will vary dependant on the density of the media. The following table is a guide to average densities of commonly used media. Where the media to be treated varies from the specified ratios below, the average composition of the media shall be used to determine the application rate for the chemical product.

Media Mixture	Estimate Density
100 % peat/bark	Light
25% sand with 75% peat/bark	Light - Medium
50% sand with 50% peat/bark	Medium
75% sand with 25% peat/bark	Medium - Heavy
100% sand	Heavy

### 7.4.2 Measuring Bulk and Potted Media

The quantity of chemical product that will be added to bulk or potted media depends on the manufacturer's label instructions or relevant APVMA permit. The quantity of bulk or potted media to be treated with the chemical product must first be determined as either:

- a volume expressed in cubic metres (m<sup>3</sup>); or
- a volume expressed in litres (L).

Refer to calculation examples [7.4.3](#).

Once the quantity of bulk or potted media to be treated is known, the amount of the chemical product required to treat that quantity of media can be calculated by multiplying the specified application rate by the quantity of media.

### 7.4.3 Calculation Examples

The following calculations may be used to determine the volume of bulk media in cubic metres (m<sup>3</sup>)

**Cube/rectangular prism** – Length (L) x Width (W) x Height (H)

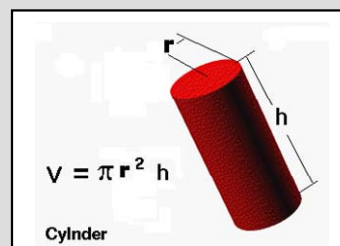
**For example**

Pile of media that is:

$$4.0 (L) \times 3.0 (W) \times 1.0 (H) = 12 \text{ m}^3$$

**Cylinders** – Pi (3.1416) x radius squared (r<sup>2</sup>) x height (h)

- Determine the top diameter and divide by 2 to get the radius.
- Determine the vertical height of the container by measuring from the centre top to the bottom.



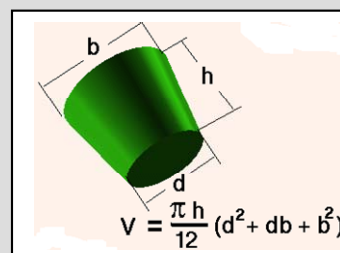
**Example**

For a tube with a diameter 6.26 cm, radius 3.13 cm and height 6.75 cm, the calculation is

$$3.1416 \times (3.13 \times 3.13) \times 6.75 = 207.8 \text{ cubic centimetres (cm}^3\text{)}$$

**Pot (frustum)**

- Determine the top and bottom diameters
- Determine the pot height



Use the following equation:

Volume = Pi x Height (h) divided by 12 x (bottom diameter <sup>2</sup> + bottom diameter x top diameter + top diameter <sup>2</sup>)

**Example**

Pot – 8cm high, top diameter of 6.0cm and bottom diameter of 3.0cm

$$3.1416 \times 8/12 (3^2 + 3 \times 6 + 6^2)$$

$$2.094 \times (9+18+36) = 131.922 \text{ cm}^3$$

**Converting cubic centimetres to Litres**

1,000 cm<sup>3</sup> = 1 litre so to convert cm<sup>3</sup> into litres divide by 1,000

For example 132 cm<sup>3</sup> / 1000 = 0.132 L



## 7.5 Treatments

### 7.5.1 Potting Media Liquid Treatment

The volume of solution applied to all potting medium treatments shall be at least 20% of the volume of the container and applied when the media is not saturated and has been contained.

To identify the volume of mixture required, the Treatment Operator shall identify the total volume of media to be treated and calculate 20% of the total volume. The result of the calculation will be the minimum volume of treatment mixture to be applied. For example, a five litre volume of media will require one litre volume (20% of total quantity of media) of treatment applied as a single drench application.

### 7.5.2 Potting Media Granular Treatment

#### **SuSCon Green** ®

The application of SuSCon Green ® granules shall be performed in accordance with APVMA permit 10167. Only nursery operations and their employees under the direction of the QDPI&F Fire Ant Control Centre are able to utilise this treatment method.

Granules shall be incorporated into bulk media. Apply the required quantity of granules in accordance with the rate per cubic metre (m<sup>3</sup>) specified on APVMA permit 10167.

#### **Bifenthrin**

The Treatment Operator shall use the below table to determine the bulk density of the media and the required product application rate in grams per litre (g/L) for each treatment. After media density is determined, multiply the volume of media (in litres) by the product application rate to determine the total quantity of product required to treat the media.

Media	Bulk Density (kg/m <sup>3</sup> )	Product Application Rate (g/L)
100 % peat/bark (light)	0.5	1.6
25% sand with 75% peat/bark	0.85	2.7
50% sand with 50% peat/bark	1.2	3.8
75% sand with 25% peat/bark	1.55	5.0
100% sand (heavy)	1.9	6.1

Treatments applied to bulk media shall be incorporated and mixed evenly into the media prior to placing media into containers.

### 7.5.3 Cover Spray Treatment

#### *Treatments for Plants or parts of Plants*

Treatment of plants and parts of plants shall be carried out following treatment of bulk and potted media.

The Treatment Operator shall undertake cover spraying of lot(s) assembled and identified for certification to commence and finish within the interval specified as a requirement for that treatment prior to scheduled dispatch.

The Treatment Operator shall ensure that the cover spray mixture is applied with sufficient volume, and in a manner that provides sufficient penetration and distribution to ensure thorough coverage of the treatment lot. Plants must be thoroughly cover sprayed to the point of run off on both sides of the leaves.

Cover sprays must be reapplied if rain sufficient to cause run-off occurs within two hours of spraying.

Where specified on the manufacturer's label or APVMA permit the treatment mixture shall include a commercial wetting agent at the maximum rate specified on the product's registered label for the purpose.

### 7.5.4 Treatment Mixture and Preparation Records

The Treatment Operator must record details of all treatment mixture preparation and treatments using a *Treatment Mixture and Preparation Record* ([Attachment 9](#)) or records which capture the same information.

The business' treatment records must identify-

- the date of treatment mixture preparation;
- the trade name of the product used;
- the active ingredient of the chemical used;
- the strength of the active ingredient used;
- the formulation of the chemical (either granule, wettable powder or liquid);
- the quantity of product used in the treatment mixture;
- the quantity of wetting agent used in the treatment mixture;
- the total volume of the made-up mixture;
- the media, plants or parts of plants (e.g. foliage, bulbs, corms and rhizomes) treated;
- the number of plants or parts of plant treated; and
- the name and signature of the Treatment Operator.

### 7.6 Maintenance and Calibration of Equipment

The Treatment Operator shall maintain calibrated scales in a secure environment. The Treatment Operator shall ensure scales are protected from dirt, dust and moisture when not in use. Vibrations and air currents can also affect the accuracy of the equipment. Electronic scales can also be affected by other electrical equipment. The Treatment Operator shall ensure that weighing of solid chemical concentrates is conducted on a flat surface in a sheltered area.

The business shall create and maintain a chemical mixture tank calibration record for any treatment tank used for application of drench and cover spray treatments. ([refer 7.6.3](#))

### 7.6.1 Calibration of Weighing Equipment

Scales and other measuring equipment used to determine quantities of solid chemical concentrates shall be checked for accuracy using a control calibration weight.

The Treatment Operator shall carry out calibration tests on the load range of any weighing equipment using the manufacturer's calibration instructions for the equipment being used.

Calibration tests shall be carried out annually. The balance must be verified as accurate to within  $\pm 1\%$  of the total load range. A maximum error margin of 10 g applies.

### 7.6.2 Weighing Equipment Calibration Records

The Treatment Operator shall maintain records of calibration of weighing equipment. The record shall include –

- business name and Interstate Produce (IP) Number;
- the identification of the weighing equipment to be calibrated;
- the date of calibration;
- the results achieved during the calibration;
- comments or actions taken to adjust weighing equipment;
- the name and signature of the person conducting the calibration.

The business shall create and maintain a *Weighing Equipment Calibration Record* ([Attachment 10](#)).

### 7.6.3 Spray Tank Volume and Calibration

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

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

All treatment mixture tanks used for applying liquid treatments shall be calibrated. The person conducting the calibration test shall issue a record of calibration of the treatment mixture tank and this record must be available to the auditor at the initial audit and all compliance audits.

An example *Chemical Mixture Tank Calibration Record* is shown as [Attachment 5](#).

A tank calibration certificate is not required for small dip tanks or hand held spray equipment such as hand held misters or knapsack sprayers, where the capacity of the treatment mixture is less than 25 litres.

#### 7.6.4 Treatment Mixture Preparation Chart(s)

The business shall maintain a mixture preparation chart or similar record in close proximity to the treatment mixture preparation area for each chemical used by the business for treatment under this Operational Procedure. Example preparation charts for granular treatment and liquid treatment are included as Attachments [6](#) and [8](#).

The *Granular Treatment Mixture Preparation Chart* shall provide the following details –

- (a) the active ingredient of the concentrate to which the chart applies;
- (b) the product application rate;
- (c) if applicable, the estimate of potting media make-up (sand/peat/bark ratio);
- (d) if applicable, the bulk media density;
- (e) the calculation of target mixture concentration per litre (L), or cubic metre (m<sup>3</sup>) for any known incremental volumes used;
- (f) the name and signature of the person responsible for the chart's preparation and the date of preparation.

The *Liquid Treatment Mixture Preparation Chart* shall provide the following details –

- (a) identification of the treatment equipment to which the chart applies;
- (b) the trade name of the product to which the chart applies;
- (c) the name and concentration of the active ingredient in the product;
- (d) the quantity of product required per litre of mixture ( mL per litre);
- (e) the quantity of wetting agent required per litre of treatment mixture;
- (f) the total volume in litres of the treatment mixture tank when filled to the maximum mixture level mark ([refer 7.6.3](#));
- (g) the quantity in millilitres (mL) of the product and the wetting agent required in the mixture when filled to the **maximum mixture level** mark;
- (h) the quantity in millilitres (mL) of the product and the wetting agent required in the mixture for any known **incremental volumes** used;
- (i) the printed name and signature of the person responsible for the chart's preparation and the date of preparation.

A business that uses a variety of chemical products (eg. mancozeb and etridiazole) shall prepare a *Treatment Mixture Preparation Chart* for each product used.

## 7.7 Dispatch

Plants treated in accordance with the *bulbs, corms, rhizomes and other below ground vegetative structures free from leaves, potting medium and soil* requirement may be packed in clean peat moss, including coir and coco peat, for consignment. The material used for packaging these items does not require treatment under this Operational Procedure.

### 7.7.1 Package Identification

Prior to the issuance of an Assurance Certificate under this Operational Procedure the Authorised Dispatcher shall ensure that each package is marked in indelible and legible characters of at least 5mm, with -

- the Interstate Produce number of the business that operates the approved facility in which the media and plants were treated;
- the words “MEETS ICA-29”; and
- the date (or date code) on which the plants were treated.

If plants are consigned loose in pots and not in packages, the above information shall be marked on the consignment note or the invoice accompanying the plants and signed and dated by an Authorised Signatory of the business.

Whole truck or container loads of loose plants do not require individual tags or labels provided the truck or container door is sealed at the time of dispatch from the facility and the seal is intact on arrival in Western Australia. The seal number must be included in the ‘Brand Name or Identifying Marks’ section of the Assurance Certificate covering the consignment ([Attachment 2](#)).

Plants and media that have not been treated in accordance with the requirements of this Operational Procedure shall not be marked as stated above.

### 7.7.2 Assurance Certificates

The Authorised Dispatcher shall ensure an Assurance Certificate is completed and signed by an Authorised Signatory of the Business prior to dispatch of the consignment from the facility to a market requiring certification of treatment of plants and soil-less media.

Assurance Certificates shall be in the form of a *Plant Health Assurance Certificate* [FDU 384].

Assurance Certificates shall include

(a) in the “Type of Produce” section-

- the genus and species name of each plant category;
- the number and description of plants of each plant category in the consignment.

*Note: Where there is insufficient room to list each plant category the words “See Attachment” are to be used and an Attachment Sheet securely attached to each copy of the assurance certificate.*

*The Attachment Sheet must include the words “ATTACHMENT SHEET” the name and address of the consignor, the assurance certificate number, the signature of the Authorised Signatory that signed the certificate and the date.*

(b) In the ‘Grower and Packer’ section –

- The name and address of the property on which the plants were grown

(c) In the “Additional Certification” section the statement –

- “Meets ICA29”

A completed example is shown as [Attachment 2](#).

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

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

### 7.7.3 Assurance Certificate Distribution

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

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

### 7.7.4 Security during Transport

The business shall ensure certified plants are isolated from uncertified plants during transport to the consignee to prevent cross-infestation by pests and diseases during transit.

## 7.8 ICA System Records

The Business shall maintain the following records-

- (a) Chemical Mixture Tank Calibration Record;
- (b) Treatment Schedule;
- (c) Supplier Declaration for the Supply of Treated Media;
- (d) Granular Mixture Preparation Chart;
- (e) Liquid Treatment Preparation Chart;
- (f) Treatment Mixture and Preparation Record;
- (g) if applicable, Weighing Equipment Calibration Record;

- (h) a copy of each *Plant Health Assurance Certificate* [FDU 384] issued by the Business ([refer 7.7.3](#)).

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.

## 7.9 ICA System Documentation

The Business shall maintain the following documentation-

- (a) a copy of the Business' current Application for Accreditation ([Attachment 1](#));
- (b) a current copy of this Operational Procedure;
- (c) a current *Certificate of Accreditation for an Interstate Certification Assurance (ICA) Arrangement*.

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

**8. ATTACHMENTS**

<a href="#">Attachment 1</a>	<i>Application for Accreditation of a Business for an Interstate Certification Assurance (ICA) Arrangement</i>	FDU 385 <b>(FRONT PAGE ONLY)</b>
<a href="#">Attachment 2</a>	<i>Plant Health Assurance Certificate</i>	FDU 384 <b>(COMPLETED EXAMPLE)</b>
<a href="#">Attachment 3</a>	<i>Supplier Declaration for the Supply of Treated Media</i>	<b>(BLANK)</b>
<a href="#">Attachment 4</a>	<i>Treatment Schedule</i>	<b>(BLANK)</b>
<a href="#">Attachment 5</a>	<i>Chemical Mixture Tank Calibration Record</i>	<b>(BLANK)</b>
<a href="#">Attachment 6</a>	<i>Granular Treatment Mixture Preparation Chart</i>	<b>(BLANK)</b>
<a href="#">Attachment 7</a>	<i>Granular Treatment Mixture Preparation Chart</i>	<b>(COMPLETED EXAMPLE)</b>
<a href="#">Attachment 8</a>	<i>Liquid Treatment Mixture Preparation Chart</i>	<b>(BLANK)</b>
<a href="#">Attachment 9</a>	<i>Treatment Mixture and Preparation Record</i>	<b>(BLANK)</b>
<a href="#">Attachment 10</a>	<i>Weighing Equipment Calibration Record</i>	<b>(BLANK)</b>



# 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 type of application 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)

(b) Name of Applicant/s *(Print your full name including any given names. For partnerships, print the full name of each partner in their normal order. For incorporated companies and cooperatives, print the full registered name of the organisation.)*

Australian Company Number or Australian Registered Body Number

- ACN   
  ARBN

Companies must provide proof of incorporation by attaching a copy of their Certificate of Incorporation or similar document from the Australian Securities Commission. Cooperative associations must provide a copy of their Certificate of Registration or a registration search from the Department of Justice.

(c) Trading Name/s of the business *(include any business or brand names used by the business on packages of certified produce)*

(d) Postal address of the business

.....

.....

Postcode

Telephone	(    )
Facsimile	(    )
Mobile	

(e) Has the business been registered previously in Q'ld 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.

ICA [   ] [   ]

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 *(print the full title of the 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			

# Plant Health Assurance Certificate

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

**ORIGINAL**

## Consignment Details (Please print)

**Consignor**

Name John Nursery

Address 68 Pot Plant Rd  
Plantville, Qld, 4999

Certificate Number 999999

**Consignee**

Name Fred Nursery

Address 86 Whitefly Street  
Assurance, WA 8666

## Reconsigned To (Splitting consignments or reconsigning whole consignments)

Name

Address

## Method of Transport (Provide details where known)

Road Truck/Trailer Registration

Rail Consignment

Air Airline/Flight no. QAL 907

Sea Vessel Name & Voyage no.

## Certification Details (Please print)

**Accredited Business that Prepared the Produce**

Name John Nursery

Address 68 Pot Plant Rd  
Plantville, Qld, 4999

**Grower or Packer**

Name John Nursery

Address 68 Pot Plant Rd  
Plantville, Qld, 4999

IP No. of Acc. Business **Q 9999** Brand Name or Identifying Marks (as marked on packages) **John Nursery** Date Code (as marked on packages) **17-07-07**

Facility No.	Procedure Code	Expiry Date	Facility No.	Procedure Code	Expiry Date
01	ICA-29	10 / 07 / 08			/ /

Number of Packages	Type of Packages (eg. trays, cartons)	Type of Produce	Authorisation for Split Consignment
10	Cartons	Dracaena marginata	

Date	Treatment	Chemical (Active Ingredient)	Concentration	Duration and Temperature
/ /	<input checked="" 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 checked="" type="checkbox"/> Non-recirculated Spray	Fenthion	412.5ppm	10 seconds then wet for 60 seconds
/ /	<input type="checkbox"/> Fumigation	Methyl Bromide	g/m <sup>3</sup>	Two hours @ °C
/ /	<input type="checkbox"/> Heat Treatment	<input type="checkbox"/> Hot Air <input type="checkbox"/> Hot Water		min. @ °C
/ /	<input type="checkbox"/> Bananas in a hard green condition with unbroken skin			

## Additional Certification

Meets ICA-29

## 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 accreditation(s) granted to the business 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)  
John Nursery

Signature  
*J. Nursery*

Date  
18 / 07 / 07

# SUPPLIER DECLARATION FOR THE SUPPLY OF TREATED MEDIA

A 'Supplier Declaration for the Supply of Treated Media' must be provided by the business that supplies treated media to the accredited business that treats potted plants for certification under the Operational Procedure Treatment of Nursery Stock and Soil-less Media.

I \_\_\_\_\_ (full printed name)

of \_\_\_\_\_ (address)

hereby declare to-

\_\_\_\_\_ (name of business)

at \_\_\_\_\_ (facility address)

Interstate Produce Number **Q** \_\_\_\_\_, that any media supplied by me for use in potted plants is produced in accordance with the Operational Procedure *Treatment of Nursery Plants and Soil-less Media* [ICA-29] as a soil-less media that has been treated with \_\_\_\_\_ (Trade Name of Concentrate) by (☑ one box only):-

- as a 100% peat/bark mix with bifenthrin 2 g/kg product at 1.6 g/L (1.6 kg/m<sup>3</sup>) of bulk media;
- as a 25% sand and 75% peat/bark mix with bifenthrin 2 g/kg product at 2.7 g/L (2.6 kg/m<sup>3</sup>) of bulk media;
- as a 50% sand and 50% peat/bark mix with bifenthrin 2 g/kg product at 3.8 g/L (3.8 kg/m<sup>3</sup>) of bulk media;
- as a 75% sand and 25% peat/bark mix with bifenthrin 2 g/kg product at 5.0 g/L (5.0 kg/m<sup>3</sup>) of bulk media;
- as a 100% sand mix with bifenthrin 2 g/kg product at 6.1 g/L (6.1 kg/m<sup>3</sup>) of bulk media;
- with SuSCon Green® as per APVMA permit 10167 instructions;

on the \_\_\_\_\_ (insert date) the treatment was incorporated into the media

\_\_\_\_\_  
Name & Signature

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Date

# TREATMENT SCHEDULE

Business Name: \_\_\_\_\_

Interstate Produce (IP) Number: Q \_\_\_\_\_

Date of Treatment:	Date of Treatment:	Date of Treatment:
Item Treated:	Item Treated:	Item Treated:
Quantity Treated:	Quantity Treated:	Quantity Treated:
Trade Name of Concentrate:	Trade Name of Concentrate:	Trade Name of Concentrate:
Active Concentration:	Active Concentration:	Active Concentration:
Chemical Formulation:	Chemical Formulation:	Chemical Formulation:
Treatment Method:	Treatment Method:	Treatment Method:
Date of Certification:	Date of Certification:	Date of Certification:
Date of Treatment:	Date of Treatment:	<b>PHAC No Issued:</b> _____ <b>PHAC:</b> _____
Item Treated:	Item Treated:	
Quantity Treated:	Quantity Treated:	
Trade Name of Concentrate:	Trade Name of Concentrate:	
Active Concentration:	Active Concentration:	
Chemical Formulation:	Chemical Formulation:	
Treatment Method:	Treatment Method:	
Date of Certification:	Date of Certification:	

# CHEMICAL MIXTURE TANK CALIBRATION RECORD

## EQUIPMENT CALIBRATED

Name and Address of  
Owner of Equipment:

---

---

Type of equipment  
(eg boom spray, mister):

---

---

Brand:

---

Model:

---

Serial No.:

---

Other Identification:

---

## TESTING DETAILS

Name and Address of the  
Business Conducting the  
Test:

---

---

Date of Testing:

---

Measure Used:

Date of Latest Calibration  
of Flow Meter:

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## CALIBRATION RESULTS

Maximum Mixture Level Volume (litres)

Incremental Volumes (litres)  
(as marked on the spray tank):

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---

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## DECLARATION

The spray mixture tank on the equipment described above has been calibrated in the normal filling position using a calibrated flow meter. Volume indicator marks have been clearly marked on the tank with the volume in litres required to fill the tank to that level.

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_/\_\_\_\_/\_\_\_\_  
Date

# GRANULAR TREATMENT MIXTURE PREPARATION CHART

**CHEMICAL CONCENTRATE = BIFENTHRIN (2g/kg)**

Potting Media Mix = \_\_\_\_\_

Bulk Media Density = \_\_\_\_\_ kg/m<sup>3</sup>

Product Application Rate = \_\_\_\_\_ g/L

**CHEMICAL CONCENTRATE = CHLORPYRIFOS (100g/kg)**

Product Application Rate = \_\_\_\_\_ g/m<sup>3</sup>

## BIFENTHRIN INCREMENTAL VOLUMES

\_\_\_\_\_ Media X \_\_\_\_\_ g Concentrate = \_\_\_\_\_ g/L Total Concentrate

\_\_\_\_\_ Media X \_\_\_\_\_ g Concentrate = \_\_\_\_\_ g/L Total Concentrate

\_\_\_\_\_ Media X \_\_\_\_\_ g Concentrate = \_\_\_\_\_ g/L Total Concentrate

## CHLORPYRIFOS INCREMENTAL VOLUMES

\_\_\_\_\_ Media X \_\_\_\_\_ g Concentrate = \_\_\_\_\_ g/m<sup>3</sup> Total Concentrate

\_\_\_\_\_ Media X \_\_\_\_\_ g Concentrate = \_\_\_\_\_ g/m<sup>3</sup> Total Concentrate

\_\_\_\_\_ Media X \_\_\_\_\_ g Concentrate = \_\_\_\_\_ g/m<sup>3</sup> Total Concentrate

Prepared by: \_\_\_\_\_ / /  
Printed Name Signature Date

# GRANULAR TREATMENT MIXTURE PREPARATION CHART

CHEMICAL CONCENTRATE =            **BIFENTHRIN (2g/kg)**

Potting Media Mix =            25% sand with & 75% peat

Bulk Media Density =            0.85            kg/m<sup>3</sup>

Product Application Rate =            2.7            g/L

CHEMICAL CONCENTRATE =            **CHLORPYRIFOS (100g/kg)**

Product Application Rate =            g/m<sup>3</sup>

## BIFENTHRIN INCREMENTAL VOLUMES

           2m<sup>3</sup> Media X            2.7 g Concentrate =            5.4 g/L Total Concentrate

           3m<sup>3</sup> Media X            2.7 g Concentrate =            8.1 g/L Total Concentrate

           4m<sup>3</sup> Media X            2.7 g Concentrate =            10.8 g/L Total Concentrate

## CHLORPYRIFOS INCREMENTAL VOLUMES

           Media X            g Concentrate =            g/m<sup>3</sup> Total Concentrate

           Media X            g Concentrate =            g/m<sup>3</sup> Total Concentrate

           Media X            g Concentrate =            g/m<sup>3</sup> Total Concentrate

Prepared by:           

Printed Name

Signature

   /    /   

Date

# LIQUID TREATMENT MIXTURE PREPARATION CHART

Spray Unit /Tank \_\_\_\_\_

Product (*Trade Name*) \_\_\_\_\_

Active Ingredient \_\_\_\_\_ Conc. \_\_\_\_\_ /

Product Mixing Ratio \_\_\_\_\_ /Litre

## Full Tank/Spray Unit

Volume of Water = \_\_\_\_\_ Litres

Quantity of Product = \_\_\_\_\_ millilitres/grams

Quantity of Wetting Agent = \_\_\_\_\_ millilitres

## Part Fill

\_\_\_\_\_ mL Wetting Agent and

\_\_\_\_\_ mL Product / \_\_\_\_\_ Litres Water

\_\_\_\_\_ mL Wetting Agent and

\_\_\_\_\_ mL Product / \_\_\_\_\_ Litres Water

Prepared by: \_\_\_\_\_ / /  
Printed Name Signature Date





