AGRICULTURE & NATURAL RESOURCES DIVISION
ISLAND OF ST HELENA

BIOSECURITY ST HELENA

MANUAL OF PHYTOSANITARY INSPECTION PROCEDURES

Revisions

Date of revision	Detail	Responsible officer
June 2013	Procedures updated, new forms, revised sampling rates	Jill Key
February 2016	Revised sampling rate tables	Jill Key
October 2016	Fully revised to include commodity inspections as well as fresh produce, and standardised documentation requirements for seed potato from South Africa.	Jill Key, Julie Balchin

MANUAL OF PHYTOSANITARY INSPECTION PROCEDURES

CONTENTS

BIOSECURITY ST HELENA

MANUAL OF PHYTOSANITARY INSPECTION PROCEDURES

Background

St Helena has a limited range of existing pests and is at risk from new introductions. These can negatively impact agricultural production, human and animal health, the natural environment, tourism and sustainable development. As an island our natural geographic barriers and limited ports of entry provide a strong measure of protection, making it easier to prevent new biosecurity threats being realised. However, biosecurity risk is increasing globally with the expansion in trade and travel, and with changing environmental conditions resulting from climate change. Air access and development of the tourism sector on St Helena opens us up to this increased risk and the biosecurity system has to strengthen to meet the challenge in order to continue to provide protection against new pest introductions.

Our national Biosecurity Vision for St Helena Island is to establish and implement:

> "An effective biosecurity system of shared responsibility that protects the sustainable future of our island environment, allowing a vibrant economy, safe movement of people and goods, and enhanced livelihoods and health."

The aim of inspecting imported produce is to minimise the risk of introducing pests and diseases into the country.

Inspections are directed at two main categories of pests and diseases: quarantine pests and diseases, and regulated non-quarantine pests and diseases:

- A quarantine pest is a pest of potential national economic importance to the country at risk and not present there, or present but not widely distributed and being actively controlled.
- A regulated non-quarantine pest is a pest who presence in plants for planting affects the intended use of those plants with an economically unacceptable impact.

Phytosanitary inspection procedures have been developed in accordance with International Standard Phytosanitary Measures (ISPM), specifically ISPM 1, 12, 16, 20, 23 and 31.

Legal basis

The importation of fresh produce is prohibited under the Customs Ordinance 1999, Regulation 3 (First Schedule) of the Customs (Export and Import Control) Regulations 1988 and the Plant Protection Ordinance 1938, amended by Ordinance 19 of 2011.

In both Ordinances plant material can only be imported under those conditions imposed by the Head of the Agriculture and Natural Resources Division. The precautionary principle has been adopted and a "white list" approach is used whereby everything is prohibited except the produce on the list, which is permitted under license. Whilst Biosecurity Inspectors will ensure that all conditions set are enforced it is his or her overall duty to act in the interest of preserving agriculture and native flora and fauna on St Helena by preventing further introductions of pests of economic, social or environmental significance.

FRESH PRODUCE FOR HUMAN CONSUMPTION

A list of permitted fresh produce for human consumption is given in Annex 1.

Inspection of documents

Three documents are required for the importation of produce intended for human consumption into St Helena: Import Licence, Phytosanitary Certificate and Export Inspection Certificate. For peaches, nectarines and mangoes a fumigation certificate is also required.

Produce bound for Ascension Island and shipped in the same reefers as St Helena produce has the same documentation requirements, as there is a risk that pests and diseases could be transmitted between lots while in transit.

Failure to provide the appropriate documentation renders the entire lot liable to confiscation and destruction. A summary of required documentation is given in the table below.

	Import Licence	Phytosanitary Certificate	Export Inspection Certificate	Fumigation Certificate	Inspection Report PQ-I
Fresh produce: peach, nectarine, mango	Yes	Yes	Yes	Yes	No
Fresh produce: other	Yes	Yes	Yes	No	No

Import Licence

The Import Licence must be obtained in advance from the ANRD. Under no conditions will an Import Licence be issued to cover produce landed at St Helena for the intended purpose for which an Import Licence was not obtained prior to import. The Import Licence specifies the type and quantity (where appropriate) of produce which may be imported, the voyage and the conditions under which produce may be imported. It also lists the quarantine pests for which inspection must be made. An Import Licence is shown in Annex 7A.

Phytosanitary Certificate

The Phytosanitary Certificate is an internationally recognised document to certify freedom from injurious pests. It is issued by the official plant protection organisation of the exporting country.

Where stated by the Phytosanitary Certificate in the part described list of plants, “See Attached List”, an accompanying list must be attached bearing the stamp of the Director of Agriculture indicating an inspection of the list presented.

Where produce has been sourced from outside South Africa both the original Phytosanitary Certificate from the country of origin **AND** a South Africa Phytosanitary Certificate for re-export are required, with countries of origin in square brackets for each produce type shown in the latter.

A phytosanitary certificate for fresh produce from South Africa is shown in Annex 8A.

Export Inspection Certificate

The Export Inspection Certificate is a certificate of export quality issued by the Perishable Products Export Control Board (PPECB) (in the case of exports from Republic of South Africa) and is required by the ANRD for fresh produce.

An Export Inspection Certificate from South Africa is shown in Annex 8B.

Certification of fumigation

Peaches, nectarines and mangoes imported from South Africa are considered (from experience) to present a particularly high risk of infestation of quarantine pests, specifically fruit fly species. Quantities exceeding ten cartons per importer must be fumigated in the Cape before export by a recognised company/authority for which a certificate of fumigation must accompany the produce.

Note that this requirement is specific to these three fruit types alone.

A fumigation certificate from South Africa is shown in Annex 8C.

Time and place of inspection

Inspections must be carried out at the port of entry and as soon as possible after the arrival of the produce to minimise spoilage.

It is a condition of import that produce is accompanied by full documentation. If any document is lacking the entire consignment is liable to confiscation. Documentation can be inspected either before or after the produce is inspected. No produce will be released until the inspector is satisfied that the consignment is covered by the relevant documentation.

Produce landed by accident

Any produce which is either in a reefer or sealed package (with undamaged packaging and no evidence of leakage etc.) landed by accident and which is clearly labelled as destined for another port of entry should be returned to the vessel under the supervision of ANRD staff and/or HM Customs staff.

Any produce landed by accident which does not conform to the above will be confiscated and destroyed.

Officers present

Inspections will be carried out by authorised staff from the Biosecurity and Pest Control Sections of the Agriculture and Natural Resources Division (ANRD). A Customs Officer may also be present at the time of inspection to ensure security of the received goods.

Sampling strategy

Produce will be inspected at the convenience of the Biosecurity and Customs staff and not necessarily in the presence of the importer.

Samples will be taken from each "lot" of produce. A "lot" is defined as the total amount of any one type of produce which are clearly from the same source. For example, identical boxes of apples bought from the same supplier by different importers are all part of the same lot.

Selection of samples is based on procedures devised by the International Standards For Phytosanitary Measures No. 31. Methodologies for Sampling of Consignments (2009). International Plant Protection Convention, FAO. Produce is categorised as high risk, medium risk or low risk. Sampling rates are as follows:

- High risk: 99% confidence level, 1% level of detection
- Medium risk: 95% confidence level, 1% level of detection
- Low risk: documentation and quality check; inspection as required

Items selected for inspection will be examined on an inspection table against a white surface under 600 lux lighting. In addition to the inspection sample, a cursory visual inspection will be made of each lot by opening a number of cartons of the remaining lot to verify the impression gained from the sample. If the cursory inspection raises any questions as to the quarantine pests or quality status of the lot, the inspector may increase the sample rate of that produce category, on a temporary or permanent basis.

<u>High risk produce</u>

High risk produce includes:

- Kiwi fruit
- Mango
- Pepper (bell pepper, sweet pepper)
- Stone fruit (peach, nectarine, plum, apricot, prune, etc)
- Soft citrus: orange, mandarin (clementine, tangerine, nova, tambur, Satsuma, naartje, etc)
- Pumpkin and squash (gem squash, butternut)

The sample provides for a 99% chance of detecting a 1% infestation. Sampling rates are given in the table in Annex 2.

In addition, lids will be lifted or opened from at least 3 cartons for each lot for a cursory visual inspection of the contents.

In the event of importation of a consignment of 10 or less cartons of peach, nectarine or mango, all cartons will be inspected.

<u>Medium risk produce</u>

Medium risk produce covers all other fruit and vegetables on the list in Annex 1 and includes:

- Aubergine/ brinjal
- Avocado
- Carrot
- Grape
- Hard citrus: lemon, lime, grapefruit, etc
- Melon
- Pome fruit (apple, pear)

The sample provides for a 95% chance of detecting a 1% infestation. Sampling rates are given in the table in Annex 3.

For grapes, a sample of 1 box in every 10 will be examined, selecting the boxes at random from the lot. If a lot consists of less than 10 boxes the entire lot will be examined.

In addition, lids will be lifted or opened from at least 3 cartons for each lot for a cursory visual inspection of the contents.

Low risk produce

Low risk produce includes:

- Onion
- Garlic
- Ginger

There are currently no quarantine pests for onion, garlic and ginger entering St Helena and routine checks are therefore limited to quality aspects and the import documents specified above in Section 2. Inspection of produce will occasionally be carried out, at the discretion of the Biosecurity Officer, using the sampling rates described for medium risk produce, as given in the table in Annex 3.

Ware potatoes

A sample of 600 tubers in total will be examined, selecting the tubers at random from the lot. If the lot consists of less than 1 tonne or 600 tubers the entire lot will be examined.

Potatoes from Tristan da Cunha are considered low risk to St Helena due to the relative freedom from potato pests and diseases. The potato patches on Tristan are small, occupy a single block in close proximity to each other and are worked communally, with shared seed stock; for these reasons all potatoes from Tristan are considered as a single "lot" for the purposes of biosecurity.

Inspecting for quarantine pests and diseases

Annex 4 lists the quarantine pests and diseases for St Helena. Inspections are directed towards detecting the presence of these pests and diseases. Annex 5 gives guidelines for inspection for quarantine pests and Annex 6 illustrations and identification details of the quarantine pests. All interceptions are handled as set out in the Protocol for Border Interceptions (below).

Stone, pome, citrus, grape, and other tropical fruit

Fruit are inspected externally for any signs of infestation by quarantine pests, such as holes of entry or exit of larvae, frasse, or symptoms of disease. Any such signs must be followed up by cutting the fruit to identify the pest or disease concerned. The inspector may make any inspection by means of looking, palpating, cutting, smelling or tasting as he or she sees necessary. Fly larvae must be identified to family and then held for specific identification of the emerged adult.

A single piece of fruit, where certified by all correct documentation, found to contain a quarantine insect pest or mite (specimens alive or dead) renders the entire lot liable to confiscation subject to alternative means of treatment, ie, 100% inspection and removal of infested produce or fumigation

(providing this is feasible). These additional treatments will be offered and conducted as an alternative to destruction at a nominal charge to the importer.

Note that peach, nectarine and mango are subject to inspection despite fumigation as the inspection checks the effectiveness of the treatment.

A single fruit found to be infected with a quarantine pathogen renders the entire lot liable to confiscation and destruction. If a disease has been detected in one or some fruit other apparently uninfected fruit may be latent carriers and 100% inspection is not an option.

Other fruit, and vegetables

Other fruit and vegetables are inspected externally for any signs of infestation by quarantine pests, such as holes of entry or exit of larvae, frasse, or symptoms of disease. Any such signs must be followed up by cutting the fruit or vegetable to identify the pest or disease concerned.

Coconut can carry disease which affects all palms but these are only a risk if the coconut is allowed to germinate and grow. To ensure that imported coconut is not allowed to grow all nuts must be decorticated.

A single piece of fruit or vegetable found to contain a quarantine insect pest or mite (specimens alive or dead) renders the entire lot liable to confiscation. The produce can be subject to 100% inspection, removing all infested items, at a nominal labour charge to the importer. The alternative is destruction of the entire lot.

A single fruit or vegetable found to be infected with a quarantine pathogen renders the entire lot liable to confiscation and destruction. If a disease has been detected in one or some fruit other apparently uninfected fruit may be latent carriers and 100% inspection is not an option.

Ware potatoes

All 600 tubers must be inspected externally for signs of quarantine insect pests and mites. A sample will also be cut at the heel end (if necessary) for signs of brown rot and ring rot to evaluate the risk of these diseases. At least 3 tubers per pocket will be checked for pathogens under the skin.

A single tuber found to contain a quarantine insect pest or mite (specimens alive or dead) renders the entire lot liable to confiscation. The produce can be subject to 100% inspection, removing all infested items, at a nominal labour charge to the importer. The alternative is destruction of the entire lot.

A single tuber found to be infected with a quarantine pathogen renders the entire lot liable to confiscation and destruction. If a disease has been detected in one or some tubers other apparently uninfected tubers may be latent carriers and 100% inspection is not an option.

Inspecting for quality

Quality concerns the state of the produce and whether it is considered fit for the purpose for which it is intended. (Examples would be rotten onions or green potatoes.)

Where more than 10% of inspected fruit, vegetables or tubers in a lot is found to be affected at levels greater than 25% of fruit/tuber surface affected (but is otherwise free from quarantine pests) the entire lot will be referred to HM Customs for advice and if necessary further action from Environmental Health. The Environmental Health will then be responsible for certifying the lot as "unfit for human consumption" or otherwise.

In the case of potatoes infested with potato tuber moth above the threshold of 10% infestation the entire lot will be liable to compulsory treatment by 100% inspection, at charge to the importer.

Pallets and packaging

In compliance with International Standards For Phytosanitary Measures No. 15 Regulation of Wood Packaging Material in International Trade (2009) pallets and wooden boxes used in the shipping of fresh produce must be made from de-barked wood.

In the event of interception of wood with bark a notification form will be forwarded to the Deputy Director, Cape Inspection Services. A notification form is shown in Annex 7B.

All cartons, boxes and other containers must be examined, inside and out, for signs of quarantine pests and hitch-hikers such as wasps, caterpillars, ants or other insects.

Inspection Report

Every lot of produce inspected will be recorded on an Imported Produce Sample Sheet. These sheets must record accurately quantities of the lots, samples, number of fruit found with defects, in addition to any omissions found in the documentation, noting any problems or omissions in the documentation found. These reports will be kept of file and copies should be made available to any importer on request. An inspection report is shown in Annex 7C.

In the event of an interception of quarantine pests, a Notification of Detection of Quarantine Pests report should be sent to the Perishable Produce Export Control Board, Herman de la Guerre Chief Inspector at the Cape Town Airport office, PPECB, hermang@ppecb.com / Mobile: 082 469 7115 / Office: 021 935 0819.

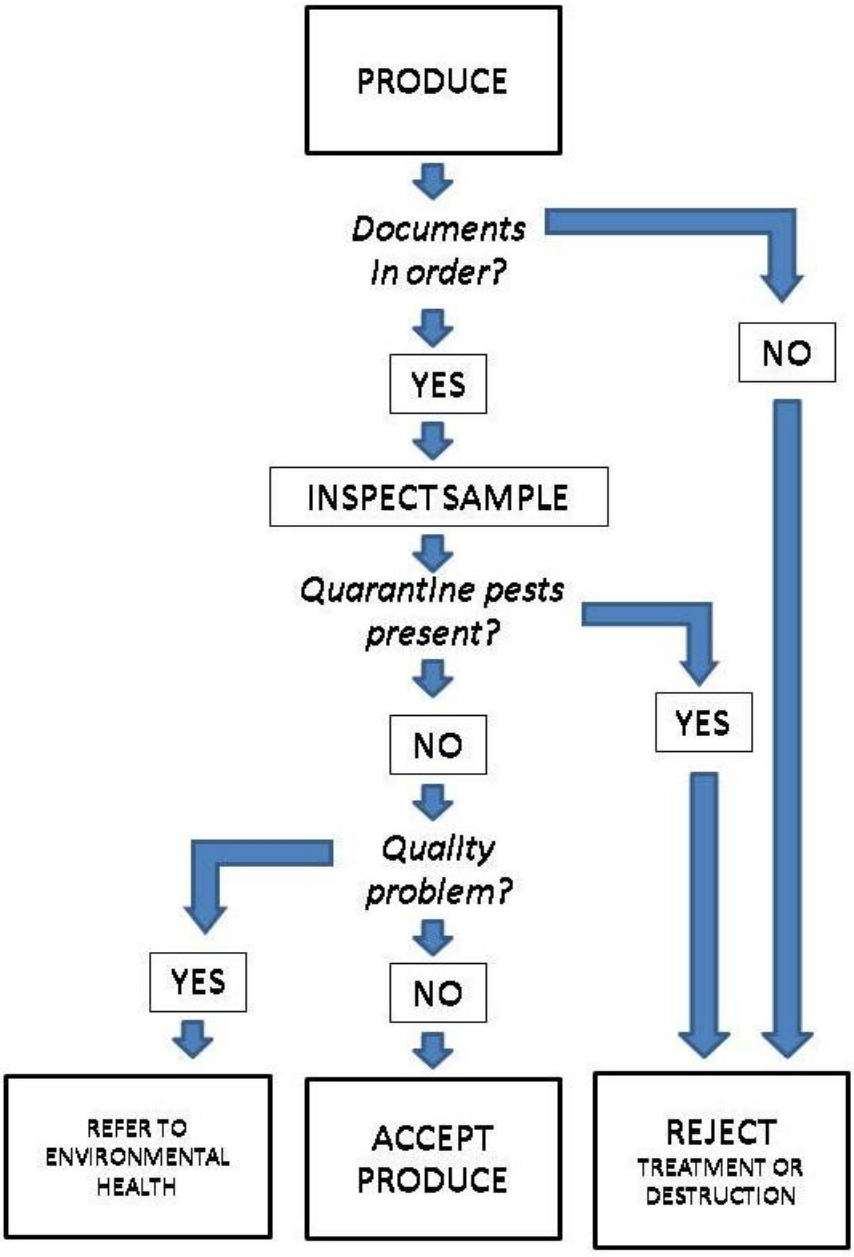
Disposal of confiscated produce

Produce confiscated (either for lack of full documentation or due to infestation) must be disposed of as soon as practical; an official from HM Customs may be present. There are at present three options for disposal of produce, depending on the quantities concerned. Small quantities can be disposed of at sea providing no plastic or other non-biodegradable materials is dumped, or incinerated in a suitable and adequate furnace or incinerator. Larger quantities must be buried in a pit 8 foot deep at the Horse Point Landfill site if no other suitable facilities are available.

A Certificate of Retention must be completed and stamped showing the importer, the produce disposed off, the method of destruction and the witnessing Customs Officer. A Certificate of Retention is shown in Annex 7D.

If possible infested produce should be isolated from non-infested produce from the moment of identification and labelled as "infested" until disposal. Isolation can take the form of sealing in black bin-liners (double bagged), placing in a freezer or reefer, or physical removal to another building.

Summary


PRODUCE
Documents In order?
NO
YES
INSPECT SAMPLE
Quarantine pests present?
YES
NO
Quality problem?
YES
NO
REFER TO ENVIRONMENTAL HEALTH
ACCEPT PRODUCE
REJECT
TREATMENT OR DESTRUCTION

PLANT MATERIAL FOR PROPAGATION

Plant material for propagation includes seed potato, budwood, dry dormant bulbs, bare rooted fruit trees and other material as specified in the Import Health Standard for Plant Material for Growing Purposes.

Seed potato can currently be imported under the UK and South Africa Seed Potato Certification Schemes.

Inspection of documents

At least two documents are required for the importation of plant material into St Helena: Import Licence and Phytosanitary Certificate. Plant material for propagation may also have other required documentation, depending on the nature of the material and its source, and this will be specified in the import licence.

Failure to provide the appropriate documentation renders the entire lot liable to confiscation and destruction. A summary of required documentation is given in the table below.

	Import Licence	Phytosanitary Certificate	Export Inspection Certificate	Fumigation Certificate	Inspection Report PQ-I
Seed potato from South Africa	Yes	Yes	No	No	Yes
Seed potato from UK	Yes	Yes	No	No	No
Plant material for propagation	Yes	Yes	No	No	No

Import Licence

The Import Licence must be obtained in advance from the ANRD. Under no conditions will an Import Licence be issued to cover plant material landed at St Helena for which an Import Licence was not obtained prior to import.

The Import Licence specifies the type and quantity (where appropriate) of plant material which may be imported, the voyage and the conditions under which it may be imported. It also lists the quarantine pests for which inspection must be made and any other conditions or documentation required (for example: evidence of production in compliance with a national certification scheme).

An Import Licence is shown in Annex 7A.

Phytosanitary Certificate

The Phytosanitary Certificate is an internationally recognised document to certify freedom from injurious pests. It is issued by the official plant protection organisation of the exporting country.

A phytosanitary certificate for plant material (roses) from the UK is shown in Annex 8D.

For seed potato the Phytosanitary Certificate must include the following information:

- Import licence number
- Seed potato variety or varieties covered by the certificate
- Quantity of each variety

- For seed potato from South Africa the statements:
    - "Seed potato is certified under the South African Seed Potato Certification Scheme in compliance with the Plant Improvement Act 1976 (Act No 53 of 1976) and other relevant South African directives as Class 1 generation *X*" with the appropriate generation number inserted at "*X*".
    - "Free from soil"

A phytosanitary certificate for seed potato from South Africa is shown in Annex 8E.

Inspection report on phytosanitary status of regulated articles for imports and exports (PQ-I)

An inspection report (PQ-I) on the phytosanitary status of regulated articles for imports and exports is issued after the final product inspection takes place. This is basically the proof that an inspection was done.

This is required for seed potato from South Africa.

A PQ-I report for seed potato from South Africa is shown in Annex 8F.

Certification of germplasm

Seed potatoes require certification according to:

- British Seed Potato certification systems in compliance with EC Directive 2002/56/EC and other relevant EC Directives (UK origin); or
- South Africa Seed Potato Certification Scheme in compliance with Plant Improvement Act 1976 (Act No. 53 of 1976) and other relevant South African Directives (South African origin).

Labels of different colours are specified for each category as shown below.

From the UK:

Category	National Class	Community Grade	Label Colour
Pre-Basic	Pre-Basic TC	Not applicable	White with a purple stripe
Pre-Basic	Pre-Basic 1-4	Not applicable	White with a purple stripe
Basic	Super Elite 1-3	EC 2	White
Basic	Elite 1-3	EC 2	White
Basic	A	EC 3	White
Certified	CC	None	Blue

From South Africa:

Class	Label details
Standard Class	White with a blue vertical band at the right end of the label
Class 1	Green Class 1 classification and specifies generation (G1 to G8)
Class Elite	Will bear a Class Elite sticker
Generation:	
G0	Gold
G1	Red
G2	Yellow

G3	Purple
G4	Green
G5	White
G6	Pink
G7	Orange
G8	Blue

Germplasm such as budwood or other planting material requires certification according to the nature of the material and country of origin. Requirements will be specified in the import license.

Time and place of inspection

Inspections must be carried out at the port of entry and as soon as possible after the arrival of the plant material to minimise spoilage.

It is a condition of plant material that produce is accompanied by full documentation. If any document is lacking the entire consignment is liable to confiscation. Documentation can be inspected either before or after the plant material is inspected. No plant material will be released until the inspector is satisfied that the consignment is covered by the relevant documentation.

Officers present

Inspections will be carried out by authorised staff from the Biosecurity and Pest Control Sections of the Agriculture and Natural Resources Division (ANRD). A Customs Officer may also be present at the time of inspection to ensure security of the received goods.

Sampling strategy

Plant material will be inspected at the convenience of the Biosecurity and Customs staff and not necessarily in the presence of the importer.

<u>Plant material</u>

Plant material is categorised as high risk. Inspection is by lot; a lot is defined as the total amount of any one type of plant material which is clearly from the same source. For example, each variety of rose bush or peach tree would be one lot. Where a large number of small lots are imported from the same nursery, it is acceptable to treat them all as a single lot. Sampling rates are as follows:

- Up to 50 items in any one lot, inspection is 100%
- Over 50 items in any one lot sampling rate is at the discretion of the Biosecurity Officer. The following factors need to be considered when determining risk level:
    - How easy the plants are to inspect (are there many places invertebrates can hide?)
    - Size of the plants
    - Condition of the consignment (do the plants look healthy and fresh?)
    - Risk level (fruit trees with roots are higher risk than orchid bulbs)

<u>Seed potatoes</u>

Seed potatoes are of particular concern as the health of the subsequent crop and future yields depend on the health of the seed. Both the UK and South African seed potato certification schemes are considered reliable.

A sample of at least 100 tubers per tonne will be examined, selecting the tubers at random from the lot. Quantities of less than 1 tonne will be rounded up to the nearest whole tonne.

In addition to the visual examination, at least 50 tubers per tonne from the lot must be cut at the heel end to determine the presence of Brown Rot/Bacterial Wilt.

Inspecting for quarantine pests and diseases

Items selected for inspection will be examined on an inspection table against a white surface under 600 lux lighting. In addition to the inspection sample, a cursory visual inspection will be made of each lot by opening a number of packages of the remaining lot to verify the impression gained from the sample. If the cursory inspection raises any questions as to the quarantine pests or quality status of the lot, the inspector may increase the sample rate.

Annex 4 lists the quarantine pests and diseases for St Helena. Inspections are directed towards detecting the presence of these pests and diseases. Annex 6 illustrations and identification details of the quarantine pests. All interceptions are handled as set out in the Protocol for Border Interceptions (below).

Plant material

Inspection should be done by the Biosecurity team with assistance from ANRD Farmer Support, who have more experience examining growing plants. Latex gloves should be used to handle imported plants which are often treated pre-border with pesticides.

Each item in the sample is carefully examined by a biosecurity inspector from root to tip. Particular attention should be paid to (where present) the root ball, leaf nodes, stem tips, angles and any cracks or holes. Check for:

- Signs of insects, such as scale insects, aphids, thrips, mites, eggs, and frass, and evidence of stem borers, leaf miners and tunnelling.
- On the roots, check for signs of nematodes and mites.
- Signs of fungal disease or other evidence of growth problems, deformation, cankers or galls.

In the event of finding any living invertebrate, the entire consignment should be considered infested:

- Pests should be identified as far as possible.
- If feasible, the entire consignment should be sprayed with an appropriate pesticide and held in isolation at the wharf for at least 48 hours to determine efficacy.

In the event of finding evidence of a disease, the entire lot should be considered infected:

- If feasible, the entire lot should be sprayed with an appropriate fungicide
- Pesticide treatment to be carried out by a qualified sprayer under the supervision of ANRD in the designated area and using the appropriate spraying and containment equipment.

Pesticide treatment is at the expense of the importer. If infestation is extensive, or treatment is not considered feasible, the entire consignment should be double bagged and destroyed by incineration or deep burial. Photographs should be taken of any problems found.

Seed potatoes

All 100 tubers must be inspected externally for signs of quarantine insect pests and mites. 50 tubers per ton must also cut at the heel end for signs of brown rot and ring rot to evaluate the risk of these diseases.

A single tuber found to contain a quarantine insect pest or mite (specimens alive or dead) renders the entire lot liable to confiscation. The produce can be subject to 100% inspection, removing all infested items, at a nominal labour charge to the importer. The alternative is destruction of the entire lot.

A single tuber found to be infected with a quarantine pathogen renders the entire lot liable to confiscation and destruction. If a disease has been detected in one or some tuber(s) other apparently uninfected tuber(s) may be latent carriers and 100% inspection is not an option.

Pallets and packaging

In compliance with International Standards For Phytosanitary Measures No. 15 Regulation of Wood Packaging Material in International Trade (2009) any pallets and wooden boxes used in the shipping of plant material must be made from de-barked wood.

In the event of interception of wood with bark a notification form will be forwarded to the Deputy Director, Cape Inspection Services. A notification form is shown in Annex 7B.

All cartons, boxes and other containers must be examined, inside and out, for signs of quarantine pests and hitch-hikers such as wasps, caterpillars, ants or other insects.

Disposal of confiscated plant material

Plant material confiscated (either for lack of full documentation or due to infestation) must be disposed of as soon as practical; an official from HM Customs may be present. There are at present three options for disposal of produce, depending on the quantities concerned. Small quantities can be disposed of at sea providing no plastic or other non-biodegradable materials is dumped, or incinerated in a suitable and adequate furnace or incinerator. Larger quantities must be buried in a pit 8 foot deep at the Horse Point Landfill site if no other suitable facilities are available.

A Certificate of Retention must be completed and stamped showing the importer, the plant material disposed of, the method of destruction and the witnessing Customs Officer. A Certificate of Retention is shown in Annex 7D.

Infested plant material should be isolated from non-infested produce from the moment of identification and labelled as “infested” until disposal. Isolation can take the form of sealing in black bin-liners, placing in a freezer or reefer, or physical removal to another building.

Post-border monitoring

Plant material for propagation is also subject to post-border monitoring.

A record must be kept of the locations where the plants are planted; if imported for sale, the importer must keep a record of purchasers and submit this to ANRD. Plants must be inspected at

least once within a year of import, preferably at 6 months and 12 months after importation. The check rate is as follows:

- Up to 50 plants imported: 100% post-border check
- Over 50 plants imported: percentage checked depends on perceived level of risk, as determined by the biosecurity officer and ANRD.

In the event of finding signs of a live invertebrate pest infestation or a disease of a species new to the island, one or more of the following actions will be taken as appropriate:

- The invertebrate species or disease to be identified as far as possible.
    - If confirmed as new to the island the Chief Environmental Officer to approve local eradication as an introduced pest.
    - Surrounding area to be surveyed to determine the extent of the infestation.
- Pesticide treatment to be applied to all infested plants at the expense of the owner.

Where treatment isn't possible, the plants may be destroyed in order to contain the pest/disease. Destruction is to be carried out on-site where practicable to avoid spreading the pest/disease around the island, ideally by burning and/or deep burial. In the event this is not practical the plants should be sprayed with an appropriate pesticide and double bagged for removal and destruction by incineration or burial 8 foot deep at the Horse Point Landfill Site.

All other plants in the consignment, if not already included, must be checked for the pest/disease.

OTHER COMMODITIES

While other commodities are not themselves invasive or pests, they are capable of carrying weeds seeds and disease-causing microbes in encrusted mud and dirt, and harbouring potentially harmful insects, spiders and mites. They therefore pose a biosecurity risk which phytosanitary inspections are designed to minimise.

Inspection protocol for shipping containers

External checks

- Confirm with Customs that external checks can be initiated.
- Check nooks and crannies for:
    - Mud and debris
    - Webbing
    - Live invertebrates
- If webbing, live spiders or other live invertebrates (such as ants) are detected:
    - Spray pyrethroid insecticide into the webbing.
    - Be prepared with a container (such as the spray can lid) to catch any spiders which emerge. This can happen very quickly after spraying.
    - Capture any live spiders seen or flushed out and preserve in 70% alcohol, labelled with the container number, voyage number and date of arrival in St Helena.
- Collect any mud and debris in a plastic bag, labelled with the container number, voyage number and date of arrival.

Internal checks

- Internal checks of shipping container contents are only to be made in the presence of a customs officer and/or importer.
- Check the internal sides of the container just inside the doors immediately on opening, looking for signs of webbing near the bottom and top corners.
- If webbing, live spiders or other live invertebrates (such as ants) are detected:
    - Spray pyrethroid insecticide into the webbing.
    - Be prepared with a container (such as the spray can lid) to catch any spiders which emerge. This can happen very quickly after spraying.
    - Capture any live spiders seen or flushed out and preserve in 70% alcohol, labelled with the container number, voyage number and date of arrival in St Helena.
- As goods are removed:
    - Check sides of cartons, boxes, bags and goods for signs of live invertebrates (most commonly spiders and ants) and webbing.
    - Check the floor and walls of the container, and surfaces of remaining goods for signs of live invertebrates and webbing.
- If any are detected, spray if appropriate and collect as detailed above.

Inspection protocol for vehicles

External checks

- Confirm with Customs that external checks can be initiated.
- Enter vehicle identification data in the Vehicle Inspection Data Form.
- Check for webbing and live spiders, looking specifically:
    - Wing mirrors
    - Around the edges of tyres on the back of the vehicle, eg Toyota RAV4 models
    - Around number plates
    - Under wheel arches
    - Any other nooks and crannies
- If webbing or live spiders are detected:
    - Spray pyrethroid insecticide into the webbing and nooks and crannies. Spray into the cavity behind the mirror of wing mirrors as this is a common refuge of spiders.
    - Be prepared with a container (such as the spray can lid) to catch any spiders which emerge. This can happen very quickly after spraying.
    - Capture any live spiders seen or flushed out and preserve in 70% alcohol.
    - All the spiders collected from vehicles transported together can be preserved in the same container, labelled with the voyage number and date of arrival in St Helena.
- Note any webbing presence and spiders seen or collected in the Vehicle Inspection Data Sheet.
- Check under wheel arches for compacted mud and debris.
- Check around the bonnet and windscreen area for debris such as dried leaves.
- Collect any mud and debris in a plastic bag, labelled with the vehicle registration number, voyage number and date of arrival.
- Note mud and debris presence or absence, and if collected in the Vehicle Inspection Data Sheet.
- Note any other features of biosecurity relevance.

Internal checks

- Internal checks are only to be made in the presence of a customs officer and/or vehicle owner.
- Make a general assessment of cleanliness.
- Check under floor mats, door pockets, down the sides and below the front seats, the boot, and under the spare tyre where this is stored inside the vehicle.
- If webbing or live spiders or other invertebrates are detected:
    - Spray with a pyrethroid insecticide.
    - Be prepared with a container (such as the spray can lid) to catch any spiders which emerge. This can happen very quickly after spraying.
    - Capture any live spiders seen or flushed out and preserve as detailed above.
- Collect any debris or items of biosecurity concern in a plastic bag labelled with the vehicle registration number, voyage number and date of arrival.
- Note debris presence or absence, and if collected in the Vehicle Inspection Data Sheet.

All mud, debris and invertebrate collected to be passed to Rosie Peters at ANRD for appropriate processing.

Inspection protocol for sand, gravel and stone

This protocol refers to the importation of bulk (ie more than 1 tonne) sand, gravel or stone.

- Check container numbers against the fumigation certificates for the entire lot.
- Inspection is by sample. For total quantities imported in any 1 lot up to and including 100 tonnes, the entire lot is inspected. For larger quantities, a sample of 100 tonnes for every 1000 tonnes in the lot is inspected. The sample for inspection is selected at random and the supplier is not informed which containers will be inspected. For the current importations of sand by Basil Read this means:
    - Each container contains 20 tonnes of sand.
    - Therefore 5 containers = 100 tonnes and 50 containers = 1000 tonnes of sand.
    - Total number of containers imported less than 5 = all to be inspected
    - Total number of containers imported up to 50 = inspect 5 containers
    - Total number of containers between 51 and 100 = inspect 10 containers.
- Vent the containers to be inspected for at least 2 hours before entry by opening the doors to clear any residual pockets of fumigant.
- Check the container itself with a torch for signs of live or dead animals on the floor between the sacks, and on the walls.
- In the case of fumigation by aluminium phosphide verify signs of the spent fumigant in the form of small ash piles. These may be on the floor or on the surface of the bags.
- Check each bag and any other goods in the container with a torch for signs of live or dead animals, webbing, vegetation, seeds, soil or other contamination, paying particular attention to:
    - Seams;
    - Folds of the bag where it is tied up;
    - Side of the bag and floor between bags;
    - Cracks, folds and interstices;
    - At least 2 bags in every container should be opened to check the sand surface for signs of animal tracks or contamination. The sand should be dug into to hands depth to check for any signs of colonisation of the upper layers and consistency.
- For every 5 containers inspected up to 3 samples, each up to 1kg sand, may be taken from the upper layers for weed germination trials.
- In case of any doubt about the phytosanitary health of the consignment, or in the event of a new supplier or source, a 100% inspection may be carried out.
- In the event of finding any signs of live animals, seeds or contamination the entire lot may be confiscated and one of the following applied: treated by freezing at the expense of the importer, destroyed by disposal at sea, or rejected, sealed under Customs seal and returned to source at the importers expense.

PROTOCOL FOR BORDER INTERCEPTIONS

On detection

- In the event of finding live invertebrates the specimen should be isolated to prevent its escape. Where possible the specimen should be kept alive pending identification, but note that **the priority is to prevent escape** and this may require killing the specimen.
- In the event of finding dead invertebrates the specimen should be immediately preserved in 70% alcohol.
- The specimen should be identified as far as possible at the moment of capture. This may only be possible at a high taxonomic level, such as "type of fly", or it may be possible to bring it down to family, genus or even species. There are 3 categories to which the specimen could belong:
    1. Quarantine pest. The species is a known pest not established on the island. Example: cabbage white butterfly.
    2. Possible quarantine pest: the species can be identified only as belonging to a known family or genus of pests. Examples: Tephritid fly maggots, Noctuid caterpillar. Most interceptions come into this category as they need to be reared to adult to confirm identification.
    3. Non-quarantine pest. The species is either a pest which is known on the island, or a secondary pest, or a non-pest species. Examples: potato tuber moth, Drosophila maggots, cockroach.
- In the case of categories 1 and 2 (quarantine pest or possible quarantine pest), both live or dead specimens found, the Biosecurity Officer should be immediately informed and 100% inspection of the lot carried out.
- In the case of category 3 (non-quarantine pest), the interception is recorded but only the sample is inspected.

Collection

- In the case of a category 1 or 2 specimen, where the specimen appears to represent a new species record for the island, there is a legal requirement under the Environmental Protection Ordinance for the Chief Environmental Officer to be informed immediately.
    - In the context of an interception at the border where the specimen is clearly intercepted at the point of entry, this requirement is waived.
- Where the specimen appears to be a species already known on the island or a species intercepted previously, the CEO does not need to be informed.
- In the case of live invertebrate the specimen should be processed as follows:
    - Crawling invertebrates and small flying invertebrates - killed by immersion in 70% alcohol.
    - Large flying invertebrates such as butterflies - euthanased using killing fluid and preserved by pinning.
    - Live larvae (such as maggots or caterpillars in fresh produce) – kept alive in a cage at the Biocontrol Facility at ANRD to breed-through for identification of the adult phase. Adults are euthanased and preserved by pinning or in 70% alcohol as appropriate.

- In the case of live vertebrates, the specimen should be kept alive and as comfortable as possible in a suitable container and handed over to the SVO for identification and action.

Data required

- All specimens, dead or alive, must be accompanied by the following data:
    - Date of detection
    - Pathway, eg RMS and voyage number, aircraft and flight number, etc
    - Vector, eg vehicle, passenger baggage, shipping container, fresh produce, etc
    - Details of location
    - Provisional identification
        - For new species recorded on the island, details of CEO referral
- Data to be entered into the interceptions database
- Preserved specimens to be held in the ANRD reference collection. Where multiple specimens exist for the same species, some may be passed to the national collection if required.

Subsequent sample rates

- Where the interception is in a lot of imported fresh produce, the sample rate for the lot should raised for at least 1 shipment:
    - In the case of low risk produce, raise to medium risk
    - In the case of medium risk produce, raise to that for high risk
    - In the case of high risk produce, increased the number of boxes sampled. This may be to 100%.
- Where consignments of the infested produce lot have been found to be pest-free for at least one shipment, the sample rate reverts to the original risk level.

Notification report

- A notification report should be submitted to Herman de la Guerre Chief Inspector at the Cape Town Airport office, PPECB, hermang@ppecb.com / Mobile: 082 469 7115 / Office: 021 935 0819.
    - This report should be submitted at interception, without waiting for confirmation of identification in the case of a category 2 specimen, as the aim is to alert the PPECB and reduce the risk of future interceptions on the next voyage/flight.
    - Notification will be made of interception of category 1 and 2 specimens, both alive and dead.
- A copy of the notification report should be sent to the Chief Environmental Officer for his/her information.

ACKNOWLEDGEMENTS

This manual was produced with the assistance of the following persons, whose constructive comments are greatly appreciated:

Mr R.J.G. Steele, Chief Agricultural and Natural Resources Officer
Ms C.E. Cranfield. Senior Customs Officer
Mr R. Hudson. Senior Environmental Health Officer.
Dr R. Black. Natural Resources Institute, UK.

Annexes 4 and 5 are adapted from Final Technical Report, Dr R. Black, NRI, 12 June – 3 July 1998.

Assistance from the following is gratefully acknowledged for the June 2013 revision:

- Robert Ikin, Biosecurity Consultant, Australia
- Sidney Suma, Biosecurity Adviser, Indian Ocean Islands
- Konrad Englberger, Biosecurity Consultant, Micronesian Islands, North Pacific
- Bob Macfarlane, Biosecurity Consultant
- Ivan Veljkovic, Plants and Pathways Risk Assessment, Ministry for Primary Industries, New Zealand
- Lesio Soko, Biosecurity Adviser, Fiji

Protocols were developed with the input of the Biosecurity team, Julie Balchin and Natasha Stevens, and Head of the Pest Control team, Rosie Peters.

ANNEX 1. List of fresh produce for human consumption permitted under licence.

PERMITTED FRESH PRODUCE	
Fruit	**Vegetables**
Apple	Asparagus
Apricot	Aubergine / Brinjal
Avocado	Bean (Green)
Blackberry	Beetroot
Blackcurrant	Broccoli
Blueberry	Brussels Sprout
Coconut – husked, fresh or drinking	Butternut
Granadilla	Cabbage
Grape	Carrot
Grapefruit	Celery
Guava	Chilli peppers
Kiwi	Cucumber
Lemon	Garlic
Lime	Ginger (Root)
Lychee	Kohlrabi
Mango	Leek
Mandarin	Lettuce
Melon – honeydew, musk melon, etc	Mange tout
Nectarine	Mushroom
Orange	Onion
Pawpaw	Parsnip
Peach	Peas
Pear	Pepper
Pineapple	Potato (ware)
Plum	Pumpkin
Prune	Radish
Raspberry	Spinach
Redcurrant	Squash
Soft citrus – mandarin, satsuma, tangerine, etc	Sweet Corn
Strawberry	Sweet Potato
Water melon	Tomato
	Turnip

ANNEX 2. Sampling rates for high risk produce

99% confidence of detecting a 1% infestation, adjusted

Number of cartons to be sampled for eg peaches, nectarines, plums, mangoes, oranges, mandarins (sweet citrus), pumpkin, squash

	number of fruit per carton					
Number of cartons	**10**	**11 to 20**	**25 to 35**	**45 to 55**	**60 to 70**	**80 to 100**
5	all	all	all	all	all	all
10	all	all	8	7	6	5
15	12	10	10	7	6	5
20	18	16	11	8	6	5
25	20	17	11	8	6	5
30	23	19	12	9	7	5
40	27	21	12	9	7	5
50	30	23	13	9	7	5
60	32	24	13	10	7	5
70	34	24	14	10	7	5
80	35	25	14	10	7	5
90	36	25	14	10	7	5
100	37	25	14	10	7	6
125	38	26	14	10	7	6
150	39	28	15	10	7	6
200	40	28	15	10	7	6
250	42	30	15	10	7	6
300	42	30	15	10	7	6
350	43	30	15	10	7	6
400	43	30	15	10	7	6
450	44	30	15	10	7	6
500	44	30	15	10	7	6

ANNEX 3. Sampling rates for medium risk produce

95% confidence of detecting a 2% infestation (adjusted)

Number of cartons to be sampled for eg apples, pears, carrots, lemons, limes, tomatoes, and peppers

Number of cartons	number of fruit per carton								
	1	5 to 10	15	25	35	50 to 60	70 to 90	100 to 140	150 to 200
5	all	all	6	5	5	4	4	4	4
10	all	all	6	5	5	4	4	4	4
15	10	7	6	5	5	4	4	4	4
20	10	7	6	5	5	4	4	4	4
25	10	7	6	5	5	4	4	4	4
30	10	7	7	5	5	4	4	4	4
35	10	7	7	5	5	4	4	4	4
40	10	8	7	5	5	4	4	4	4
45	10	8	7	5	5	4	4	4	4
50	10	8	8	5	5	4	4	4	4
60	10	8	8	5	5	4	4	4	4
70	10	8	8	5	5	4	4	4	4
80	10	8	8	6	5	4	4	4	4
90	10	8	8	6	5	4	4	4	4
100	10	8	8	6	6	4	4	4	4
125	12	8	8	6	6	4	4	4	4
150	15	9	8	6	6	4	4	4	4
200	20	9	8	6	6	4	4	4	4

ANNEX 4. Quarantine pests for St Helena.

This list is not comprehensive. Items in **bold type** are quarantine pests presently of priority concern.

Organism	Common name	Principal crops attacked
INSECTS & MITES		
Aleurocanthus woglumi	**Citrus whitefy**	**Citrus, other fruit trees**
Bactrocera cucumis	Cucumber fruit fly	Cucurbits
Bactrocera cucurbitae	**Melon fruit fly**	Cucurbits
Bactrocera dorsalis	Oriental fruit fly	Various
Bactrocera zonata	Peach fruit fly	Various
Bemisia tabaci	**Tobacco whitefly**	**Vegetables, fruit, ornamentals**
Ceratitis cosyra	**Mango fruit fly**	**Mango, stone fruit**
Ceratitis rosa	**Natal fruit fly**	**Stone fruit, citrus**
Cydia pomonella	**Codling moth**	**Pome fruit, stone fruit**
***Cylas* spp.**	**Sweet potato weevil**	**Sweet potato**
Dysmicoccus brevipes	**Pineapple mealybug**	**Pineapple, coffee**
Eriosoma lanigerum	**Woolly aphid**	**Pome fruit**
Helicoverpa armigera	**American bollworm**	**Tomato, vegetables, maize**
Hypothenemus hampei	**Coffee berry borer**	**Coffee**
Lasioderma serricorne	Cigarette beetle	Stored foodstuffs
Maruca testulalis	Beans, peas	Maruca, bean boring caterpillar
Ophiomyia phaseoli	Bean fly	Beans
Pentalonia nigronervosa	Banana aphid	BBTV vector
***Phoracantha* spp.**	**Eucalyptus borer**	**Eucalyptus**
Pieris brassicae	**Cabbage butterfly**	**Brassicas**
Pieris rapae	**Small white butterfly**	**Brassicas**
Diaspidiotus perniciosus	Pernicious scale	Various
Selenothrips rubrocinctus	**Thrips**	**Mango**
Spodoptera exempta	**African armyworm**	**Pastures, maize**
Spodoptera exigua	**Lesser armyworm**	**Beet, tomato, cotton, various**
***Xylobius* spp. & other bark beetles**	**Ambrosia beetles**	**Wood – mostly coniferous**
***Zonocerus* spp.**	**Elegant grasshoppers**	**Many crops**
VIRUSES		
Apple mosaic virus	Chestnut mosaic	Pome fruit, stone fruit, roses
Banana bunchy top virus	Banana bunchy top	Banana
Citrus tristeza virus	Citrus tristeza	Citrus
Pineapple wilt-associated virus	Pineapple mealybug wilt	Pineapple
Prunus necrotic ringspot virus	Almond bud failure	Pome fruit, roses
Tomato spotted wilt virus	Tomato spotted wilt	Pineapple, tomato
FUNGI		
Diplocarpon rosae	Black spot of roses	Roses
Elsinoe australis	Citrus scab	Citrus
Elsinoe fawcettii	Citrus scab	Citrus
Fusarium oxysporum fsp. *cubense* RACE 4	Panama disease	Banana

Guignardia citricarpa	Citrus black spot	Citrus
Hemileia vastatrix	Coffee rust	Coffee
Hemileia coffeicola	Grey coffee rust	Coffee
Monilia (Monilinia) fructicola	**Brown rot**	**Stone fruits, pome fruit**
Peronospora sparsa	Downy mildew	Pome fruit, roses
Phragmidium mucronatum	Rust disease	Pome fruit, roses
Pseudoperonospora cubensis	**Downy mildew**	**Cucurbits**
Synchytrium endoboticum	**Wart disease**	**Potato**
BACTERIA		
Agrobacterium tumefaciens biotype 1, 2 and 3	Crown gall	Pome fruit, stone fruit, grape
Clavibacter michigenensis **subsp. *michiganensis***	**Bacterial canker**	**Tomato**
Clavibacter michigenensis subsp. *sepodonicus*	Ring rot	Potato
Curtobacterium flaccumfaciens subsp. f*laccumfaciens*	Bacterial wilt	Bean
Dickeya chrysanthemi	Bacterial wilt	Many crops and ornamental plants
Gibberella circinata	**Pine pitch canker**	**Pine**
Liberibacter asiaticus, L. americanus	**Huanglongbing**	**Citrus**
Pseudomonas solanacearum	**Bacterial wilt**	
Race 2	Moko disease	Banana
Race 3	**Brown rot**	**Potato**
Pseudomonas syringae pv. *syringae*	Bacterial canker (stone and pome fruit)	Pome fruit, stone fruit, various
Pseudomonas syringae pv. *morsprunorum*	Bacterial canker of stone fruit	Stone fruit
Xanthomonas axonopodis pv.citri	Citrus bacterial canker	Citrus
Xanthomonas arboricola **pv. *pruni***	**Black spot of stone fruit**	**Stone fruit**
Xanthomonas ampelina	Bacterial blight of grape	grapes
NEMATODES		
Ditylenchus destructor	**Potato cyst nematode**	**Potato, gladioli tuber**
Globodera **spp.** (except *G. capensis*)	**Cyst nematodes**	**Potato**
Meloidogyne spp.	Root knot nematodes	Various

ANNEX 5. Inspection guidelines for quarantine pests.

R. Black, Natural Resources Institute, UK.

COMMODITY	SPECIFIC PEST/DAMAGE TO INSPECT FOR
Pome fruit	Fruit fly stings and larvae Codling moth stings and larvae Brown rot
Stone fruit	Fruit fly stings and larvae Codling moth stings and larvae Brown rot Skin spot
Citrus fruit	Fruit fly stings and larvae Whitefly Cercospora spot Bacterial canker
Table Grape	Fruit fly stings and larvae
Mango	Fruit fly stings and larvae Thrip
Pineapple	Mealy bugs
Vegetables, other	Pumpkin fly stings and larvae Any live insects
Ware potato	Soil Nematode pests Brown rot (by cutting) Wart disease
Seed potato	Soil Nematode pests Brown rot (by cutting) Wart disease

ANNEX 6. Identification and details of quarantine pests

See separate folder for illustrations and identification details of the main quarantine pests.

ANNEX 7. Sample Biosecurity St Helena forms

A. Import License
B. Notification of Interception of Quarantine Pests
C. Inspection Report Sheet
D. Certificate of Retention

ANNEX 8. Sample forms accompanying consignments

A. Phytosanitary certificate for fresh produce
B. Export Inspection Certificate
C. Fumigation certificate
D. Phytosanitary certificate for plant material from the UK.
E. Phytosanitary certificate for seed potato from South Africa
F. Inspection report on phytosanitary status of regulated articles for imports and exports (PQ-I)