

**Import Health Standard
Commodity Sub-class: Fresh Fruit/Vegetables
Papaya, (*Carica papaya*) from the United States of
America – State of Hawaii**

ISSUED 18 January 2006

Issued pursuant to Section 24A of the Biosecurity Act 1993

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Endorsement

Import health standards for plants and plant products imported into New Zealand are a requirement under the Biosecurity Act 1993 and are prepared by the Ministry for Primary Industries (MPI).

This standard was endorsed by the Chief Technical Officer, Pre-Clearance, Biosecurity New Zealand on 18 January 2006.

Debbie Pearson
Director PreClearance
(acting under delegated authority)

Review and amendment

MPI import health standards are subject to periodic review and amendment.

New Zealand import health standards covering the importation of plants and plant products are updated and republished as necessary with the most recent version published on the MPI website.

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Distribution

Import health standards relating to plants and plant products are distributed by MPI. They are made available for public access on the MPI web site:

<http://www.biosecurity.govt.nz/imports/plants/index.htm>

INTRODUCTION

SCOPE

This import health standard describes the requirements to be met to enable biosecurity clearance to be given for fresh papaya (*Carica papaya*) imported into New Zealand from the United States of America – State of Hawaii.

This import health standard replaces the import health standard for papaya from the United States of America – State of Hawaii dated 18 January 2006.

REFERENCES

Biosecurity Act 1993

Requirements for the establishment of pest free areas 1996. ISPM Publication No. 4, FAO, Rome.

Requirements for the establishment of pest free places of production and pest free production sites 1999. ISPM Publication No. 10, FAO, Rome.

Glossary of phytosanitary terms 2002. ISPM Publication No. 5, FAO, Rome.

Risk analysis for quarantine pests including analysis of environmental risks 2003. ISPM Publication No. 11 (Rev. 1), FAO, Rome.

New Revised Text of the International Plant Protection Convention, November 1997. FAO, Rome.

MPI Plants Biosecurity Standard 152.02: Importation and Clearance of Fresh Fruit and Vegetables into New Zealand (July 2002).

DEFINITIONS ABBREVIATIONS AND ACRONYMS

Biosecurity clearance	A clearance under section 26 of the New Zealand Biosecurity Act 1993 for the entry of goods into New Zealand.
Certificate	An official document, which attests to the phytosanitary status of any consignment affected by phytosanitary regulations [FAO, 1990].
Commodity	A type of plant, plant product, or other article being moved for trade or other purpose [FAO, 1990; ICPM Amendments, April 2001].
Consignment	A quantity of plants, plant products and/or other articles being moved from one country to another and covered, when required, by a single phytosanitary certificate (a consignment may be

	composed of one or more commodities or lots) [FAO, 1990; ICPM Amendments, April 2001].
Establishment	Perpetuation, for the foreseeable future, of a pest within an area after entry [FAO, 1990; revised FAO, 1995; IPPC, 1997; formerly established]
High impact pest	High impact pests are regulated pests that if introduced into New Zealand would have a major effect on the production (including access to overseas markets) of plants and plant products and/or the environment.
Import health standard	A document issued under section 24A of the Biosecurity Act 1993 that specifies “... <i>the requirements to be met for the effective management of risks associated with the importation of risk goods before those goods can be imported, moved from a biosecurity control area or a transitional facility, or given a biosecurity clearance</i> ”.
Infestation of a consignment	Presence in a commodity of a living pest of the plant or plant product concerned. Infestation includes infection [CEPM, 1997; revised CEPM 1999].
Inspection	Official visual examination of plants, plant products or other regulated articles to determine if pests are present and/or to confirm compliance with phytosanitary regulations [FAO, 1990; revised FAO, 1995; formerly Inspect].
International Plant Protection Convention	International Plant Protection Convention, as deposited with FAO in Rome in 1951 and as subsequently amended [FAO, 1990].
IPPC	Abbreviation for the International Plant Protection Convention.

International Standard for Phytosanitary Measures	An international standard adopted by the Conference of FAO, the Interim Commission on Phytosanitary Measures or the Commission on Phytosanitary Measures established under the IPPC [CEPM, 1996; revised CEPM, 1999].
Introduction	The entry of a pest resulting in its establishment [FAO, 1990; revised FAO, 1995; IPPC, 1997]
ISPM	Abbreviation for International Standard on Phytosanitary Measures.
Lot	The number of units of a single commodity identifiable by its homogeneity of composition, origin, etc., forming part of a consignment. [FAO, 1990].
MPI	Ministry for Primary Industries. Acronym for the Ministry for Primary Industries which is the New Zealand national plant protection organisation.
National Plant Protection Organisation	Official service established by Government to discharge the functions specified by the IPPC. [FAO, 1990; formerly Plant Protection Organization (National)]
NPPO	Abbreviation for National Plant Protection Organisation.
Official	Established, authorized or performed by a National Plant Protection Organization [FAO, 1990].
Pest	Any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products [FAO, 1990; revised FAO, 1995; IPPC, 1997] Note: For the purpose of this standard “pest” includes an organism sometimes associated with the pathway, which poses a risk to human or animal or plant life or health (SPS Article 2).
Pest free area	An area in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained [FAO, 1995].

Pest free production site	A defined portion of a place of production in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained for a defined period and that is managed as a separate unit in the same way as a pest free place of production [ISPM Pub. No. 10, 1999]
Phytosanitary certificate	A certificate patterned after the model certificates of the IPPC [FAO 1990].
Phytosanitary certification	Use of phytosanitary procedures leading to the issue of a phytosanitary certificate [FAO, 1990].
Phytosanitary measure	Any legislation, regulation or official procedure having the purpose to prevent the introduction and/or spread of pests, or to limit the economic impact of regulated non-quarantine pests [FAO, 1995; revised IPPC, 1997; ISC, 2001]
Quarantine pest	A pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and (is) being officially controlled [FAO, 1990; revised FAO, 1995; IPPC 1997].
Regulated pest	A quarantine pest or a regulated non-quarantine pest [IPPC, 1997] A pest of potential economic importance to New Zealand and not yet present there, or present but either not widely distributed and being officially controlled, or a regulated non-quarantine pest, or having the potential to vector another regulated pest into New Zealand.
Treatment	Officially authorized procedure for the killing or removal of pests or rendering pests infertile or for devitalization [FAO, 1990, revised FAO, 1995; ISPM No. 15, 2002; ISPM No. 18, 2003].
Viable	Capable of maintaining life, or able to live in a particular environment and able to procreate.

OUTLINE OF REQUIREMENTS

This import health standard outlines the requirements that must be met prior to shipment, in-transit and on arrival in New Zealand for fresh papaya imported from the United States of America – State of Hawaii.

This standard is replicated at the following Internet address:

<http://www.biosecurity.govt.nz/regs/imports/plants/fruit-veg>

NEW ZEALAND LEGISLATIVE REQUIREMENTS AND INTERNATIONAL OBLIGATIONS

All New Zealand import health standards are based upon risk analyses, which may assess either a commodity or a pest/pathway combination. New Zealand's legislative requirements and international obligations are taken into account when conducting risk analyses and applying the findings in the development of import health standards. The principal document for all New Zealand import health standards relating to plants and plant products is the Biosecurity Act (1993), whilst the international obligations derive principally from the guidelines on risk analysis developed under the auspices of the Interim Commission on Phytosanitary Measures (now the Commission on Phytosanitary Measures) operating within the framework of the International Plant Protection Convention, and the World Trade Organisation Agreement on the Application of Sanitary and Phytosanitary Measures.

IMPORT HEALTH STANDARD: FRESH FRUIT/VEGETABLES – PAPAYA (*Carica papaya*) FROM THE UNITED STATES OF AMERICA – STATE OF HAWAII.

1 Official contact point (New Zealand National Plant Protection Organisation)

The official contact point in New Zealand for overseas NPPOs is the Ministry for Primary Industries. All communication pertaining to this import health standard should be addressed to:

Manager, Plant Imports and Exports Group
Ministry for Primary Industries
PO Box 2526
Wellington
NEW ZEALAND

Fax: 64-4-894 0662

E-mail: PlantImports@mpi.govt.nz

<http://www.biosecurity.govt.nz>

2 General conditions for the importation of all plants and plant products

Plants and plant products are not permitted entry into New Zealand unless an import health standard has been issued in accordance with Section 24A of the Biosecurity Act 1993. Should plants or plant products, for which no import health standard exists, be intercepted by MPI, the importer will be offered the option of reshipment or destruction of the consignment (at their expense).

The NPPO of the exporting country is requested to inform MPI of any change of address.

The NPPO of the exporting country is required to inform MPI of any newly recorded pests which may infest/infect any commodity approved for export to New Zealand.

Pursuant to the Hazardous Substances and New Organisms Act 1996, proposals for the deliberate introduction of new organisms (including genetically modified organisms) as defined by the Act should be referred to the Environmental Protection Authority, PO Box 131, Wellington or e-mail: info@epa.govt.nz

[Note: In order to meet the Environmental Protection Authority's requirements the scientific name (i.e. genus and species) of the commodity must be included in the phytosanitary certificate.]

3 Explanation of pest categories

MPI categorises pests associated with plants and plant products into regulated and non-regulated pests. Measures to prevent the establishment of regulated pests in New Zealand are developed in accordance with the appropriate FAO ISPMs and other relevant international standards.

Regulated pests are those pests for which actions would be undertaken if they were intercepted/detected. As well as quarantine pests, these include new organisms as defined by the Hazardous Substances and New Organisms Act 1996, pests that may pose a risk to human or animal health or to the environment, vectors of associated quarantine pests, and virulent strains (not present in New Zealand) of non-regulated pests and contaminants. Non-regulated pests are those pests for which actions would not be undertaken if they were intercepted/detected.

Pests (including weeds) associated with each commodity will appear on a separate pest list which will be attached to each import health standard as an Appendix.

4 Application of measures

A number of different measures may be applied to pests based on the outcome of pest risk analyses. Required measures may include:

- Surveillance for pest freedom
- Testing prior to export for regulated pests which cannot be readily detected by inspection (e.g. viruses on propagating material)
- Specific pre-shipment pest control activities to be undertaken by the supply country's contracting party
- The application of a pre-shipment treatment
- Inspection of the export consignment
- Issuance of a phytosanitary certificate which attests to the phytosanitary status of a consignment
- Treatment on arrival in New Zealand

5 General conditions for fresh fruit/vegetables for consumption

Only clean, inert/synthetic material may be used for the protection, packaging and shipping of fresh fruit/vegetables.

A completed phytosanitary certificate issued by the exporting country's NPPO must accompany all consignments of fresh fruit and vegetables exported to New Zealand.

MPI may inspect consignments of fresh fruit and vegetables to verify that New Zealand's phytosanitary requirements have been met.

Where it has been determined through pest risk assessment that high impact pests are associated with a particular commodity more specific phytosanitary measures must be met. In most circumstances these phytosanitary measures will need to be met prior to arrival of the commodity in New Zealand.

6 Specific conditions for papaya (Commodity Sub-Class: Fresh Fruit/Vegetables) from the United States of America – State of Hawaii

6.1 PRE-SHIPMENT REQUIREMENTS

6.1.1 Inspection of the consignment

MPI requires that the United States of America NPPO sample and visually inspect the consignment according to official procedures for all the regulated pests specified by MPI and ensure that it conforms with New Zealand's current import requirements. A phytosanitary certificate should not be issued if live regulated pest(s) are detected, unless the consignment is treated in order to eliminate these. If pests are found which are not listed in the import health standard, the United States of America NPPO must establish their regulatory status. This information is available in MPI's "Biosecurity Organisms Register for Imported Commodities" <http://www.biosecurity.govt.nz/pests-diseases/registers-lists/boric/>

If a pest is not listed in this register, the United States of America NPPO must contact MPI (see Section 1) to establish the regulatory status of the pest.

6.1.2 Testing of the consignment

Testing of the consignment prior to export to New Zealand for regulated pests which are not visually detectable (viz. fungi and bacteria) is not generally required for fresh papaya from Hawaii.

6.1.3 Phytosanitary measures for high impact pests

The strength of phytosanitary measures will generally be greater for high impact pests than for other regulated pests, reflecting the greater risks associated with these pests. In most circumstances phytosanitary measures for high impact pests will need to be met prior to arrival of the commodity in New Zealand, and phytosanitary certification will need to attest to this accordingly.

MPI and the United States of America NPPO have agreed to the use of a heat treatment or irradiation treatment as a phytosanitary measure for the high impact fruit fly species associated with papaya. Refer to Appendix 2 for details of these agreed phytosanitary measures.

6.1.4 Documentation

Phytosanitary certificate: Required.

Import permit/Authorisation to import: Exempt under Gazette Notice: No. AG12, 13 July 1995.

6.1.5 Phytosanitary certification

A completed phytosanitary certificate issued by the United States of America NPPO must accompany all papaya consignments exported to New Zealand.

Before a phytosanitary certificate is issued, the United States of America NPPO must be satisfied that the following activities required by MPI have been undertaken.

The papaya have:

- (i) been visually inspected in accordance with appropriate official procedures and found to be free from any regulated pests

AND

- (ii) undergone appropriate pest control activities that are effective against:

Bactrocera cucurbitae (refer to Appendix 2)

Bactrocera dorsalis (refer to Appendix 2)

Ceratitis capitata (refer to Appendix 2)

Note: pest control activities are to comply with relevant health and safety requirements and food standards.

6.1.6 Additional declarations to the phytosanitary certificate

If satisfied that the pre-shipment activities have been undertaken, the United States of America NPPO must confirm this by providing the following additional declarations to the phytosanitary certificate:

- (i) This is to certify that the papaya described herein have been inspected according to appropriate official procedures and are considered to be free from the quarantine pests specified by MPI and to conform with the current phytosanitary requirements of MPI, including those for regulated non-quarantine pests;

NOTE: This additional declaration is not required if the phytosanitary certificate issued by the United States of America NPPO is in accordance with the model phytosanitary certificate annexed to the revised (1997) text of the FAO IPPC.

AND

- (ii) This is to certify that the papayas in this consignment have undergone appropriate pest control activities that are effective against those regulated high impact pests specified by MPI.

NOTE: full details of the fruit fly treatment must be included in the "Disinfestation and/or Disinfection Treatment" area of the phytosanitary certificate. For heat treatment, details of the treatment duration and temperature must be recorded. For irradiation treatment the dose must be recorded.

6.2 TRANSIT REQUIREMENTS

The papaya must be packed and shipped in a manner to prevent possible post-inspection/treatment infestation and/or contamination by regulated pests. Where a consignment is split or has its packaging changed while in another country (or countries) *en route* to New Zealand, a "Re-export Certificate" is required. Where a consignment is held under bond as a result of the need to change conveyances and is kept in the original shipping container, a "Re-export Certificate" is not required.

6.3 INSPECTION ON ARRIVAL IN NEW ZEALAND

MPI will check the accompanying documentation on arrival to confirm that it is correct and reconciles with the actual consignment.

MPI requires, with 95% confidence, that not more than 0.5% of the units in a consignment are infested with visually detectable, viable, regulated pests. To achieve this, MPI may sample and inspect 600 units with an acceptance level of zero infested units (or equivalent), from the (homogeneous) lot.

Because the required response of regulated fruit fly pests that have undergone the irradiation treatment is prevention of adult emergence or adult sterility (not mortality) a possibility exists that live (but non-viable) regulated fruit flies may be present with a consignment.

According to ISPM 18 (section 8.3) the detection of regulated arthropods at import inspection should not be considered a treatment failure resulting in non-compliance unless evidence exists that the integrity of the treatment system was inadequate. The integrity of the treatment system will be verified by audit.

However, in accordance with the Hazardous Substances and New Organisms Act 1996, release (without an appropriate treatment) of these irradiated, regulated fruit flies cannot take place unless:

1. An approval to release these irradiated fruit flies has been obtained from the Environmental Protection Authority; and,
2. In the case of a conditional release approval the irradiated fruit flies comply with the controls required by the Environmental Protection Authority.

6.4 BIOSECURITY/QUARANTINE DIRECTIVE

The consignment may be directed to a MPI-approved facility for further treatment if required.

6.5 TESTING FOR REGULATED PESTS

MPI may, on the specific request of the Chief Technical Officer, test the consignment for regulated pests.

6.6 ACTIONS UNDERTAKEN ON THE INTERCEPTION/DETECTION OF PESTS/CONTAMINANTS

If viable, regulated pests, extraneous plant material or trash are intercepted/detected with the commodity, or associated packaging, the following actions will be undertaken as appropriate (depending on the pest identified):

- Re-sorting (specific conditions apply) of the consignment

- Reshipment of the consignment
- Destruction of the consignment
- Treatment for those pests for which specific pre-export pest control activities are required
- The suspension of trade on the detection of pests for which a pest free area has been implemented
- The suspension of trade (economically important fruit fly species), until the cause of the non-compliance is investigated, identified and rectified to the satisfaction of MPI.

If regulated fruit flies are intercepted/detected with the commodity, or associated packaging, and there is no approval under the Hazardous Substances and New Organisms Act 1996 under which the arthropods can be imported and released (see Section 6.3), the following actions will be undertaken as appropriate (depending on the pest identified):

- Re-sorting (specific conditions apply) of the consignment
- Reshipment of the consignment
- Destruction of the consignment
- Treatment (where available).

If an organism is intercepted/detected that is not on the pest list (appended to this document), the consignment will be held (or equivalent) until an assessment is undertaken to determine the organism's categorisation (i.e. regulated or non-regulated) and appropriate measures developed and taken if required.

Consignments that are contaminated with extraneous plant material and/or trash in the 600 unit sample will result in the consignment being held until an assessment has been made in comparison with the risk of importing the part(s) of the plant species concerned.

6.7 BIOSECURITY CLEARANCE

If regulated pests are not detected, or are successfully treated following interception/detection biosecurity clearance will be given.

6.8 AUDIT OF OFFSHORE MEASURES

MPI reserves the right to audit all processes that are undertaken offshore, including phytosanitary measures for high impact pests.

6.9 FEEDBACK ON NON-COMPLIANCE

The United States of America NPPO will be informed by MPI's Chief Technical Officer of the interception (and treatment) of any regulated pests, "unlisted" pests, or non-compliance with measures specified in this import health standard.

7 Contingencies Following Biosecurity Clearance

Should a regulated pest be detected subsequent to biosecurity clearance, MPI may implement a management programme (official control programme) in accordance with Part V of the Biosecurity Act 1993 and Part 5 of the Biosecurity Amendment Act 1997.

**Appendix 1 Pest List Commodity Sub-class: Fresh Fruit/Vegetables
Carica papaya from the United States of America –
 State of Hawaii**

Scientific name	Organism type	Common name	Quarantine status	Measures to prevent introduction	Actions on interception
<i>Enterobacter cloacae</i>	bac	internal yellowing disease	regulated	1a & 1b	1 &/or 2
<i>Mycosphaerella caricae</i> (anamorph <i>Phoma caricae-papayae</i>)	fun	fruit spot	regulated	1a & 1b	1 &/or 2
<i>Phomopsis caricae-papayae</i>	fun	wet fruit rot	regulated	1a & 1b	1 &/or 2
<i>Cercospora mamaonis</i>	fun	fruit spot	regulated	1a & 1b	1 &/or 2
<i>Cercospora papayae</i>	fun	fruit spot	regulated	1a & 1b	1 &/or 2
<i>Phytophthora palmivora</i>	fun	black rot	regulated	1a & 1b	1 &/or 2
<i>Amorbia emigratella</i>	ins	Mexican leafroller	regulated	1a & 1b	1 &/or 2
<i>Aonidiella inornata</i>	ins	inornate scale	regulated	1a & 1b	1 &/or 2
<i>Aspidiotus destructor</i>	ins	coconut scale	regulated	1a & 1b	1 &/or 2
<i>Bactrocera cucurbitae</i>	ins	melon fruit fly	regulated #	3	3 or 4
<i>Bactrocera dorsalis</i>	ins	Oriental fruit fly	regulated #	3	3 or 4
<i>Ceratitis capitata</i>	ins	Mediterranean fruit fly	regulated #	3	3 or 4
<i>Eudocima fullonia</i>	ins	fruit-piercing moth	regulated	1a & 1b	1 &/or 2
<i>Howardia biclavis</i>	ins	mining scale	regulated	1a & 1b	1 &/or 2
<i>Brevipalpus obovatus</i>	mit	privet mite	regulated	1a & 1b	1 &/or 2
<i>Calacarus brionesae</i>	mit	lucerne mite	regulated	1a & 1b	1 &/or 2
<i>Tuckerella pavoniformis</i>	mit	tuckerellid mite	regulated	1a & 1b	1 &/or 2
Papaya ringspot potyvirus [type P strain]	vir	-	regulated	1a & 1b	1 &/or 2
<i>Erwinia herbicola</i>	bac	purple stain	Non regulated	.	NA
<i>Alternaria alternata</i>	fun	black stalk rot	Non regulated	.	NA
<i>Glomerella cingulata</i> (anamorph <i>Colletotrichum gloeosporioides</i>)	fun	bitter rot	Non regulated	.	NA
<i>Guignardia mangiferae</i> §	fun	latent skin infection	Non regulated	.	NA
<i>Lasiodiplodia theobromae</i>	fun	fruit and stem-end rot	Non regulated	.	NA
<i>Mycosphaerella tassiana</i> (anamorph <i>Cladosporium herbarum</i>)	fun	black leaf spot	Non regulated	.	NA
<i>Nectria haematococca</i> (anamorph <i>Fusarium solani</i>)	fun	fusarium fruit rot	Non regulated	.	NA
<i>Oidium caricae</i>	fun	powdery mildew	Non regulated	.	NA
<i>Penicillium digitatum</i>	fun	green mould	Non regulated	.	NA
<i>Phytophthora nicotianae</i>	fun	buckeye rot	Non regulated	.	NA
<i>Sphaerotheca fuliginea</i>	fun	powdery mildew	Non regulated	.	NA
<i>Sphaerotheca macularis</i>	fun	powdery mildew	Non regulated	.	NA
<i>Coccus hesperidum</i>	ins	brown soft scale	Non regulated	.	NA
<i>Macrosiphum euphorbiae</i>	ins	potato aphid	Non regulated	.	NA
<i>Myzus persicae</i>	ins	green peach aphid	Non regulated	.	NA
<i>Pseudococcus viburni</i>	ins	obscure mealybug	Non regulated	.	NA
<i>Rhopalosiphum maidis</i>	ins	corn leaf aphid	Non regulated	.	NA

Scientific name	Organism type	Common name	Quarantine status	Measures to prevent introduction	Actions on interception
<i>Brevipalpus phoenicis</i>	mit	passionvine mite	Non regulated	.	NA
<i>Panonychus citri</i>	mit	citrus red mite	Non regulated	.	NA
<i>Polyphagotarsonemus latus</i>	mit	broad mite	Non regulated	.	NA
<i>Tetranychus cinnabarinus</i>	mit	carmine spider mite	Non regulated	.	NA

Denotes a high impact pest

§ *Guignardia mangiferae* was referred to as *Guignardia citricarpa* [non-pathogenic strain] in 1999 version of the import health standard.

Measures to prevent entry & establishment

- . No measures as pest non regulated
- 1a Visual inspection of produce and associated packaging
- 1b Consignment must be free from extraneous plant material – pests are associated with other plant parts (e.g., leaves, stems, flowers)
- 2a Undergone appropriate pest control activities
- 2b Pest free area (based on official detection survey)
- 3 Agreed offshore fruit fly treatment
- 4 Approved generic treatment

Actions on interception

- NA No actions as pest is non regulated
- 0 No action due to low risk pathway
- 1 Removal of trash – pests are associated with other plant parts (e.g., leaves, stems, flowers)
- 2 Treat, reship or destroy
- 2a Treat, reship or destroy. Suspend pathway
- 3 Reship or destroy. Suspend pathway
- 4 No action if pest is non-viable and may be imported and released pursuant to an approval from the Environmental Protection Authority.

Appendix 2 Pre-arrival phytosanitary measures for high impact fruit flies associated with papaya in Hawaii

1. Scope

New Zealand, as a country free from harmful species of fruit fly (Diptera: Tephritidae), requires exporting countries to implement official phytosanitary measures for those species of fruit flies identified as potentially having a major effect on the production (including access to overseas markets) of plants and plant products and/or the environment, should they be introduced to New Zealand.

Papaya are a host of the high impact fruit flies *Bactrocera cucurbitae*, *Bactrocera dorsalis* and *Ceratitis capitata* in Hawaii, and accordingly, appropriate phytosanitary measures must be implemented to mitigate the risk of these species being introduced into New Zealand in association with this commodity.

MPI and the United States of America NPPO have agreed that either an offshore heat treatment (heat treatment) or irradiation treatment can be used as a suitable pre-arrival phytosanitary measure for this purpose.

Heat treatment results for *Bactrocera cucurbitae*, *Bactrocera dorsalis* and *Ceratitis capitata* were reported in the *Journal of Economic Entomology* 82(6): 1667-1674, 83(1): 160-167 and 88(3): 678-682. Irradiation treatment results were published in the *Journal of Economic Entomology* 97(4): 1254-1262.

2. Treatment specification

One of the following treatments must be performed prior to arrival of the papaya in New Zealand. Treatments will be undertaken in accordance with agreed procedures.

2.1 Heat treatment

Prior to export, the papaya will be heated from ambient to a minimum fruit core temperature of 47.2°C in not less than 4 hours. All treatments shall be carried out in accordance with agreed procedures.

2.2 Irradiation

All fruits are to be irradiated with a minimum dose of 150 Gy. All treatments shall be carried out in accordance with agreed procedures and ISPM Publication No. 18: Guidelines for the Use of Irradiation as a Phytosanitary Treatment.

3. Treatment monitoring

All treatments shall be monitored in accordance with agreed procedures. All cartons of papaya fruit shall be traceable to a unique treatment batch.

4. Product security

Following treatment, the security of all treatment batches must be maintained in accordance with agreed procedures.