



AUDIT REPORT

TONGA

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

07 February 2014



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



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ACKNOWLEDGEMENT

The New Zealand Ministry for Primary Industries (MPI) would like to sincerely thank the Head of the Tonga Quarantine and Quality Management Division (QQMD); [REDACTED] and his hard working team for their part in coordinating all the activities pertaining to the audit and certification of Tonga's HTFA facility.

The upgrading and maintenance works undertaken on the facility and overall management by [REDACTED] is commendable and MPI would like to specially acknowledge the contributions made by [REDACTED] and the new Operations Manager, [REDACTED]

Malo aupito.

DISTRIBUTION

MPI - 1. [REDACTED]

Ministry for Primary Industries
Wellington
NEW ZEALAND

QQMD - [REDACTED]

Ministry for Agriculture, Food, Fisheries and
Forests (MAFFF),
Kingdom of Tonga.

EXECUTIVE SUMMARY

The 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 Tonga 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 eight issues identified by MPI as a result of the desk audit conducted on Quarantine Technologies International Limited's (QTI) certification report dated 29 July 2013. The issues were communicated back to Tonga NPPO and on 24 January 2014, Tonga NPPO officially confirmed with MPI their satisfaction to the corrective actions implemented.

The first part of the audit by MPI focussed on verifying the corrective actions implemented by TEQM against the eight issues identified from the certification report. The second part of the audit covered the general system and operational processes within the facility observed in each component of the HTFA treatment system.

There were two critical, three major and one minor, non-compliance identified during the audit which had all been corrected by QQMD and after verifications by MPI, the treatments to complete the audit was given approval to proceed.

There are also few recommendations discussed with the Tonga NPPO as documented in Part C of the report that will help strengthen the treatment pathway if implemented. The capacity of the biosecurity inspectors was a serious concern and MPI is hopeful that the training program developed will be implemented as scheduled to help address the concern and provide to MPI the confidence required on Tonga's fruit fly host commodity pathways.

DEFINITIONS AND ACRONYMS

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.

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

Acronym for 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^o2C) has been reached and triggers the quarantine treatment time (i.e. 20 minutes respectively) for each treatment batch.

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

Acronym for New Zealand Ministry for Primary Industries.

Operations Manual for Commercial Hot Air Treatment Station (High Temperature Forced/Vapour Heat Treatment); Eight Bins Disinfestation Chamber Tonga; Operating Instructions; Fua'amotu International Airport, Tongatapu, Kingdom of Tonga.

The manual describing the procedures required and responsibilities for the treatment for export of approved fruit fly host material from Tonga to New Zealand using HTFA (3 April 20011 version)

Pathway

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

Phytosanitary procedure

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

Quarantine Temperature

In the case of Tonga, one (1) treatment specification is approved by NZ MPI as recorded under Appendix 2 of BQA. The treatment involves raising the core temperature of;

- Avocado (*Persica Americana*), breadfruit (*Artocarpus altilis*), chilli (*Capsicum frutescens*), eggplant (*Solanum melongena*), Mango (*Mangifera indica*), papaya (*Carica papaya*) and tomato (*Lycopersicon esculentum*) to 47.2°C then held for a minimum of 20 minutes.

QQMD (Official NPPO for Tonga)

Quarantine and Quality Management Division of the Tonga Ministry of Agriculture, Food, Fisheries and Forests.

[REDACTED]

VSA

Volunteer Service Abroad is New Zealand's largest and most experienced volunteering agency working in international development.
(<http://www.vsa.org.nz/about-vsa/>)

Water bath

Water container with an electric heating element used for maintaining the water at a constant temperature. It is used to calibrate temperature probes.

LIST OF APPENDICES

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

[REDACTED]

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 Tonga 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 between the New Zealand Ministry of Agriculture and Forestry and Tonga Ministry of Agriculture, Food, Fisheries and Forests (MAFFF) dated May 2001 (*revised*).

Specific reference is made to Appendix 2 on heat treatment of avocado (*Persica americana*), breadfruit (*Artocarpus altilis*), chilli (*Capsicum frutescens*), eggplant (*Solanum melongena*), mango (*Mangifera indica*), papaya (*Carica papaya*) and tomato (*Lycopersicon esculentum*).

- (iii) Import Health Standard (IHS) for avocado, breadfruit, chilli, eggplant, mango, papaya and tomato from Tonga (*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 Treatment Station (*High Temperature Forced/Vapour Heat Treatment*); Eight Bins Disinfestation Chamber Tonga; Operating Instructions; Fua'amotu International Airport, Tongatapu, Kingdom of Tonga. (*Version 3, April 2011*)

Position Statement

- 1.2 In general, the audit confirmed that the HTFA treatment system in Tonga was being effectively operated and met all the critical requirements of treatment appendix 2 in the NZ MAF/TONGA MAFFF BQA.
- 1.3 There were two Critical, three Major and one Minor non compliances identified from the audit which were all corrected by QQMD, verified by MPI on 5 February 2014 and treatment approved to continue to complete the audit.
- 1.4 There are six recommendations mentioned in the report to help improve the treatment pathway if they are implemented

Summary of findings and recommendations

1.5 Critical Non Compliances:

- i. Detection of live ants and spiders in the quarantine area of the facility.
- ii. Cracks observed on the wall of the facility closer to the exit to the airport within the quarantine area.

1.6 Major Non Compliances:

- i. Incorrect numbering of treatment sensors (probes) in the right chamber.
- ii. Absence of rat bait stations in the facility.
- iii. Absence of an inspection record for QQMD to record their inspections.

1.7 Minor Non Compliances:

- i. Incorrect recording templates used by TEQM in their fruit intake log book.

1.8 Recommendations to Tonga NPPO:

- i. The finalised thermal map for the treatment chambers should be made available to TEQM and the treatment operators.
- ii. A training program needs to be developed and implemented urgently to help improve the QQMD inspectors' knowledge and understanding of the treatment processes and responsibilities.
- iii. The treatment batch coding currently used needs further upgrading to include chamber and year of treatment into the automation data produced by the software.
- iv. Hygiene, especially outside the quarantine area of the facility, needs to be well maintained and should also include prohibiting the parking of cars and access to unauthorized personnel in that area.
- v. Double insect-proof screening around the quarantine area.
- vi. QMD inspection room to be put in place inside the quarantine area.
- vii. The packhouse component of the fruit fly host commodity pathways need to be fully implemented by QQMD.

AUDIT METHODOLOGY

Introduction

1.9 A desk audit was conducted by MPI on Tonga HTFA's certification report (dated 29 July 2013) submitted by Quarantine Technologies International (QTI).

- *The outcome of the desk audit was communicated back to Tonga NPPO for their necessary actions. The response from Tonga NPPO was received by MPI on 24 January 2014.*
- *The first part of the observational audit by MPI was used to inspect and verify the corrective actions implemented by TEQM against the desk top audit findings. The outcome of the verification audit is mentioned in Part A of the audit findings and discussions on page 9 – 12.*

2.0 The full trial treatment utilised close to a tonne of papaya sourced from MAFFF Research division's papaya plots. The treatment was not a commercial run but the fruits treated were used only to achieve the purpose of the audit in verifying that all the components of the treatment pathway were being implemented effectively.

Treatment details:

2.1 The sizes of the papaya (included mixture of both sunrise and another traditional varieties) used for treatment varied a lot and as a result, it was agreed that the medium sized papaya be used as probe fruits whereas the larger ones were included just to make up the required load of the test run and the normal sized papaya (smaller than the probed fruits) as the actual ones for export.

2.2 All the components of the treatment system and their procedures were observed to complete the audit as detailed in the audit scope in appendix A.

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

Entry Meeting

2.4 The entry meeting was held at the Tonga QQMD Office on Wednesday 5 February at 9am.

Discussion points

- 2.5 The meeting allowed MPI to outline the following:
- Purpose, scope and criteria of audit
 - Methodology
 - Audit plan and itinerary

2.6 The meeting was attended by;

QQMD (Tonga NPPO)

[REDACTED]

TEQM LIMITED

[REDACTED]

MPI New Zealand

[REDACTED]

Exit Meeting

2.7 An exit meeting was conducted on 7 February 2014 at the Head of QQMD's office.

2.8 Those that were present included:

QQMD (Tonga NPPO)

[REDACTED]

TEQM LIMITED

[REDACTED]

MPI New Zealand

[REDACTED]

2.9 **Discussion Points**

The exit meeting provided the opportunity for MPI to present to QQMD and TEQM the outcomes of the audit especially with regards to non compliances and also the recommendations to help strengthen the current treatment pathway.

AUDIT PLAN

3.0 Attached on Appendix A

AUDIT FINDINGS & DISCUSSIONS

PART A Verification audit performed against corrective actions implemented for issues identified from the desk audit conducted by MPI on QTI's certification report dated 29 July 2013

FINDING 1

- 3.1 QTI has reported the absence of a staff structure for Tonga Export Quality Management Company (TEQM) with only a single volunteer from New Zealand engaged for a short term assignment. This contradicts what MPI verified in 2011 where a structure was in place and two employees [REDACTED] employed at that time and also trained by QTI and MPI.

MPI recommendation:

- 3.2 MPI requests for a response from Tonga NPPO and TEQM to confirm the current status and any change(s) to the previous audit outcome. MPI will require the certification of the treatment operator(s) by Tonga NPPO to be sent to MPI before the audit.

TEQM Ltd response (Finding 1)

- 3.3 *For nearly the past two years there has been no processing of commodities within the HTFA. During this period the HTFA assets were transferred from Ministry of Agriculture to that of Public Enterprise. Much remedial work was also performed on both HTFA premises and equipment. With no commodity processing for export over this two year period, there has been no requirement to utilise the TEQM staff (as verified by MPI in 2011).* [REDACTED]

<u>Noted & signed off</u>	:	YES (✓) NO ()
<u>Date</u>	:	5 February 2014

FINDING 2

- 3.4 MPI also noted that the report confirmed no quarantine officer was present at the facility during certification work by QTI and therefore the needed training on Tonga NPPO's supervisory role as the regulatory authority in the treatment facility in Tonga was not undertaken. Will a biosecurity inspector be assigned to the HTFA during treatments and is he/she well versed with the procedures involved therein supervising a treatment?

MPI recommendations

- 3.5 MPI seeks for an update on the progress of this activity.

TEQM Ltd response (Finding 2)

- 3.6 During the consultants visit to perform certification testing of the two HTFA chambers, [REDACTED] was present part time and [REDACTED] (Tonga MAF Quarantine officer) present full time. [REDACTED] assisted the consultant for the full duration of the chamber certification testing at the HTFA. [REDACTED] is well versed with the operations of the HTFA facility.

<u>Verified</u>	:	YES (✓) NO ()
<u>Date</u>	:	5 February 2014
[REDACTED]		
MPI Comment: From the discussions held with the inspectors, the need for more training and more hands on exposure was greatly needed and this should be seriously looked into by Tonga NPPO.		

FINDING 3

- 3.7 Excessive offset has been noted on House probe number 3 (1.4°C) and the dry bulb sensor (1.15°C) in the left chamber during calibration which was also correctly captured by the system on the treatment printout. These excessive offsets can potentially impede the accuracy of the treatment but the report did not confirm the replacement of those probes which should have been the case.

MPI recommendation

- 3.8 Probes as such are normally replaced but this cannot be confirmed to date. MPI seeks confirmation on what has been done or how this will be addressed.

TEQM Ltd response (Finding 3)

- 3.9 LH Chamber probe 3 and the dry bulb sensor have now been replaced and successful probe calibration performed. Please refer to attached image for new probe off sets.

<u>Corrected, verified & signed off</u>	:	YES (✓) NO ()
<u>Date</u>	:	5 February 2014
[REDACTED]		

FINDING 4

- 4.0 It was also reported that the mercury glass thermometer is two years out of warranty calibration.

MPI recommendation

- 4.1 The thermometer needs to be re-calibrated. MPI seeks for an update on the progress of this activity.

TEQM Ltd response (Finding 4)

- 4.2 As a result of the significant difficulty and price regarding the freight and calibration services for mercury (hazardous substance) filled glass thermometers, a replacement digital thermometer has been sourced from New Zealand and calibrated. It has also since been utilised to perform successful group probe calibration. A group probe calibration was supervised by a Tonga MAF quarantine officer as part of a trial run.

<u>Corrected, verified & signed off</u>	:	YES (✓)NO ()
<u>Date</u>	:	6 February 2014
		

- Image of the digital thermometer is shown in appendix B.

FINDING 5

- 4.3 Water-bath and more importantly the heater/circulator for calibration have been confirmed to be non-operational and also beyond repair.

MPI recommendation

- 4.4 Calibration of probes should be conducted monthly according to NZ Biosecurity Authority Standard 158.02.03 and the re-calibration can also be required by MPI during audit for verification and therefore the calibration water-bath should be in operational condition.
- MPI seeks an update on the progress of this activity.

TEQM Ltd response (Finding 5)

- 4.5 *A new replacement Immersion heater has been sourced from the USA. It has since been utilised to perform successful group probe calibrations, witnessed by MAFFF Tonga. The new replacement will ensure compliance with the current requirements from MPI.*

<u>Corrected, verified & signed off</u>	:	YES (✓)NO ()
<u>Date</u>	:	6 February 2014
		

- Image of the water bath is shown in appendix B.

FINDING 6

- 4.6 Fruit weighing scale to weigh probe fruits has been reported to be not functional.

MPI recommendation

- 4.7 MPI seeks for update on the progress of this activity.

TEQM Ltd response (Finding 6)

- 4.8 *The fruit weighing scale was checked and appeared to be working fine. It was also sent to the Ministry of Trade for verification purposes and confirmed as functional.*

<u>Corrected, verified & signed off</u>	:	YES (✓)NO ()
<u>Date</u>	:	6 February 2014
		

FINDING 7

- 4.9 It was concerning to note that the left chamber computer and monitor was reported faulty. The printer spool board is also inoperative and nothing can be printed.

MPI recommendation

- 5.0 MPI seeks for an update on the progress of this activity.

TEQM Ltd response (Finding 7)

- 5.1 Currently the one computer is being utilised for both chambers (data cable swapped between chambers).

<u>Corrected & signed off</u>	:	YES (✓) NO ()
<u>Date</u>	:	6 February 2014

FINDING 8

- 5.2 QTI has also reported about the left chamber being subjected to the direct effects of cold winds due to the way the building is currently designed. As a result of this, with reference to the cold spot mapping attached to the report by QTI, MPI has noted that house probe 4 is the probe likely to be affected much and confirms why probe 4 was the last probe to reach the kill temperature even though it was the lightest of all the probe fruits.

MPI recommendation

- 5.3 MPI seeks an update on how this finding will be resolved by Tonga NPPO and TEQM.

TEQM Ltd response (Finding 8)

- 5.4 As an immediate corrective action a wood panel has already been fitted on the wind facing section of the left chamber. This insulates the wind facing side of the chamber. Also as part of the HTFA project improvement items a proposed wood frame with polycarbonate shutters has been approved for installation on the airport facing side of the building. This is the direction of the prevailing winds. The installation is planned for February 2014.

<u>Verified & signed off</u>	:	YES (✓) NO ()
<u>Date</u>	:	6 February 2014

- Image of the wooden panel is shown in appendix B.

PART B GENERAL SYSTEM AND OPERATIONAL PROCESSES AUDIT

FINDING 1 INCORRECT NUMBERING OF HOUSE PROBES IN THE RIGHT TREATMENT CHAMBER

5.5 The operation manual states that house probes are to be numbered as 1, 2, 3 and 4 for probes in the left side chamber, and 9, 10, 11 and 12 for probes in the right side chamber. However, during the time of the audit, it was observed that the numbering of the probes in the right chamber was changed i.e. the right chamber probes were also numbered 1, 2, 3 and 4 similar to the left chamber.

- Non compliance category - **MAJOR**

Documented reference

5.6 Operations Manual for Commercial Hot Air Treatment Station (High Temperature Forced/Vapour Heat Treatment); Kingdom of Tonga (*Version 3, April 2011*)

- Loading the chamber procedures; Section 5 on page 9.

Tonga NPPO response

5.7 Noted and agreed with the non compliance.

5.8 The numbering of the house probes for the right side chamber was changed and is now numbered as 9, 10, 11 and 12 as documented in the operational manual.

MPI Response

5.9 The re-numbering of probes was supervised by Tonga NPPO, verified by MPI and treatment approved to proceed to complete the audit.

<u>Corrected & signed off</u>	:	YES (✓) NO ()
<u>Date</u>	:	5 February 2014

FINDING 2 DETECTION OF LIVE ANTS AND SPIDERS IN THE QUARANTINE AREA OF THE HTFA TREATMENT FACILITY

6.0 Even though, the HTFA hygiene register showed that the facility (interior and exterior) had been consistently sprayed with approved pesticide, live ants were still observed foraging on the floor and walls of the quarantine area including live spiders too.

- Non compliance category - **CRITICAL**

Documented reference

- 6.1 Operations Manual for Commercial Hot Air Treatment Station (High Temperature Forced/Vapour Heat Treatment); Kingdom of Tonga (*Version 3, April 2011*)
- Description of the facility; Section 2 on pages 4-5,
 - General pest Control; Section 2.3 on page 7.
- 6.2 Bilateral Quarantine Arrangement between the New Zealand Ministry of Agriculture and Forestry and Tonga Ministry of Agriculture, Food, Fisheries and Forests (MAFFF) dated May 2001 (*revised*).
- Appendix 2 – High Temperature Forced Air (HTFA); Section 4, Product security on page 6.

Tonga NPPO response

- 6.3 Noted and agreed with the non compliance.
- 6.4 An employee [REDACTED] was re-engaged and sprayed the facility (interior and exterior) under QQMD supervision.
- 6.5 A heavily bearing papaya plant which grew close to the quarantine area of the facility (inside airport area) was also cut and removed by the airport authorities.

MPI Response

- 6.6 MPI re-inspected the quarantine area of the facility (*inside and outside*) and no further live ants or spiders were observed in the quarantine area of the facility. The removal of the papaya plant was noted by MPI.

<u>Corrected & signed off</u>	:	YES (✓) NO ()
<u>Date</u>	:	6 February 2014
[REDACTED]		

FINDING 3 ABSENCE OF RAT BAITS WITHIN HTFA FACILITY

- 6.7 During the audit, there were no rat baits observed inside the facility. MPI was informed that they may have been washed off during the cleaning up of the facility however have not been reinstated afterwards.

- **Non compliance category - MAJOR**

Documented reference

- 6.8 Operations Manual for Commercial Hot Air Treatment Station (*High Temperature Forced/Vapour Heat Treatment*); Kingdom of Tonga. (*Version 3, April 2011*)
- General pest control; Section 2.3 on page 7.

Tonga NPPO response

- 6.9 Noted and agreed with the non compliance.
- 7.0 The rat baiting program was reinstated again with rat bait stations placed all around designated sites within the facility.

MPI Response

- 7.1 The newly installed rat bait stations were inspected and verified by MPI.

<u>Corrected & signed off</u>	:	YES (✓)NO ()
<u>Date</u>	:	7 February 2014
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FINDING 4 CRACK APPEARING ON THE WALL OF THE QUARANTINE AREA NEXT TO THE EXIT DOOR TO AIRPORT AREA

- 7.2 There was a crack observed on the wall of the quarantine area next to the exit door to the airport area. The crack could be seen from a distance and poses a possibility for fruit flies and other flying and crawling pests to enter through to the quarantine area and could potentially infest HTFA treated consignments.

- **Non compliance category - CRITICAL**

Documented reference

- 7.3 Operations Manual for Commercial Hot Air Treatment Station (*High Temperature Forced/Vapour Heat Treatment*); Kingdom of Tonga. (*Version 3, April 2011*)
- Description of the facility; Section 2 on page 4-5,
 - General pest Control; Section 2.3 on page 7.

Tonga NPPO response

- 7.4 Noted and agreed to the non compliance.
- 7.5 Thick layers of sealant were applied to the cracks by TEQM under the supervision of QQMD inspectors.

MPI response

- 7.5 The sealing of the cracks was inspected and verified by MPI.

<u>Corrected & signed off</u>	:	YES (✓)NO ()
<u>Date</u>	:	6 February 2014
<div style="background-color: black; height: 15px; width: 100%;"></div>		

FINDING 5 INCORRECT INSPECTION RECORDS BY TEQM AT THE HTFA

- 7.6 The Fruit Intake Logbook template used by TEQM in the facility was different from the template documented in the HTFA operational manual and consequently has made the information recorded incomplete, i.e. the recording template currently used does not allow for recording of what type of fruit that was received and treated. This was misleading and could potentially impede on the timeliness of a trace-back when needed.

- **Non compliance category - MINOR**

Documented reference

- 7.7 Operations Manual for Commercial Hot Air Treatment Station (*High Temperature Forced/Vapour Heat Treatment*); Kingdom of Tonga. (Version 3, April 2011)

- Fruit bin receipt and weighing; Section 3.2 on page 7 and appendix 5 (fruit intake logbook template) on page 41.

Tonga NPPO response

- 7.8 Noted and agreed to the non compliance.

- 7.9 TEQM, under QQMD supervision amended the recording template and aligned their record to the template referenced in appendix 5 of the operational manual.

MPI response

- 8.0 MPI re-audited the record and verified that amendments were correctly implemented.

<u>Corrected & signed off</u>	:	YES (√)NO ()
<u>Date</u>	:	5 February 2014

FINDING 6 ABSENCE OF A QQMD (NPPO) INSPECTION RECORD AT THE HTFA

- 8.1 There was not any inspection record for QQMD (NPPO) in place at the HTFA during the audit.
- 8.2 The absence of the record provided MPI no evidence that inspections of fruit fly host commodities had always been undertaken. There was also no evidence to prove to MPI that the decisions surrounding the detection of fruit flies at the HTFA had been implemented effectively.
- 8.3 It also does not provide the opportunity to monitor the pest load on commodities when they're received from the packhouse

- **Non compliance category - MAJOR**

Documented reference

8.4 Operations Manual for Commercial Hot Air Treatment Station (*High Temperature Forced/Vapour Heat Treatment*); Kingdom of Tonga. (Version 3, April 2011)

- Quarantine inspection; Section 3.3 on page 8 and Form 2 (produce inspection record template) on page 42.

Tonga NPPO response

8.5 Noted and agreed to the non compliance.

8.6 QQMD has taken the undertaking that they will put the inspection records in place.

MPI response

8.7 MPI noted the undertaking by QQMD and the corrective action will be closely monitored by MPI. The records will be audited in the next audit of the HTFA by MPI.

<u>Corrected & signed off</u>	:	YES (✓) NO ()
<u>Date</u>	:	6 February 2014
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PART C OTHER RECOMMENDATIONS TO IMPROVE THE PATHWAY

Issue 1 HTFA QUARANTINE AREA SCREENING IMPROVEMENT

8.8 The screening especially around the quarantine area of HTFA is not doubled-layered and given the two cases of detection of live ants and spiders in the quarantine area in 2011 and 2014, the security of the room and the post-treatment security component of the fruit fly host commodity pathways can easily be compromised.

Recommendation

8.9 It is recommended that the quarantine area be double-screened and a smaller-sized screen netting (1.6 mm²) instead of the current 4mm² is used.

Issue 2 TREATMENT BATCH CODES IMPROVEMENT

9.0 The current batch coding implemented by the facility is not fully automated because it does not include the chamber in which the treatment was undertaken and also incomplete date where the year is not included. The chamber reference and the year of the treatment are normally added in manually by the operators after the treatment.

Recommendation

9.1 It is recommended that the issue is highlighted by QQMD to the treatment supplier for their necessary action so that the software can be adjusted accordingly to include the above information printed automatically with the other details.

Issue 3 CAPACITY BUILDING FOR BIOSECURITY INSPECTORS

9.2 The level of understanding of the treatment processes by the QQMD inspectors present at the facility was a concern to MPI since the inspectors were new and still in need of a lot of training and exposure.

Recommendation

9.3 There needs to be a training program developed and implemented by QQMD that would allow the new inspectors trained by MAFFF's own certified operators.

- MPI will need a six month training plan in place.
- This would also involve treatment operators, QQMD inspectors and MAFFF trainers working through the operational manual to familiarise themselves with the operations and their different responsibilities.

Issue 4 AVAILABILITY OF THERMAL MAP AFTER CERTIFICATION

9.4 During the audit, the thermal map for HTFA was not available at the facility nor with TEQ and their treatment operators.

Recommendation

9.5 It is recommended that in future, thermal maps be made available to the treatment operators and also posted at the designated sites within the facility as soon as it is made available to Tonga NPPO.

- 9.6 Additionally, it may also help for key treatment instructions and their diagrammatical illustrations are also posted at the designated sites in the facility for ease of reference.

Issue 5 MAINTENNANCE OF HYGIENE AROUND HTFA

- 9.7 The maintaining of the hygiene outside the facility to compliment the chemical treatment program in place was not convincingly upheld and an issue of particular concern was the permission to allow vehicles to be parked outside the facility especially directly outside the quarantine area of the facility. Incoming vehicles can be good vectors of biosecurity risks into the premise and having those vehicles as well as people around the area with the single-screened netting can be a threat to the security of the facility.

Recommendation

- 9.8 Whenever possible, the area outside the facility especially around the quarantine area should be cordoned off to prevent access for unauthorized personnel and not used as a parking space for vehicles. There is more than adequate space available in front of the domestic airport for parking and vehicles need to be told to make use of that.

Issue 6 QQMD INSPECTION ROOM IN PLACE AT THE HTFA

- 9.9 It was noted during the audit that QQMD records for the HTFA treatment and inspections were not all stored together in the facility and some are at the airport office and the rest at the QQMD HQ. As a result, the audit was delayed for some time to allow for the documentations to be transported to the HTFA.

Recommendation

- 10.0 A QQMD office should be created within the quarantine area for inspection purposes and also provide the space for documentations to be filed and storage and future use especially audits.

Appendix A

AUDIT PLAN

TONGA High Temperature Forced Air (HTFA) Facility

DATE: 5 - 7 FEBRUARY 2014

1. Scope

- (a) To audit the implementation of operational procedures covering the access of fruit fly host material into New Zealand from Tonga 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*.
- (i) Bilateral Quarantine Arrangement between the New Zealand Ministry of Agriculture and Forestry and Tonga Ministry of Agriculture, Food, Fisheries and Forests (MAFFF) dated May 2001 (*revised*).

Specific reference is made to Appendix 2 on Heat treatment of Avocado (*Persica americana*), Breadfruit (*Artocarpus altilis*), Chilli (*Capsicum frutescens*), Eggplant (*Solanum melongena*), Mango (*Mangifera indica*), Papaya (*Carica papaya*) and Tomato (*Lycopersicon esculentum*).

- (ii) Import Health Standard (IHS) for avocado, breadfruit, chilli, eggplant, mango, papaya and tomato from Tonga (MAF Biosecurity New Zealand Standard 152.02 on *Importation and clearance of fresh fruit and vegetables into New Zealand*)
- (iii) Operations Manual for Commercial Hot Air Treatment Station (High Temperature Forced/Vapour Heat Treatment); Eight Bins Disinfestation Chamber Tonga; Operating Instructions; Fua'amotu International Airport, Tongatapu, Kingdom of Tonga. (*Version 3, April 2011*)

2. Auditor



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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 (Fua'amotu International Airport, Tongatapu, Tonga).

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*



New digital thermometer now being used replacing the old mercury thermometer



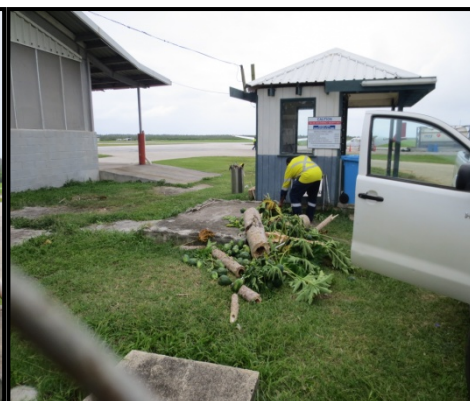
New water bath now used at the facility.



House probes being calibrated against the new digital thermometer



Spraying of HTFA facility
(outside and inside)



Sealing of cracks and
removal of the papaya plant



Fruits loaded for treatment
and probing of probed
fruit.



Wood panel fitted on the side of the
left chamber to help insulate the
chamber against cold winds.