WORK INSTRUCTION

Supervising a vapour heat treatment for plant exports

Direction to staff

You must comply with this instructional material under the Practice Statement Framework.

Direction to authorised officers

Authorised officers must perform services in accordance with any lawful directions or instructions issued by the department.

Summary of main points

This document outlines the procedures for inspection authorised officers (AOs) to follow when supervising a vapour heat treatment for plant exports. It includes how to:

- prepare for a vapour heat treatment
- verify a previous sensor calibration
- supervise calibration of temperature sensors
- supervise sensor placement
- supervise chamber loading and treatment start
- verify the treatment
- fail the treatment.

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Purpose of this document

This document details the procedures for supervising and verifying a vapour heat treatment (VHT) for plant exports.

Definitions

The following table defines terms used in this document.

Term	Definition	
Authorised officer (AO)	A person authorised under section 291 of the <i>Export Control Act 2020</i> to be an authorised officer. The authorised officer may exercise powers and functions conferred on them through an instrument of authorisation.	
	Note: An authorised officer may be a Commonwealth, State or Territory government officer, or third party individual. Examples of third party individuals include, but are not limited to:	
	employees of registered establishments	
	employees of an exporter	
	self-employed individuals/sole traders	
Client	The exporter, exporter's representative or person responsible for prescribed goods intended for export.	
Consignment	Prior to export, means the quantity of plants or plant products identified on the notice of intention to export for export to an importing country.	
	at or post export, means:	
	a) where a phytosanitary certificate has been issued in relation to plants or plant products – a quantity of plants or plant products being moved from one country to another, that are covered by that phytosanitary certificate.	
	b) where no phytosanitary certificate has been issued in relation to plants or plant products – a quantity of plants or plant products being moved from one country to another, that are covered by the export permit.	
Exporter	The entity identified as the exporter in a Notice of Intention/Request For Permit to export.	

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Term	Definition
Manual of Importing Country Requirements (MICoR) Plants	Database maintained by the department that outlines importing country requirements for a range of plants and plant products for export.
Protocol	A government to government document that specifies import requirements and is bilaterally agreed to by Australia and the importing country authority.
	Note: Countries in which Australia has an agreed protocol with are referred to as 'protocol markets'. For a list of protocol markets see the Reference: <u>Table of plant export protocol markets</u> .
Temperature sensor	Equipment/probe for monitoring the product/air temperature.
	Note: This is also commonly referred to as a probe.
Vapour heat treatment (VHT) record	Record of the results related to the vapour heat treatment for plants and plant products for export.
Vapour heat treatment sensor calibration record (calibration record)	Record of the results of VHT sensor calibration. The calibration of temperature sensors must be completed at least every 31 days by an AO accredited with the TRE3001:3 Export phytosanitary treatments – Vapour heat treatment job function.

Policy statement

- VHT must be carried out in accordance with the <u>Australian Phytosanitary Treatment Application</u> Standard for Vapour Heat Treatment.
- This work instruction is to be used in conjunction with the importing country's requirements
 (ICRs) listed in import permits, <u>protocols</u>, <u>work plans</u> and the Manual of Importing Country
 Requirements (<u>MICOR</u>). Where the ICRs contradict the requirements in this document, the ICRs
 must take precedence.

Supervision by an AO

This role must only be performed by AOs with the TRE3001:3 *Export phytosanitary treatments – Vapour heat treatment* job function.

Legislative framework

The following list outlines the legislation that applies to specific tasks involved in supervising vapour heat treatment:

- Export Control Act 2020 (Act)
 - o Section 410 Act Methods for taking, testing and analysing certain samples
- Export Control (Plants and Plant Products) Rules 2021 (Plant Rules)
 - o Part 2 of Chapter 3 Government certificates
 - Part 2 of Chapter 9 Assessments of goods
 - o Part 1 of Chapter 11 Records

Roles and responsibilities

The following table outlines the roles and responsibilities undertaken in this work instruction.

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Role	Responsibility
Clients	Providing the country and commodity information to the inspection AO.
	Nominating a treatment schedule.
	Providing assistance to the inspection AO, where required.
	 Replacing or resetting faulty temperature sensors, if required.
	Conducting the calibration of the temperature sensors.
	Placing the temperature sensors.
	Maintaining product security post-treatment.
AOs	Supervising the calibration of temperature sensors.
	Supervising the chamber loading and start of treatment.
	Supervising the placement of sensors.
	Verifying the treatment results.
	Completing the VHT record.
	Failing the treatment.

Work health and safety

AOs must:

- read and be familiar with the Reference: Work health and safety in the plant export environment
- not enter work sites unless it is safe, they are wearing the required personal protective equipment (PPE) and have considered any work health and safety (WHS) hazards
- comply with applicable Commonwealth, state and territory WHS legislation
- comply with WHS requirements of employers and third party sites, unless they assess the requirements as placing them at risk, in which case they must take reasonable action to ensure their safety.

Personal protective equipment

AOs must wear the following PPE for supervising treatments:

- hi-visibility vest
- safety boots.

AOs must have the following PPE with them and use when required:

- first aid kit
- water
- sunscreen
- appropriate emergency communication equipment (such as a phone carrier with coverage or satellite phone).

An AO must wear the following PPE where required by the work site or where they have identified a risk in the work environment:

- steel-cap or safety boots
- safety glasses
- long-sleeve clothing
- hard hat

- hair net
- hearing protection
- face mask
- portable gas detector.

Note: For more information, see the Reference: Work health and safety in the plant export environment.

System requirements

AOs must have access to the following systems:

- the department's website
- Manual of Importing Country Requirements (MICoR)
- MICoR Plants Documents section (username and password required) protocol markets only.

Supervising a vapour heat treatment?

This procedure initiates when a client requests supervision of a vapour heat treatment.

Section 1: How do I prepare to supervise a vapour heat treatment?

The following table outlines how to prepare to supervise a vapour heat treatment.

Step	Action		
1.	Look up the relevant MICoR case to obtain the importing country requirements and to check if the market is a protocol market.		
	Note: MICoR cases will indicate a protocol market in the Export Criteria section.		
	If the market is	Then	
	not a protocol market	supervision of VHT is not required	
		do not continue.	
	a protocol market	go to the password-protected documents section of MICoR	
		find the relevant protocol and/or work plan and refer to these when prompted by this work instruction	
		continue to step 2.	
		Note: work plans have been developed by the department to assist staff and industry with the interpretation of the protocol requirements. Where both a protocol and work plan exist, refer to the work plan in the first instance.	

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Step	Action		
2.	•	redited in the job function required to supervise the treatment by dities with the Reference: <u>Table of authorised officer job functions</u> .	
	If you are	Then	
	accredited with the required job function	continue to step 3	
	not accredited with	you cannot conduct this task	
Ì	the required job function	inform the bookings officer or client	
	Tunction	do not continue.	
3.	Gather your <u>personal p</u>	rotective and essential equipment and travel to the establishment.	
4.	On arrival at the registe	ered establishment:	
	sign in at the office		
	 ask a staff member about any site-specific work health and safety requirer including mandatory PPE 		
	put on the required PPE		
	 assess the site for s 	afety	
	 ask a staff member 	to accompany you to the consignment.	
5.	Confirm with the client	the type of supervision required.	
	If the request is for the	Then	
	start of a treatment	continue to Section 2: How do I verify previous sensor calibration?	
	completion of a treatment	go to Section 6: How do I verify a vapour heat treatment?	

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Section 2. How do I verify previous sensor calibration?

Calibration of temperature sensors must take place at the beginning of the season and at least once every month.

The following table outlines how to verify a previous sensor calibration.

Step	Action		
1.	Ask the client if the treat	tment is the first for the seaso	on.
	If the treatment is	And	Then
	the first for the season	a sensor calibration has occurred	 sight the calibration record record the date of calibration under <i>Date of</i> sensor calibration on the VHT record
			 go to <u>Section 4: How do I</u> <u>supervise the sensor</u> <u>placement?</u>
	the first for the season	a sensor calibration has not occurred	go to Section 3: How do I supervise the calibration of temperature sensors?
	not the first for the season	N/A	continue to step 2.
2.	Ask the client if the sens	ors have been calibrated with	nin the previous 31 days.
	If calibration has	Then	
	occurred within the previous 31 days	calibration on the VHT	bration under <i>Date of sensor</i>
		placement?	
	not occurred within the previous 31 days	continue to Section 3: How temperature sensors?	w do I supervise the calibration of

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Section 3. How do I supervise the calibration of temperature sensors?

The following table outlines how to supervise the calibration of temperature sensors.

Step	Action	
1.		ce thermometer has a valid National Association of Testing
	If the NATA certificat is	e Then
	valid	go to step 3.
	not valid	advise the client that a valid reference thermometer must be used
		• continue to step 2.
2.	Ask the client if they w	ish to present an alternate reference thermometer.
	If	Then
	yes	return to step 1 and continue with this work instruction.
	no	advise the client that you cannot continue
		• go to Section 7: How do I fail a calibration or treatment?
3.	Ask the client to provide a hot water vat, stabilised to 47°C against the reference thermometer.	
4.	Ask the client to place all sensors into the hot water vat, ensuring that the sensors are not touching each other or the sides of the vat.	
5.	Observe the temperature within ±0.3°C of 47°C.	ure of each sensor, verifying that the temperature sensors read
	Note: The number of so unit and the results of	ensors required is dependent on the make and model of the VHT the thermal mapping.
	If the temperature of all sensors is	Then
	within <u>+</u> 0.3°C	complete the calibration record to confirm that all the probes have met requirements of the calibration
		• go to step 7.
	not within <u>+</u> 0.3°C	 advise the client that the sensor must be replaced or reset
		• continue to step 6.

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Step	Action	
6.	Ask the client if they intend to replace or reset the sensor.	
	If	Then
	yes	return to step 3 to calibrate the new sensor and continue with this work instruction.
	no	advise the client that you cannot continue
		record details of the probes that do not meet requirements on the VHT sensor calibration record
		go to <u>Section 7: How do I fail a calibration or treatment?</u>
7.	 Ask the client to remove sensors from the vat, to allow the reading to move away f 47°C, then return them to the vat. 	
	• Observe the temperature reading for each sensor as outlined in step 4 and step 5.	
	• Complete the calibration record to confirm that all the probes have met requirement of the calibration.	
8.	Repeat step 7 so that the	re are three readings for each sensor.
9.	Write your name, AO	number, sign and date the calibration record.
	Record the date of ca	libration under <i>Date of sensor calibration</i> on the VHT record.
10.	Continue to Section 4: Ho	ow do I supervise the sensor placement?

Section 4. How do I supervise the sensor placement?

The following table outlines how to supervise the sensor placement.

Step	Action
1.	Ensure the client selects the heaviest pieces of fruit from the treatment lot.
	Note: the number of fruit required will depend on the number of sensors used.
2.	Observe the client placing the sensors into the pulp of the fruit, ensuring
	it is inserted into the centre of the fruit
	or
	as close to the seed without touching the seed
	For mangoes: place the sensor tip as close to the seed (without touching the seed) at the point of maximum pulp thickness.
	Note: a tool with aperture narrower than the sensor may be used to plot the insertion path for the sensor.
3.	Continue to Section 5: How do I supervise the chamber loading and start of treatment?

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Section 5. How do I supervise the chamber loading and start of treatment?

Where different product types or consignments for different destinations are to be treated together care must be taken to maintain the identity of the different consignments.

The following table outlines how to supervise the chamber loading and start of treatment.

ep Action			
1. Verify t	Verify that the exit to the treatment chamber is sealed.		
If	Then		
yes	• record the seal number under <i>Seal number of</i> treatment room exit on the VHT record.		
	• continue to step 2.		
no	ask the client to seal the treatment chamber		
	 record the seal number under Seal number of treatment room exit on the VHT record. 		
	• continue to step 2.		
	cek that the sensors are placed as per the treatment facilities documented sensor cement plan. Then		
yes	continue to step 3.		
no	 ask the client to place the sensors as per the treatment facility's documented sensor placement plan continue to step 3. 		
3. • Obs	serve the entry door being closed and sealed with a numbered seal.		
	ord the seal number under <i>Seal number of treatment room entry</i> on the VHT ord.		
• Red	ord time of sealing under <i>Time entry door sealed</i> on the VHT record.		
4. Observ	e the operator turning on the system.		
	ite your name, AO number, date and sign the VHT record under Supervision of atment set up.		
	${\sf e}$ a copy of the VHT record to the client and advise them to keep it for verification he treatment.		
- Son	d a copy of the VHT record to the <u>National Documentation Hub.</u>		

Section 6. How do I verify a vapour heat treatment?

The following table outlines how to verify a vapour heat treatment.

Step	Action			
1.	Ask the client for: a print-out of the temperature recordings a copy of the VHT record that was completed by the AO supervising the calibration.			
2.	 Review the print-out. Confirm that the treatment has met the nominated treatment schedule by verifying that the temperature of all sensors have reached and maintained the prescribed treatment temperature for the nominated treatment schedule (that is, that the core temperature of the product has reached and maintained the minimum specified temperature) humidity level has reached and maintained the nominated schedule for one hour before treatment commencement whole treatment process has lasted at least two hours. 			
If the nominated treatment schedule has been met		nt	Thencontinue to step 3.the consignment fails treatment	
	not been met		go to Section 7: How do I fail a calibration or treatment?	
3.	Review the VHT record and confirm that the seal numbers on the treatment chamber match the seal numbers on the VHT record.			
	If the	Then		
	seal numbers match	go to st	ер 4.	
	seal numbers do not match	• go	consignment fails treatment to Section 7: How do I fail a calibration or atment?	
4.	 Date and sign the print-out of the temperature recordings. Circle YES for Treatment completed successfully on the VHT record. Record the Treatment start date and time and Treatment finish date and time on the VHT record. Write your name, AO number, date and sign the VHT record under Verification of treatment. Provide a copy of the VHT record and calibration record (if applicable) to the client. 			
	 Send a copy of the VHT record, calibration record (if applicable) and any supporting documentation to the <u>National Documentation Hub.</u> 			

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Section 7. How do I fail a calibration or treatment?

The following table outlines how to fail a treatment.

Step	Action			
1.	Advise the client that the calibration/treatment has failed and the reasons why.			
2.	Advise the client that failed calibration/treatment may be restarted at the discretion of the department.			
	Note: Refer to the specific protocol/work plan for what is allowed.			
3.	Record that the • calibration has failed on the calibration record			
	or			
	 treatment has failed by circling NO for Treatment completed successfully on the VHT record and tick the reason why. 			
4.	Write your name, AO number, date and sign the calibration/VHT record.			
5.	Provide a copy of the calibration/VHT record to the client.			
	Send a copy of the VHT record to the <u>National Documentation Hub</u>			
6.	For departmental AOs, invoice the client as per the Work Instruction: <u>Invoicing plant</u> <u>export clients</u> .			

Record keeping

- Departmental AOs must keep official files in accordance with the department's record keeping policy.
- State/Territory government and third-party AOs must retain the original completed References:
 <u>Vapour heat treatment record</u> and <u>Vapour heat treatment sensor calibration record</u>, and any supporting documents for two years from the date the records were signed.

Contact information

- Authorised Officer Hotline: 1800 851 305
- Authorised Officer Program: <u>plantexporttraining@awe.gov.au</u>
- National Documentation Hub: <u>plantexportsNDH@awe.gov.au</u>
- Horticulture Exports Program: horticultureexports@awe.gov.au

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Related material

The following material is available on the department's website:

- Protocols, work plans
- Manual of Importing Country Requirements (MICoR)
- Plant Export Operations Manual:
 - o Guideline: Maintaining phytosanitary security of horticulture prescribed goods for exports
 - Reference: Work health and safety in the plant export environment
 - o Reference: Table of plant export protocol markets

- o Reference: Performance standards vapour heat treatment horticulture exports
- o Australian phytosanitary treatment application standard for vapour heat treatment
- o Reference: Vapour heat treatment record
- o Reference: Vapour heat treatment sensor calibration record
- o Reference: Table of authorised officer job functions

Related WHS information is available on the Instructional Material Library.

Document information

The following table contains administrative metadata.

Instructional Material Library document ID	Instructional material owner
IMLS-9-3662	Director, Horticulture Exports, Plant Export Operations Branch

Version history

The following table details the published date and amendment details for this document.

Version	Date	Amendment details	
1	6/07/2020	First publication of this work instruction.	
2	23/09/2020	Minor text edits to provide clarity.	
3	28/03/2021	Update for commencement of Export Control Act 2020	

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