



AUDIT REPORT

NEW CALEDONIA

AUDIT OF THE HIGH TEMPERATURE FORCED AIR (HTFA) TREATMENT PATHWAY FOR THE EXPORT OF APPROVED FRUIT FLY HOST COMMODITIES TO NEW ZEALAND

08 August 2013

Plant Imports and Exports Group,
Standards Branch,
Plant & Food Directorate,
Ministry for Primary Industries.

Contents	Page
Acknowledgement	1
Executive summary	2
Definition and Acronyms	3 - 4
List of appendices	5
Introduction	6
<i>Audit scope</i>	6
<i>Position statement</i>	6
<i>Summary of findings</i>	7
Methodology	8
<i>Introduction</i>	8
<i>Entry meeting</i>	8
<i>Exit meeting</i>	9
<i>Audit Plan</i>	9
Audit findings & discussions	10 - 12
Other recommendations and noted improvements	13 - 14
Appendices	
Appendix A	15 - 16
Appendix B	17 - 19

ACKNOWLEDGEMENTS

The New Zealand Ministry for Primary Industries (MPI) would like to sincerely thank the officials of Service d'Inspection Vétérinaire Alimentaire et Phytosanitaire, Direction des Affaires Veterinaires, Alimentaires et Rurales (SIVAPDAVAR), Chamber of Agriculture (Chambre d'Agriculture de Nouvelle Calédonie) and Arbofruits for their time and co-operation during the 2013 observational audit of New Caledonia's high temperature forced air (HTFA) treatment pathway.

The collaboration and assistance rendered also by [REDACTED] of Institut Agronomique Neo-Caledonien (IAC) and [REDACTED] is duly noted and greatly appreciated.

Merci beaucoup.

DISTRIBUTION

MPI - [REDACTED]

SIVAP/DAVAR - [REDACTED]

EXECUTIVE SUMMARY

The main purpose of this visit was to carry out an observational audit on the prescribed operational procedures associated with the high temperature forced air treatment pathway for the export of fruit fly host commodities from New Caledonia to New Zealand.

The audit focused only on general system components and operational processes of the treatment pathway(i.e. pest management/surveillance, treatment procedures, phytosanitary inspections and post treatment security).

There were three minor non compliances identified during the audit which have been corrected by SIVAP/DAVAR. After verification of the corrective actions, MPI approved the treatment proceeding and allowed the audit to be completed.

There were also a few recommendations discussed with the New Caledonia NPPO as documented in the report that will help strengthen the treatment pathway if implemented.

The hygiene of the facility and the posting of operational procedures at the respective sites within HTFA for referencing is commended and acknowledged by MPI. The attention to detail in the recordings was also noted by the audit team.



DEFINITIONS AND ACRONYMS

Chamber of Agriculture (Chambre d'Agriculture de Nouvelle-Calédonie)

A corporate institution representing the interests of the agriculture sector including farmers, with the Government of New Caledonia and Provinces.

Bilateral Quarantine Arrangement (BQA)

An inter-agency technical arrangement between the New Zealand Ministry for Primary Industries and the counterpart National Plant Protection Organisation which documents New Zealand's requirements for the control of fruit fly species of economic significance (i.e. those fruit fly species categorised as pests) that are associated with fruit fly host material imported into New Zealand.

Certification test

The process of independently mapping the thermodynamics of a HTFA unit by placing parallel probes throughout the chamber during the treatment of a normal commercial run. The certification tests allow for the comparison of data against that generated by the house probes and the identification of 'hot' and 'cold' spots.

Arbofruits

An association (New Caledonia Law 1901) involving orchardists. They provide field technical support in the area of crop and pest management, and information, extension and communication and transportation logistics.

FCTE

France Caledonie Tropic Export which is the only exporting company from New Caledonia facilitating exports to New Zealand.

Fruit fly

Insects of the order Diptera, family Tephritidae which belong to economically important genera such as *Anastrepha*, *Bactrocera*, *Ceratitis*, *Dacus*, *Rhagoletis* and *Toxotrypana*, in particular those species categorised by MPI as regulated "high impact" pests.

High impact pest

High impact pests are regulated pests that if introduced into New Zealand would have a major impact on the production (including access to overseas markets) of plants and plant products and/or the environment.

HTFA

High temperature forced air quarantine treatment for disinfestation of fruit flies.

House probe

A temperature measuring device which is inserted in the fruit representing the largest weight range in the treatment batch and placed in the known "cold

spot” within the chamber. The temperature of the house probe fruit determines when the quarantine temperature (i.e. 47°C) has been reached and triggers the quarantine treatment time (i.e. 20 minutes respectively) for each treatment batch.

IAC

Institut Agronomique Neo-Caledonien

MAF BA Standard 158.03.03

MAF Biosecurity Authority Standard 158.03.03: Specification for Heat Treatment Monitoring (formally a NASS Standard)

Non-conformance/compliance

A breakdown in the implementation for a critical point which either directly, or indirectly, affects the integrity of the HTFA treatment pathway.

MPI

New Zealand Ministry for Primary Industries.

Operations Manual (HTFA treatment station, Tontouta, Noumea)

The manual describing the procedures required and responsibilities for the treatment for export of fruit fly host material using HTFA (4 May 2011 version)

Pathway

A series of activities that, when carried out according to documented procedures from a discrete and traceable export system.

Phytosanitary procedure

Any officially prescribed method for implementing phytosanitary regulations including the performance of inspection, tests, surveillance or treatments in connection with regulated pests. (ISPM 5 Glossary of Phytosanitary terms)

Quarantine Temperature

In the case of New Caledonia, two (2) treatment specifications are approved by NZ MPI as recorded under Appendix 4 of BQA. The treatment involves raising the core temperature of;

- Eggplant (*Solanum melongena*), Mango (*Mangifera indica*) and Lychee (*Litchi chinensis*) to 47°C then held for a minimum of 20 minutes and,
- Capsicum (*Capsicum annuum*) to 43°C then held for a minimum of 20 minutes.

SIVAP/DAVAR (Official NPPO for New Caledonia)

Service d'Inspection Vétérinaire Alimentaire et Phytosanitaire of the Direction des Affaires Vétérinaires, Alimentaires et Rurales in the GOUVERNEMENT de la NOUVELLE CALÉDONIE.

LIST OF APPENDICES

1. Audit plan (A)
2. Photographs illustrating specific operational pathway activities and HTFA treatment (B)



INTRODUCTION

Audit Scope

- 1.1 To audit the implementation of accepted operational procedures, systems and documentation covering the access of fruit fly host material into New Zealand from New Caledonia for on-going accreditation of the high temperature forced air (HTFA) treatment pathway, against the following documented procedures:
- (i) *MAF Biosecurity Authority Standard 158.03.03: Specification for Fruit Fly Heat Treatment Monitoring.*
 - (ii) *Bilateral Quarantine Arrangement (Appendix 4 – heat treatment, between the New Zealand Ministry of Agriculture and Forestry and New Caledonia Service d'inspection Vétérinaire Alimentaire et Phytosanitaire (SIVAP) dated 15 January 2002 (revised).*
 - (iii) *Import Health Standard (IHS) for eggplants and capsicum from New Caledonia (MAF Biosecurity New Zealand Standard 152.02 on Importation and clearance of fresh fruit and vegetables into New Zealand)*
 - (iv) *Operations Manual for Commercial Hot Air Four Pallet Disinfestation Chamber Facility (High Temperature Forced Air/ Vapour Heat Treatment), Tontouta Airport, New Caledonia (Version 4, May 2011)*

POSITION STATEMENT

- 1.2 In general, the audit confirmed that the HTFA treatment system in New Caledonia is being effectively implemented and met all the critical requirements of treatment appendix 4 in the NZ MAF/SIVAP BQA. The hygiene of the facility and the general pest control programmes were well maintained and implemented. The provision of probing, trapping and computer start-up procedures including troubleshooting guides at the respective operational sites in the facility for reference was commended.
- 1.3 There were three minor non compliances identified from the audit which were corrected by SIVAP/DAVAR and verified by MPI on 8 August 2013.
- 1.4 There are two recommendations mentioned in the report to help improve the treatment pathway especially in the area of capacity building for the treatment operators. The need to correct the computer printer settings so that the printing of treatment printouts will not be affected in the future was fully discussed with SIVAP/DAVAR and Chamber of Agriculture.

SUMMARY OF FINDINGS & RECOMMENDATIONS:

1.5 Critical Non Conformances:

- None

1.6 Major Non Conformances:

- None

1.7 Minor Non Conformances:

- a. House probes numbered differently and not consistent to the numbering system documented in Section 5 of the operations manual.
- b. Treatment batch codes were not consistently entered on phytosanitary certificates.
- c. Inconsistency by SIVAP to sign and stamp inspection surveillance, and treatment records maintained at the HTFA facility with official stamp.

1.8 Recommendations to New Caledonia NPPO:

- a. On-going training program for those involved in the HTFA operations to enhance their awareness and confidence of the processes and procedures involved.
- b. Computer printer settings to be corrected and machine replaced if required.

AUDIT METHODOLOGY

INTRODUCTION

- 1.9 There was approximately half a tonne of eggplant fruits that SIVAP/DAVAR managed to collect from the island due to damage sustained during the recent flooding. Grapefruits were supplied from IAC orchards to supplement the additional quantity and weight required for a full treatment load. The treatment was not a commercial one however fruits treated during the test run achieved the purpose of the audit in verifying that all the components of the treatment pathway were being implemented effectively.

There were only a few activities at the treatment facility relating to postharvest handling of fruit that were observed in line with the scope of the audit i.e. inspection, selection and probing of fruits, commencement of treatment runs and post treatment security including the general surveillance and hygiene of the facility.

The three certified treatment operators were interviewed regarding the processes, operations and management of the facility. Records (files, registers, work sheets) at the facility were also sighted and audited.

ENTRY MEETING

- 2.0 The entry meeting was held at the Tontouta HTFA Conference room on Thursday 8 August at 9am.

DISCUSSION POINTS

- 2.1 The meeting allowed MPI to outline the following:
- Purpose, scope and criteria of audit
 - Methodology
 - Audit plan and itinerary
 - Presentation of findings and reporting mechanism
- 2.2 The meeting was attended by;

SIVAP/DAVAR (New Caledonia NPPO)

[REDACTED]

Chamber of Agriculture

[REDACTED]

Arborfruits

[REDACTED]

France Caledonie Tropic Export (FCTE)

[REDACTED]

MPI New Zealand

[REDACTED]

EXIT MEETING

2.3 An exit meeting was conducted on 9 May 2013 at the Chamber of Agriculture office.

2.4 Those that were present included:

SIVAP (New Caledonia NPPO)

[REDACTED]

Chamber of Agriculture

[REDACTED]

Institut Agronomique neo-Caledonien (IAC)

[REDACTED]

Arborfruits

[REDACTED]

France Caledonie Tropic Export (FCTE)

[REDACTED]

MPI New Zealand

[REDACTED]

2.5 **DISCUSSION POINTS**

The exit meeting provided the opportunity for MPI to present to SIVAP/DAVAR and relevant parties the outcomes of the audit especially with regards to non compliances and recommendations to strengthen the integrity of the treatment pathway.

MPI also acknowledged and thanked SIVAP/DAVAR for the way the facility was maintained and the improvements that have been made since the last audit.

AUDIT PLAN

2.6 Attached on Appendix A

AUDIT FINDINGS & DISCUSSIONS

Finding 1 **INCORRECT NUMBERING OF HOUSE PROBES IN THE TREATMENT CHAMBERS**

- 2.7 The operation manual documents that house probes are to be numbered as 1, 2, 3, 4, 5, 6, 7 and 8. However, during the audit, it was observed that this has been changed and numbering now has insulation tape strips placed around each probe wire depending on the probe number (e.g. two tape strips for probe 2 and etc). All the probes on the right side chamber were identified with white insulation tapes and the ones on the left chamber with red.

- **Non compliance category - MINOR**

Reference


- 2.8 Loading the chamber: procedures; Section 5.4 of page 10

New Caledonia NPPO response

- 2.9 Noted and agreed with the non compliance.
- 3.0 While the tape strips currently used to identify the probes were maintained, the numbering as documented in the operational manual was re-implemented and probe numbers were written over the tapes pasted on the rubber wires holding each probe. Refer to Appendix B to view images.

MPI Response

- 3.1 SIVAP/DAVAR was informed that the treatment cannot be approved unless the numbering of the probes was corrected to reflect the numbering documented in the operational manual.
- 3.2 MPI noted and verified the corrections undertaken by SIVAP/DAVAR and Chamber of Agriculture and gave approval for the treatment to proceed.

<u>Corrected & signed off</u>	:	YES (✓)NO ()
<u>Date</u>	:	8 August 2013
		

**Finding 2 INCONSISTENCY BY SIVAP IN EXCLUDING TREATMENT
BATCH CODES ON PHYTOSANITARY CERTIFICATES**

- 3.3 The audit also identified that there were cases where HTFA treatment batch codes were not included on some phytosanitary certificates issued for eggplants treated and exported in the past.

- **Non compliance category - MINOR**

Reference

- 3.4 Import Health Standard (IHS) for eggplants from New Caledonia (*MAF Biosecurity New Zealand Standard 152.02 on Importation and clearance of fresh fruit and vegetables into New Zealand*)

New Caledonia NPPO response

- 3.5 Noted and agreed with the non compliance.
- 3.6 SIVAP/DAVAR has provided the undertaking to MPI that everyone involved will be informed accordingly and that future phytosanitary certificates covering HTFA treated commodities will correctly attest to the HTFA treatment carried out.

MPI Response

- 3.7 MPI noted the undertaking by SIVAP/DAVAR and will monitor the HTFA treated consignments when they arrive in New Zealand.

<u>Corrected & signed off</u>	:	YES (✓)NO ()
<u>Date</u>	:	8 August 2013
<div></div>		

**Finding 3 INCONSISTENCY BY SIVAP/DAVR TO STAMP AND SIGN
SURVEILLANCE, INSPECTION AND TREATMENT REGISTERS
AT THE HTFA**

- 3.8 The signing and stamping (official stamp) by SIVAP/DAVAR of surveillance, inspection and treatment records at the HTFA following their verifications was inconsistently done and does not provide MPI confidence in the internal verification that is required to uphold the integrity of the treatment pathway.

- **Non compliance category - MINOR**

Reference

- 3.9 Import Health Standard (IHS) for eggplants from New Caledonia (*MAF Biosecurity New Zealand Standard 152.02 on Importation and clearance of fresh fruit and vegetables into New Zealand*)

New Caledonia NPPO response

- 4.0 Noted and agreed to the non compliance with an undertaking to improve to ensure consistency.

MPI Response

- 4.1 MPI noted the undertaking by SIVAP/DAVAR and will verify the outcome in the next audit.

<u>Corrected & signed off</u> :	YES (√)	NO ()
<u>Date</u> :	8 August 2013	
<div style="background-color: black; height: 1.2em; width: 100%;"></div>		

Other recommendations to improve the pathway

Issue 1

- 4.2 It was noted during the audit that two new personnel [REDACTED] [REDACTED] were also assisting with the operations at the facility and were being audited by MPI for the first time. The remaining staff had previously been audited by MPI.

Recommendation

- 4.3 SIVAP/DAVAR and Chamber of Agriculture were reminded of the importance of ensuring that training programs are in place for new staff to build up their capacities and confidence in the processes and procedures involved with the facility.

Issue 2

- 4.4 There was also an issue with the computer printer settings for the HTFA that was affecting the normal printing of treatment printouts accompanying HTFA treated consignments.


Recommendation

- 4.5 It is recommended that SIVAP/DAVAR ensures that the printer setting is corrected to ensure the normal printing of the treatment printouts or the printer replaced completely if deemed necessary.

Further to the audit, MPI also noted the following improvements undertaken to the HTFA system as listed below;

- 4.6 Repairing of floor fan (cut off-cut-in system) which was problematic during the 2011 audit. The fan is now in perfect operational condition.
- 4.7 Provision of procedures at different operation sites for reference e.g. computer treatment start-up procedures, cold spot map, fruit fly trapping system procedures, probing procedures, crates loading procedures etc.
- 4.8 The registers were well maintained and information neatly entered with attention to detail. Treatment records for years 2011, 2012 and 2013 were properly stored which was verified by MPI.
- 4.9 The certification for treatment operators was sighted and verified by MPI.
- 5.0 The fruit fly surveillance traps inside the facility were inspected. As an improvement from the 2011 audit, the traps now include both an attractant and an insecticide.
- 5.1 Rodent baits were also observed to be in place and well maintained. A hygiene map was posted on the wall to depict the location of the traps in the facility.

- 5.2 Probing by the biosecurity officers and treatment operators including the taping of the eggplants around the probing entry point to prevent heat loss was observed to be well implemented. Refer to appendix B for probing images.
- 5.3 Procedures for selection of probe fruits was well understood by the treatment operators and was well complied with during the time of the audit including its recording, documentations and inputting of information into the treatment computer for recording on the treatment printout.

<u>Corrected & signed off</u>	:	YES (√)	NO ()
<u>Date</u>	:	8 August 2013	
			

Appendix A

AUDIT PLAN

New Caledonia High Temperature Forced Air (HTFA) Facility

DATE: 8 FEBRUARY 2013

1. Scope

- (a) To audit the implementation of operational procedures covering the access of fruit fly host material into New Zealand from New Caledonia for accreditation of the BQA - High Temperature Forced Air (HTFA) treatment pathway, against the following documented procedures:
- (i) *MAF Biosecurity Authority Standard 158.03.03: Specification for Fruit Fly Heat Treatment Monitoring.*
 - (ii) *Bilateral Quarantine Arrangement (Appendix 4 – heat treatment, between the New Zealand Ministry of Agriculture and Forestry and New Caledonia Service d'inspection Vétérinaire Alimentaire et Phytosanitaire (SIVAP) dated 15 January 2002 (revised).*
 - (iii) *Import Health Standard (IHS) for eggplants and capsicum from New Caledonia (MAF Biosecurity New Zealand Standard 152.02 on Importation and clearance of fresh fruit and vegetables into New Zealand)*
 - (iv) *Operations Manual for Commercial Hot Air Four Pallet Disinfestation Chamber Facility (High Temperature Forced Air/ Vapour Heat Treatment), Tontouta Airport, New Caledonia (Version 4, May 2011)*

2. Auditor

[REDACTED]

3 Overview of processes to be audited

The treatment facility to be visited for the purpose of this audit is the high temperature forced air (HTFA) treatment station (Tontouta Airport, New Caledonia).

The specific operational processes to be observed are listed below:

3.1 Inspections

- *inspector training*
- *inspection areas*
- *decision making process*

- *pest identification*
- *actions on discovery of fruit fly and other quarantine pests*
- *inspection records*

3.3 Treatment facility

- *general hygiene*
- *equipment maintenance*
- *equipment calibration and testing*
- *maintenance schedule*

3.4 Quarantine treatment procedures

- *operator training and documented procedures*
- *chamber loading*
- *fruit probing*
- *treatment operation*
- *treatment monitoring*
- *treatment records*
- *treatment contingencies*
- *records*

3.5 Post treatment security

- *chamber unloading*
- *treated product segregation*
- *carton identification*
- *container loading*
- *container storage and security*

3.6 Phytosanitary certification

- *phytosanitary certification procedures*
- *consignment traceability*
- *certification records*

Appendix B

Images of HTFA treatment operations

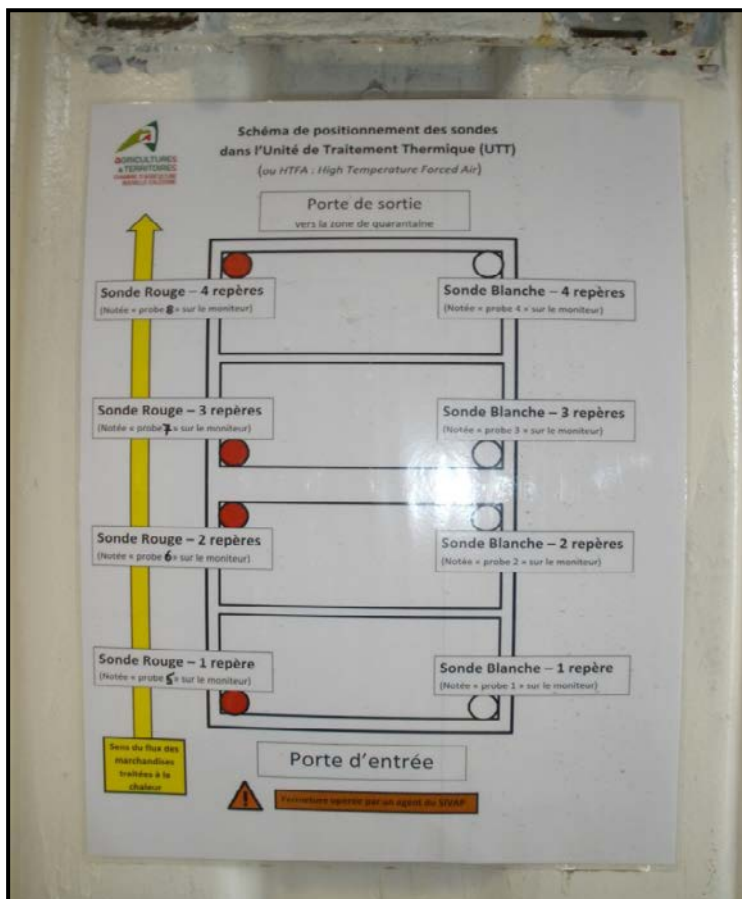


Numbering system to differentiate the house probes in the chamber (white tapes for the right chamber and red tapes for the left chamber). Numbers on the tapes refer to the probe numbers.



Probing of eggplants and proper taping of probed points by treatment operators.





Cold spot map posted in front of the chamber and under the main door for ease of reference.



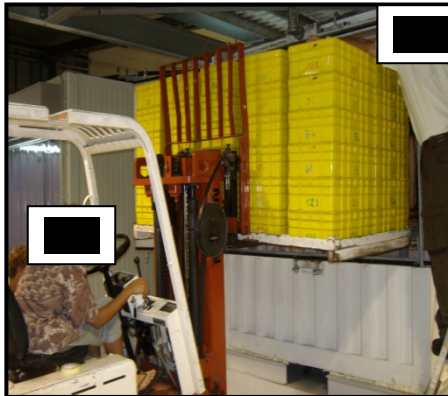
Rodent baits and fruit fly traps installed within the facility.



Treatment chamber with the netting screen separating the receiving/loading area and quarantine area of the facility.



Water heating system



Loading of fruits for treatment.