



STANDARD: BMG-STD-PESTI

Requirements for the Diagnosis and Reporting of Organisms Intercepted at the Border, or Within Transitional Facilities

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Issued to: _____

**Ministry of Agriculture and Forestry
P O Box 2526
Wellington
NEW ZEALAND**

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REVIEW

This Biosecurity Authority (MAF BA) Standard is subject to periodic review. Amendments will be issued to holders of controlled copies to ensure the standard continues to meet current needs.

Last Review:	July 2000
Next Review:	To be advised or after 10 amendments

ENDORSEMENT

This MAF Biosecurity Authority Standard for the Diagnosis and Reporting of Organisms Intercepted on Plants and Forest Products at the Border is hereby approved.

R J Ivess
Director, Plants Biosecurity

E R Frampton
Director, Forest Biosecurity

Date:

Date:

AMENDMENT RECORD

Amendments to this Standard will be given a consecutive number and will be dated.

Please ensure that all amendments are inserted, obsolete pages removed, and the record below is completed.

Amendment No:	Entered by:	Date:
1		
2		
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10		

DISTRIBUTION

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INTERNET

This standard is also available at the following Internet address:

www.maf.govt.nz/Standards/plants/border/pdfs/pestid.pdf

1. INTRODUCTION

1.1 SCOPE

This standard describes the requirements associated with the diagnosis of organisms intercepted at the border or within transitional facilities (i.e. risk goods requiring biosecurity clearance and/or biosecurity direction) where the MAF National Plant Pest Reference Laboratory and MAF Quarantine Service are the primary providers of diagnostic work.

The identification of organisms detected post-border are not covered in these requirements and staff should refer to their current procedures when dealing with such organisms.

1.2 REFERENCES

The following documents are referred to, or complement, the implementation of this Standard:

- The Biosecurity Act 1993, as amended in the Biosecurity Amendment Act 1997.
- The Biosecurity Cost Regulations 1993.
- *MAF Biosecurity Authority Standard 155.04.03: Specification for the Registration of a Plant Pest Diagnostic Laboratory and Operator.*
- Import health standards issued by a Chief Technical Officer under section 22 of the Biosecurity Act, including relevant technical or operational standards.
- *MAF Biosecurity Authority (Plants) Standard 152.02: Importation and Clearance of Fresh Fruit and Vegetables into New Zealand.*
- *MAF Biosecurity Authority (Plants) Standard 152.09.05: Clearance of Fresh Cut Flowers and Foliage into New Zealand.*
- *MAF BA PBC-NZ-TRA-PQCON: Specification for the Registration of a Plant Quarantine or Containment Facility and Operator.*
- *FAO Glossary of Phytosanitary Terms, 1999 ISPM Publication No. 5*

1.3 DEFINITIONS/ACRONYMS

Accompanied

Risk goods carried as personal luggage by passengers and/or crew entering New Zealand.

Approved

Formal recognition, by a Chief Technical Officer, that a laboratory, operator, procedure or person is competent to provide an activity or service in accordance with the requirements specified in this, or other relevant technical or operational standards.

Biosecurity clearance

A clearance under section 26 of the Biosecurity Act 1993 for the entry of goods into New Zealand.

Biosecurity/quarantine direction

A direction given by an inspector.

Consignment

One or more lots imported by one importer, on one conveyance, at one time which is covered by one phytosanitary certificate.

Note 1: Commercial consignments are unaccompanied consignments covered by an airway bill/bill of lading intended for resale or manufacture.

Note 2: Private consignments are accompanied consignments imported as personal property which are not intended for resale.

Note 3: Unaccompanied private consignments are consignments covered by an air way bill/bill of lading and imported as personal property.

Chief Technical Officer (CTO)

A person appointed a chief technical officer under section 101 of the Biosecurity Act 1993.

Diagnosis

The distinctive characterisation, in precise terms (e.g. to species), of an organism.

Director

The Director, Plants Biosecurity (DPB), The Director Animal Biosecurity (DAB) or the Director, Forestr Biosecurity (DFB).

Note: The DPB DFB and DAB are also appointed by the Director General of the Ministry of Agriculture and Forestry as Chief Technical Officers under section 101 of the Biosecurity Act 1993, as amended in the Biosecurity Amendment Act 1997.

Director-General

Director-General of the Ministry of Agriculture and Forestry.

Discard authority

The application of an elimination process to determine immediate options for the “offending” consignment. This is based upon the elimination flowcharts as appended to this standard.

Disease

The physical condition, or special symptoms which are caused by a pathogen. Pathogens are included in the definition of "pests".

Fruit Fly

Insects of the order Diptera, family Tephritidae, which belong to the economically important genera such as *Anastrepha*, *Bactrocera*, *Ceratitis*, *Dacus*, *Rhagoletis* and *Toxotrypana*.

Gypsy moth

Insect of the order Lepidoptera, family Lymantriidae, genus *Lymantria* species *dispar*.

Inspection

Official visual examination of plants, plant/forest products or other regulated articles to determine compliance with phytosanitary regulations.

Inspector

A person appointed as an inspector by a Chief Technical Officer under section 103 of the Biosecurity Act 1993.

Inspector identification authority

Specimen identifications carried out by accredited MQS inspectors at the time of inspection or shortly thereafter.

Inter-laboratory test comparisons

Organisation, performance and evaluation of tests on the same pests by two or more different laboratories in accordance with predetermined conditions.

International Plant Protection Convention (IPPC)

The International Plant Protection Convention as deposited in 1951 with FAO in Rome and subsequently amended.

Lot

The number of units of a single commodity (i.e. species), identifiable by such things as its homogeneity of composition and origin which forms part of a consignment.

MAF Biosecurity Authority (MAF BA)

The body within the Ministry of Agriculture and Forestry which is responsible for biosecurity functions.

MAF NPPRL

Ministry of Agriculture and Forestry National Plant Pest Reference Laboratory.

MQS

MAF Quarantine Service

NA IO (PI)

National Adviser, International Operations (Plant Imports).

National Plant Protection Organisation (NPPO)

Official service established by government to discharge the functions specified by the IPPC.

Non-compliance

An incidence where the requirements of this standard are not met.

Official

Established, authorised or performed by a National Plant Protection Organisation.

Operator

A person registered by a CTO of the Ministry of Agriculture and Forestry, under section 40 of the Biosecurity Act 1993 to operate a laboratory as a transitional facility in accordance with this Standard.

Note: In the case of the MAF NPPRL, the National Manager NPPRL is the “operator”.

Organism

A genetic structure capable of replicating itself, whether the structure comprises all or only part of an entity, and whether it comprises all or only part of the total genetic structure of an entity. This includes a micro-organism, a reproductive cell or developmental stage of an organism.

Pest

Any plant, animal or pathogen that is damaging or potentially damaging for animals, plants, or plant products, or may cause economic loss or harm to the environment.

Pest list

A list of pests that has been categorised into “regulated” and “non-regulated” by the NPPO of the importing country.

Plant

Living plants and parts thereof, including seeds. For the purpose of this standard, plant also includes all forestry related products.

Plant pest diagnostic laboratory

A laboratory that has been equipped and staffed to perform plant pest diagnostic activities to meet the requirements of this standard.

PM BMG

Programme Manager, Border Management Group.

Procedure

Means a document that specifies, as applicable, the purpose and scope of an activity; what shall be done and by whom, when, where, and how it shall be done; what materials, equipment, and documentation shall be used; and how it shall be controlled.

Quality manual

A document stating the quality policy, quality system and quality practices of an organisation.

Quarantine

Official confinement of plants or plant products subject to phytosanitary regulations for observation and research or for further inspection, testing and/or treatment.

Quarantine facility

A facility approved (registered) by a CTO of the Ministry of Agriculture and Forestry as a transitional facility under section 39 of the Biosecurity Act 1993 for holding plants or plant products for inspection/ testing/identification for quarantine pests or unwanted organisms until a biosecurity clearance is granted by an inspector.

Quarantine pests (including weeds)

Pests of potential economic importance to an area which is not yet present in their country, or present but not widely distributed, and are being officially controlled. The Plants Biosecurity group of the New Zealand Ministry of Agriculture and Forestry have presently classified quarantine pests associated with imported plant material into the following groups, depending on their potential to have economic/environmental impacts to plant, animal or human health:

(a) Risk Group 1 Pest

A quarantine pest which, if introduced into New Zealand, has the potential to cause unacceptable economic impacts on the production of a commodity/commodities and/or on the environment.

(b) Risk Group 2 Pest

A quarantine pest which, if introduced into New Zealand, would cause a major disruption to market access and/or significant economic impacts on the production of a particular commodity/commodities, and for which some other importing countries require specific pre-export phytosanitary treatments.

(c) **Risk Group 3 Pest**

A quarantine pest (e.g. fruit fly) which, if introduced into New Zealand, would cause major disruption to market access for a wide range of New Zealand commodities and/or significant economic effects on their production and for which some other importing countries impose stringent phytosanitary measures, including prohibiting the entry of the host commodity.

All quarantine pests are regulated organisms, that is, phytosanitary action would be taken if they are intercepted/detected.

Regulated non-quarantine pest

A pest whose presence in a consignment of plants for planting affects the intended use of those plants with an economically unacceptable impact. Such a pest would be controlled under a New Zealand Government operated or audited certification scheme.

Regulated non-plant pests/unwanted organisms

A pest (including a parasite or predator) which is not a pest of plants, but may be associated with plants or plant products and is of concern to human or animal health.

Regulated pest

A quarantine pest and/or a regulated non-quarantine pest.

Risk group (RG) 1, 2 or 3 pests - see Quarantine pests

Risk good

Any organism, organic material, or other thing, or substance, that (by reason of its nature, origin, or other relevant factors) it is reasonable to suspect constitutes, harbours, or contains an organism that may:

- a) causes unwanted harm to natural and physical resources or human health in New Zealand; or
- b) interfere with the diagnosis, management, or treatment, in New Zealand, of pests or unwanted organisms.

Specimen

Any organism submitted for examination, testing or identification.

Unaccompanied consignments

Consignments imported or exported as cargo and/or unaccompanied luggage.

Unwanted organism

Any organism that a Chief Technical Officer under the Biosecurity Act 1993 believes is capable or potentially capable of causing unwanted harm to any natural resource.

Working day

Every Monday, Tuesday, Wednesday, Thursday and Friday except recognised national public holidays (e.g. Christmas Day, Boxing Day, New Years Day) between the hours of 8am and 5pm.

2. SPECIAL TECHNICAL AND OPERATIONAL REQUIREMENTS FOR INTERCEPTIONS AT THE BORDER AND TRANSITIONAL FACILITIES

2.1 GENERAL

The following set the minimum requirements for the diagnosis and reporting of live organisms intercepted on imported consignments of plants, plant/forest products animals, animal products and/or risk goods which are under the control of an inspector. The results of the diagnosis may be required to assist an inspector with the issuance of a biosecurity clearance, or a biosecurity directive, for an imported consignment.

2.2 ORGANISMS REQUIRING IDENTIFICATION

The following pests (suspected pests) require identification:

- All pests, (including seed as a contaminant) arriving in commodities that are accompanied by official government certification (e.g. Phytosanitary Certificate).
- All pests detected on plant material contained in post entry quarantine/transitional facilities.

Note: MAF, as the NPPO has reporting obligations under the IPPC, therefore, a decision by the importer to treat a consignment does not negate the requirement to identify and report (i.e. via the MQS Quantum database) the organism to genus and species.

For the Chief Technical Officer – MAF (Plants Biosecurity)

- All fruit fly or suspected fruit fly in any life stage and whether alive or dead;

For the Chief Technical Officer – MAF (Forest Biosecurity)

- All Lymantriid species or suspect Lymantriid species (including gypsy moth) of any life stage whether alive or dead;
- Live pests recovered from dunnage or other wood related packing or cargo.

For the Chief Technical Officer – MAF (Animal Biosecurity)

- All venomous or suspected venomous spiders/scorpions harmful to humans;
- All live reptiles, amphibians, mammals and birds;
- All visible parasites associated with live animal imports.

For the Chief Technical Officer (Ministry of Health)

- Mosquitoes of any live stage (alive or dead).

General Requirements

- Where the organism needs identification to enable a decision on a suitable treatment;
- Where identification is required to ascertain whether the commodity is permitted entry.

2.3 WHERE IDENTIFICATIONS MAY BE CARRIED OUT

Where the identification of intercepted organisms may be carried out is dependent upon the organism and work site:

- During pre-shipment inspection procedures (e.g. seeds as contaminants) in the country of origin may be carried out anywhere and there is no specific facility requirement;
- At the point of inspection provided the inspection is taking place in a transitional facility approved for the purpose;
- Identification of fungi associated with wood products are only to be carried out by:

Prof. Roberta Farrell
University of Waikato
Department of Biological Sciences
Room C210
HAMILTON

PH 07 8384704
E Mail: rfarrell@waikato.ac.nz

- Identification of suspect Lymantriid species of any life stage are to be undertaken by:

Dr Karen Armstrong
 Department of Entomology and Animal Ecology
 Lincoln University
 LINCOLN

- Live mammals, amphibians, birds etc which are only intercepted intermittently may be identified where they are being held in secure custody. MQS is to seek advice from a MQS veterinary officer regarding quarantine precautions required during and after the identification process. Live parasites found in association with commodities of animal origin may be sent to a facility which meets the requirements of *MAF Biosecurity Authority Standard 154.02.08 Invertebrate Transitional and Containment Facility*.

2.4 WHO MAY CARRY OUT IDENTIFICATIONS:

- Accredited inspectors may identify pests during formal inspection of imported plant/forestry consignments (i.e. inspector identification authority);
- Those specialists working within a facility complying with *MAF Biosecurity Standard 155.04.03: Specification for the Registration of a Plant Pest Diagnostic Laboratory and Operator*;
- Staff of the National Centre for Disease Investigation;
- Staff of the National Plant Pest Reference Laboratory;
- For those pests not routinely intercepted such as snakes, mammals birds etc MQS is required to make a decision as to who is best to identify the pest. A decision should be made on practicality, quarantine safety, qualifications and other relevant factors.

2.5 INSPECTOR IDENTIFICATION AUTHORITY

The operator shall develop and maintain a training programme (including a register of accredited inspectors) and specific procedures/quality manual for the purpose of implementing inspector identification authority. The training programme and procedures shall be designed and maintained to support the identification and independent validation (if required) of approved commonly intercepted organisms (e.g. RG 1 arthropods) associated with imported plant/forestry consignments. A proposed list of organisms eligible for inspector identification authority is appended to this standard.

The training programme and procedures shall be submitted to the relevant CTO for approval prior to implementation of the programme. All modifications to the aforementioned documents shall be approved by the CTO.

2.6 DISCARD AUTHORITY

The inspector may make a decision on the fate of the imported plant/forestry consignment using a process of elimination, whereby scientific evidence exists that the pest is **not** a RG 3 or RG 2 pest. The flowcharts, attached as appendices to this standard, shall be used as the reference source for determining the appropriate pest categorisation and subsequent actions.

The application of discard authority can be made in parallel to the diagnostic process.

2.7 TIMELINESS

The inspector or operator of a transitional facility shall forward specimens not more than 24 hours after collection.

Where the specimen has been intercepted on perishable cargo, or the specimen is a mosquito, then the specimen shall be sent immediately.

Within seven working days of interception, 95% of all specimens associated with imported plant/forestry consignments shall be diagnosed and reported as required. Where identification will take longer than seven days, an interim reply stating the reason for the delay shall be forwarded to the inspector who submitted the specimen.

Note: The operator shall give due consideration to the perishability of the product (viz. Article VII 2 (e) of the International Plant Protection Convention).

Unless special arrangements exist (e.g. between the operator and the importer), identifications undertaken by the NPPRL will only be carried out during the hours of 8am to 5pm on normal working days.

Where disease symptoms are detected at the border or transitional facilities (e.g. nursery stock in post-entry quarantine or imported consignments of fresh cut flowers/foilage) the interim diagnostic reply should confirm if the specimen being identified is of fungal or bacterial nature.

2.8 SPECIMEN INFORMATION

An inspector shall keep a unique record of all intercepted specimens that will include the following information:

- Host commodity or consignment/packaging details;
- Size of shipment;
- Country of origin (and production area where appropriate) of the commodity;
- Size of sample;

- Life stage and status (alive/dead);
- Inspector(s) name;
- Date of interception;
- Location of interception;
- Date of dispatch to diagnostic facility;
- Identification of the specimen;
- References to any other relevant documents such as air/sea waybill or phytosanitary certificate.

2.9 SPECIMEN PREPARATION AND PACKAGING

If the diagnosis is not carried out immediately, or the specimen is being sent from the interception point for diagnosis, the specimen shall be suitably prepared and packaged.

Each individual specimen shall be labelled with a unique code.

Note: For special specimen preparation requirements for fruit fly interceptions, see section 2.10.1 of this standard.

2.10 TRANSPORTATION OF SPECIMENS

All specimens shall be transported in a secure environment from the point of interception as follows:

- Packaged and transported in a manner to preserve the pest as close as possible to the state in which it was intercepted;
- Uniquely labelled to ensure traceability and locatability from interception, dispatch to receipt by the operator;
- Accompanied by the required labelling information;
- Any outer packaging to be durable, tamper-proof and non-destructible.

2.11 NOTIFICATION AND TRACKING

The inspector shall ensure that there are adequate procedures in place so that the operator of the diagnostic operation concerned is notified of the specimen dispatch and anticipated arrival time.

Adequate tracking systems shall be implemented to ensure traceability and locatability from the point of dispatch to receipt.

2.12 LEVEL OF PEST IDENTIFICATION

All identifications shall be to the species level unless there are internationally acceptable constraints to preclude this.

Rearing of some specimens may be required in order to obtain species identification. Special rearing facilities must be used that meet the requirements of *MAF Biosecurity Authority Standard 154.02.08: Standard for Invertebrate Quarantine Facilities*

For interceptions associated with imported plant/forestry consignments, the following acceptance criteria apply:

Level of Identification	Percent %
Order	< 2%
Family	< 5%
Genus	30%
Species	65%

2.12.1 Fruit fly interceptions

Suspect fruit fly interceptions on certified produce shall be identified immediately. The identification of suspect fruit fly interceptions on non-certified produce shall be undertaken during normal working hours.

A reference entomologist is responsible for the authoritative identification of all interceptions of fruit flies. Identification shall be to species level when at all possible. The operator shall maintain a register of those entomologists nominated for this purpose.

For the identification of immature specimens of fruit flies intercepted at the border, the PCR-RFLP technique (i.e. a specialised DNA diagnostic technique) shall be used. This level of identification shall only be used for commercial imports or for private consignments where prosecutions are likely to result. To facilitate the use of this method the following preservation methods shall apply:

- (a) Larval specimens (dead, live or damaged) shall be placed in boiling water for 1 minute and then immediately preserved in a solution of 90% alcohol.

(b) Eggs shall be immediately placed in a 90% alcohol solution.

All specimens shall be correctly labelled and couriered directly to:

Dr Karen Armstrong
Department of Entomology & Animal Ecology
Lincoln University
LINCOLN

Work Phone: (03) 325 2811
Fax: (03) 325 3844
Home Phone (03) 337 2165 (03) 342 7721

Note: If there are sufficient numbers of specimens, some specimens may be kept alive for the purpose of rearing out. The rearing out of fruit fly specimens shall only be carried out in a quarantine facility maintained in accordance with *MAF Biosecurity Authority Standard 154.02.08: Standard for Invertebrate Quarantine Facilities*.

As soon as they become available, the identification of the fruit fly specimen(s), and the method(s) applied, shall be EMAILED or FAXED to:

Richard Ivess	ivessr@maf.govt.nz	04 498 9888 (fax)
Justin Downs	downsj@maf.govt.nz	04 474 4257 (fax)
Sean Newland	newlands@maf.govt.nz	04 474 4257 (fax)
Mike Alexander	mikea@maf.govt.nz	04 470 2730 (fax)

Where possible, all specimens of fruit flies (suspect or confirmed) shall be labelled, preserved and held in such a manner as to allow independent future identification.

2.12.2 Mosquito interceptions

The interception of any live mosquito or mosquito larvae requires immediate identification and notification to the local public health service (e.g. Auckland Area Health, Capital Coast Health etc).

Identification is required within 48 hours. If the mosquito is identified as an exotic species the local public health service is to be advised immediately. In addition a Chief Technical Officer or nominated representative of the Ministry of Health is to be advised within one hour.

2.12.3 Identification records

Pest identification records shall contain the following information:

- Person who identified the pest;
- Date of identification;
- Actual pest identification to the level required; and
- Reference to pest list (if available).

Pest identification records shall be:

- Traceable to the interception record;
- Held on a country/commodity basis; and
- Be retrievable from a relational database within one working day of request

Separate records shall be maintained for interceptions of fruit fly as follows:

- Unaccompanied consignments covered by a phytosanitary certificate;
- Unaccompanied consignments not covered by a phytosanitary certificate;
- Accompanied consignments covered by a phytosanitary certificate or
- Accompanied consignments not covered by a phytosanitary certificate

2.12.4 Reporting

All pest identifications shall be reported to the inspector responsible for determining the categorisation of the intercepted organism(s) from the “offending” consignment.

The reporting of live mosquitoes, snakes and significant forest pests shall be reported to the relevant CTO or delegate.

All anomalies (e.g. non-listed pests, contradictory categorisations between the “master pest list” and the country:commodity pest list) shall be reported to the NA IO (PI).

2.13 RETENTION OF SPECIMENS

Unless otherwise agreed, all specimens shall be preserved, labelled and retained for a period of three months to facilitate traceback and inter-laboratory test comparison of diagnosis results within one hour of request.

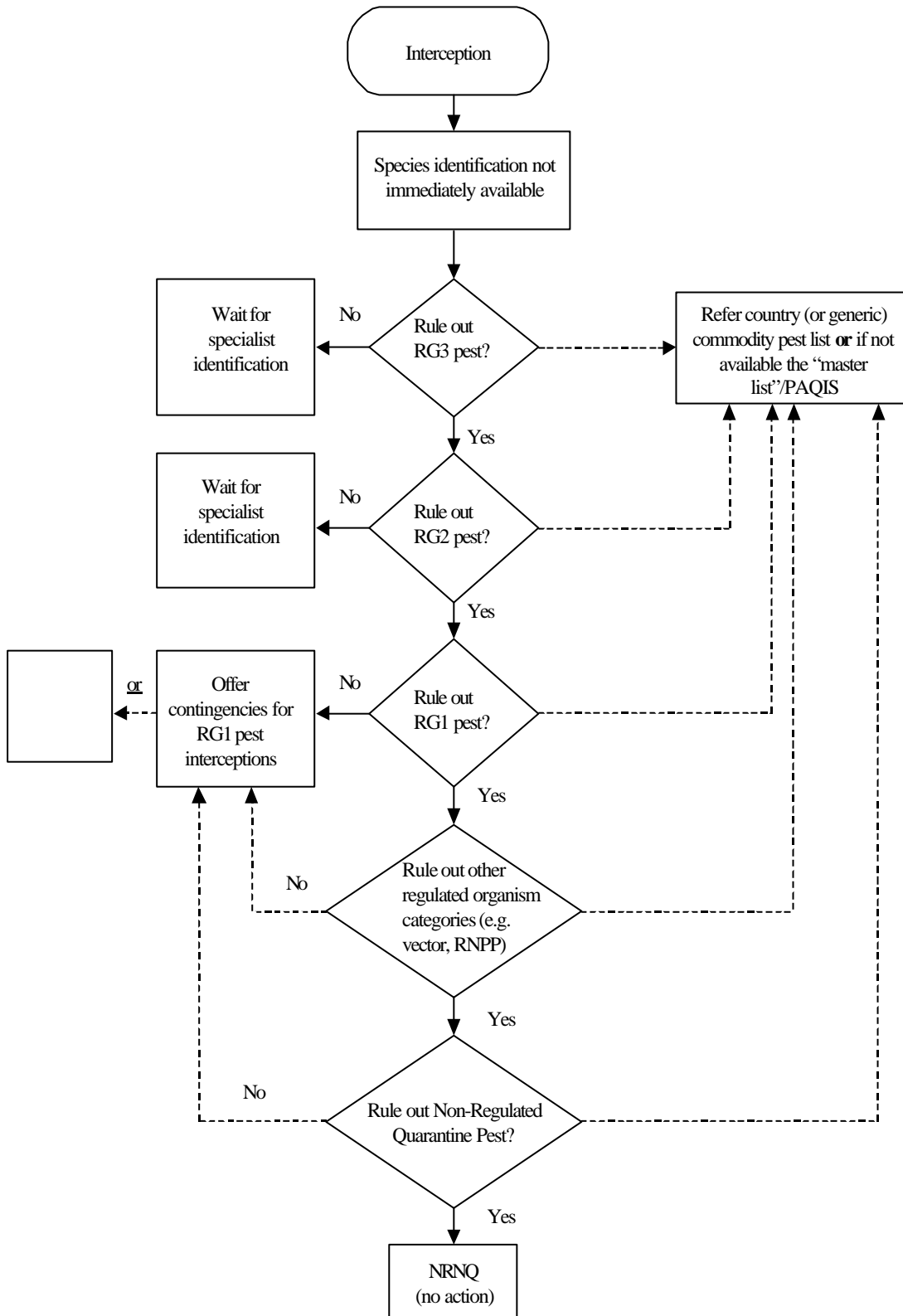
2.14 COST RECOVERY

The importer of any goods that are or contain an organism that has to be identified by an inspector, before the inspector can determine whether or not the goods should be cleared, shall pay to the Director-General in respect of the identification of that organism:

- a) the actual and reasonable costs of all tests, examinations, and treatments of those goods that were reasonably necessary to enable the identification of that organism; and
- b) either:
 - i) \$78.75 per specimen entirely during usual hours,
 - or
 - ii) \$164.25 per specimen, in every other case.

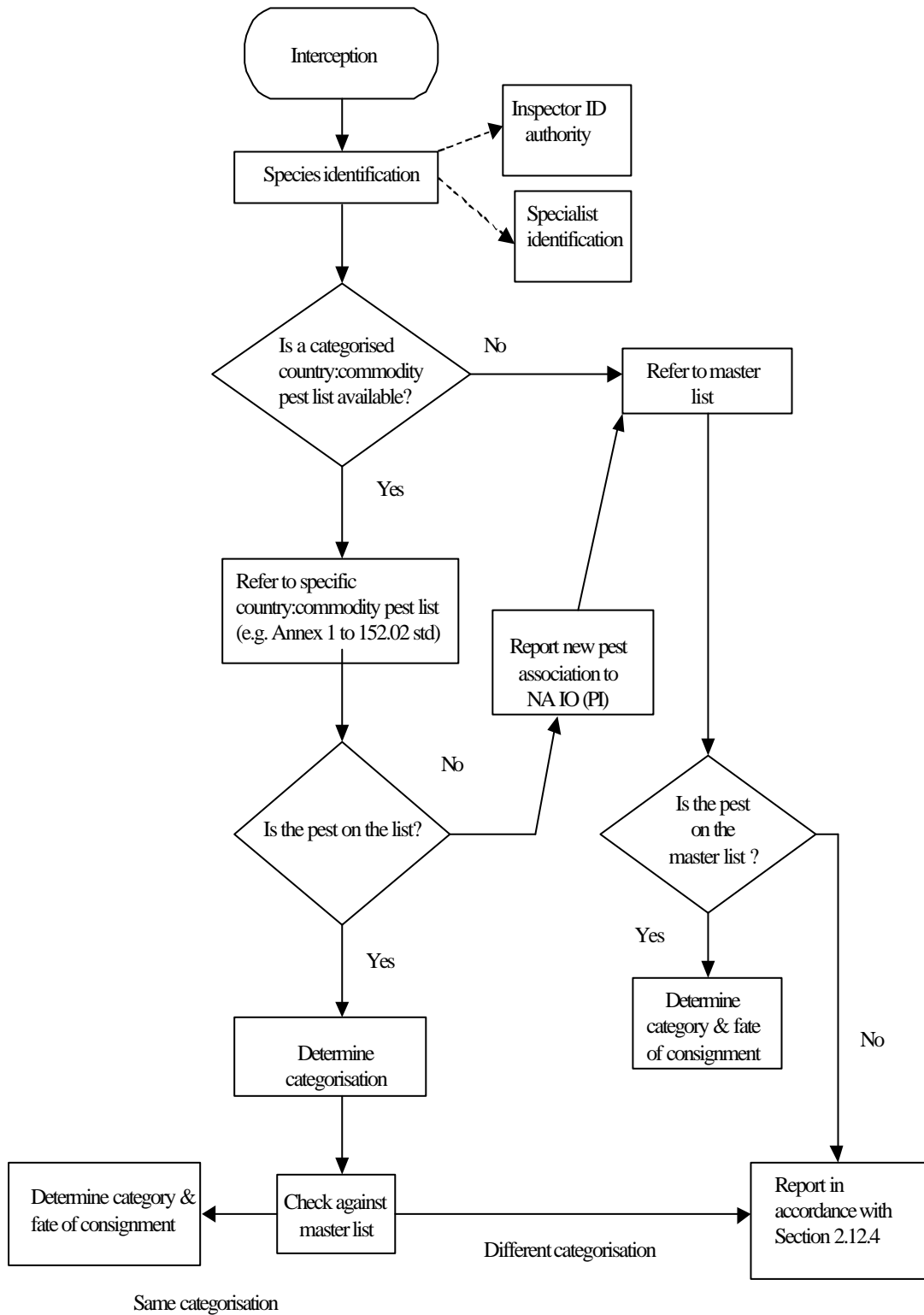
APPENDIX 1

Flowchart 1: Elimination Process for “Pest” Interceptions at the Border (Where the “Pest” Species Is Not Immediately Available)



APPENDIX 1

Flowchart 2: Elimination Process for ‘Pest’ Interceptions at the Border (Where the ‘Pest’ Species is Available)



APPENDIX 2

LIST OF SPECIES ELIGIBLE FOR INSPECTOR IDENTIFICATION AUTHORITY

Asynonychus cervinus (Fuller's rose weevil)
Atherigona sp. larvae, eggs and pupae
Carpophilus hemipterus, adults
Ceramidia viridis (banana moth)
Drosophila sp. larvae, eggs and pupae
Earias vitella, larvae
Helicoverpa armigera, mature larvae
Helicoverpa assulta, mature larvae
Helicoverpa punctigera, mature larvae
Latrodectus hasselti (red back spider)
Latrodectus hesperus (brown widow spider)
Latrodectus mactans (black widow spider)
Heteropoda venatoria (banana spider)
Maruca vitrata (*M. testulalis*), larvae
Pentatomidae eggs
Phidippus sp. (red back jumping spider), adults
Phoridae, larvae, pupae and adults
Phthorimaea operculella, larvae
Sceliodes cordialis, larvae
Sciaridae, larvae
Spodoptera litura, mature larvae