agriculture, land reform & rural development
Department:
Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

PHYTOSANITARY IMPORT REQUIREMENTS FOR MANGO (*MANGIFERA INDICA*) FRESH FRUIT FROM NAMIBIA TO SOUTH AFRICA

1. Registration of production sites, packhouses and storage facilities

1.1. Mango (*Mangifera indica*) fresh fruit for export to South Africa shall originate from production sites, packhouses and storage facilities that are approved and registered annually by the National Plant Protection Organization (NPPO) of Namibia.

1.2. The list/database of the registered facilities that have been approved for export of mangoes to South Africa shall contain the following information:

1.2.1 Name and unique identification code of each production site, and the area in which the production site is situated.

1.2.3 Name and unique identification code of each pack house.

1.2.4 Name and unique identification code of each storage facility.

1.3. The list/database of the registered facilities that have been inspected, approved and registered by the NPPO of Namibia for the exportation of mangoes to South Africa shall be made available to the National Plant Protection Organization (NPPOZA) annually. The NPPO of Namibia shall send the list of registered facilities to the NPPOZA at least four weeks prior to the departure of the first consignment. The NPPOZA shall assess the list/database and the approved facilities will be published on the NPPOZA website.

1.4. The NPPO of Namibia shall ensure that mangoes for export to South Africa shall only originate from production sites, packing house and storage facilities which comply with these phytosanitary import requirements.

2. Pest free areas – *Bactrocera dorsalis*

2.1. The pest free status in respect to the fruit fly *B. dorsalis* in the mango producing area of Namibia shall be considered in accordance with the

guidelines outlined in ISPM 26: *Establishment of pest free areas for fruit flies (Tephritidae)* (FAO, 2015).

2.2. The area from which mangoes are sourced (produced, handled and packed) for export to South Africa under *B. dorsalis* pest free area requirements shall have a detection survey system to verify the absence of this pest; and a pest monitoring system to verify that freedom from this pest has been maintained. Summary data including number and location of traps, data on trap catches, shall be made available to the DALLRD upon request.

2.3. The NPPO of Namibia shall notify the NPPOZA within 4 business days when detections of *B. dorsalis* result in a change to the pest free areas.

2.4. The NPPO of Namibia shall work collaboratively with the NPPOZA to ensure that appropriate phytosanitary measures are implemented to mitigate the risk or that the pest free status is reinstated.

3. Post-harvest measures

3.1. Fruit shall be harvested in a hard condition with unbroken skin and that no fruit are harvested for export to South Africa showing evidence of premature ripening or yellowing.

3.2. Fruit destined for South Africa shall not be mixed with fruit destined for other markets in pack houses or storage facilities. Mangoes shall be appropriately inspected, packed, stored and transported.

3.3. Rejected fruit shall be removed from the packing area at the end of each day.

3.4. Post-harvest inspections shall be conducted according to the ISPM 31: *Methodologies for sampling consignments* (FAO, 2008). This should be able to identify with at least 95% reliability; a level of infection of 0.5% or above.

3.5. Should any quarantine pest of concern (as listed in Annex 1) be detected, the consignment shall be rejected for export to South Africa. Namibia will lose its pest free status and have to inform the NPPOZA immediately. The NPPOZA will then have to advise the NPPO of Namibia of the phytosanitary action(s) to be taken, which can include the possibility of the temporary suspension of all exports until such time as an acceptable mitigation measure is agreed upon for future use.

3.6. The fruit in the consignment is free from leaves, plant debris and soil.

3.7. Only mature and symptomless fruit shall be packed for export to South Africa.

3.8. The packing materials for mangoes destined for South Africa shall be new and clean cardboard boxes/cartons/bins.

3.9. All boxes or pallets shall be covered by insect proof netting or sheeting with holes not more than 1mm in diameter or length.

3.10. No packaging material of plant origin, including straw, shall be used.

3.11. Should wood packaging material be used, it shall comply with ISPM 15: *Regulation of wood packaging material in international trade* (FAO, 2009).

4. Marking requirements

4.1. Each carton (box) of mango fruit shall be marked in English with correct and accurate information.

5. Phytosanitary certification

5.1. An import permit is required in terms of the Agricultural Pests Act, 1983 (Act No. 36 of 1983) and associated Regulations R.111 of 27 January 1987 as amended.

5.2. Upon completion of sampling and inspection, a Phytosanitary Certificate shall be issued by the NPPO of Namibia prior to shipment. Entry of the consignment to South Africa shall be subject to the availability of the original Phytosanitary Certificate. A Phytosanitary Certificate shall only be issued for *M. indica* that meet these phytosanitary requirements.

5.3. Additional Declaration on the Phytosanitary Certificate:

5.3.1. The fruit has been produced and packed according to the *Bactrocera dorsalis* risk mitigation measures as prescribed in Addendum 1.

5.3.2. The fruit in this consignment comply with the phytosanitary import requirements for fresh mango fruit agreed between the National Plant Protection Organization of South Africa (hereinafter referred to as the NPPOZA) and the NPPO of Namibia, and is free from pest(s) listed in Addendum 2.

5.3.3. The fruit in this consignment originates from registered production site(s), packhouse(s), and storage facility(ies).

OR

5.3.4. The fruit in this consignment originates from area(s) of production, on the basis of the official annual surveys, *B. dorsalis* does not occur.

6. Phytosanitary inspection on arrival

6.1. Once a consignment of mangoes arrives at the designated port of entry, NPPOZA shall examine the relevant documents and markings.

6.2. Any consignment with certification that does not conform to specifications as set out in this phytosanitary import requirements shall be rejected.

6.3. Upon arrival of the consignment at the designated port of entry, a representative sample shall be drawn and inspected for quarantine pests and suspicious fruit shall be dissected to determine the status of infestation. Should pests or symptoms be found, the samples shall be sent for laboratory identification, and the consignment shall be detained pending the laboratory results.

6.4. If any pest(s) in Annex 1 are detected, Namibia will lose its pest free status. NPPOZA will immediately take the necessary corrective actions and notify the NPPO of Namibia. NPPOZA will advise the NPPO of Namibia of the action/s to be taken, which can include the possibility of the temporary suspension of all exports until such time as an acceptable mitigation measure is agreed upon before trade commences.

6.5. Should any potential quarantine pest that has not been categorized be detected on mangoes from Namibia, it shall require assessment to determine its quarantine status and whether phytosanitary action is required. The detection of any potential quarantine pest of concern not already identified in the analysis may result in a review of trade to ensure that phytosanitary measures provide the appropriate level of phytosanitary protection for South Africa.

6.6. The importer is responsible for all costs relating to disposal, removal or rerouting, including costs incurred by NPPOZA to monitor the action taken.

Annex 1: QUARANTINE PESTS OF CONCERN TO SOUTH AFRICA OCCURRING IN NAMIBIA

Insect:

Bactrocera dorsalis

ADDENDUM 1: RISK MITIGATION MEASURES FOR *MANGIFERA INDICA* FRESH FRUIT FROM NAMIBIA TO SOUTH AFRICA

The following pre- and post-harvest practices reflects the current system for risk management overseen by the NPPO of Namibia, employed by producers of *M. indica* to be imported to South Africa:

TABLE 1. OVERVIEW OF THE SYSTEM FOR THE COMMERCIAL PRODUCTION AND EXPORT OF *M. INDICA* FRESH FRUIT FROM NAMIBIA TO SOUTH AFRICA

ACTIVITIES	OUTCOMES
Pre-Harvest • In-field pest control activities • Good Agricultural Practice (GAP) e.g. cultural controls such as removal of weeds acting as pest reservoirs; pesticide application records; traceability system. • *B. dorsalis* control programme including a) seven day cycle field/orchard sanitation infestations b) application of insecticidal protein bait throughout the production cycle or Bait application technique (BAT) c) male annihilation throughout the production season with the placement of *B. dorsalis* respondent insecticidal male lures or the male annihilation technique (MAT)	• Reduced pre-harvest pest prevalence. • Reduced pre-harvest pest prevalence. • Reduced pest prevalence indicated by continuous monitoring of *B. dorsalis* to Male trap catch flies per trap per day value that is greater than 1 at any time during the production cycle may result in the suspension of the export program and the implementation of corrective measures.
Post-Harvest • Phytosanitary inspection	• Inspection of fruit and removal of external arthropod pests or infested/infected fruit or punctured/cracked fruit.
Regulatory/Official	• Certification by the

• Phytosanitary inspection and certification of consignments • Post-inspection product security	NPPO of Namibia that consignments are free from regulated pests. • Prevention of post-treatment infestation of consignments by regulated pests e.g. pest-proof packaging.
• NPPOZA inspection of documentation and consignment on arrival in South Africa • Non-conformance contingencies	• Verification that the phytosanitary import requirements has been met. • Treat/re-ship/destroy non-conforming consignment.
• Pathway monitoring	• Assurance that phytosanitary import requirements are being met.
• Packing, labelling and storage compliance	• Traceability and pest contamination

PRE-HARVEST ACTIVITIES

a) In-field pest control practices

- Namibian Mango growers shall utilize pest control measures to reduce pre-harvest pest prevalence in commercially produced mangoes for export to other countries.
- These measures include a *B. dorsalis* control programme, and compliance with Good Agricultural Practice (GAP) as outlined below.

b) Good Agricultural Practice (GAP)

- The GlobalGAP standard for mango production requires training programmes for farmers and provincial government representative's safe use of agrichemicals, on-farm recording of fertilizer applications and crop protection products, inventory, sales, keeping receipts of input purchases and sales record-keeping, and safe fruit handling.

- The cultural control practices to be undertaken such as removal/suppression of weeds and fallen fruit, which act as reservoirs for pests.

- GAP is not a phytosanitary requirement but is advantageous for record keeping, particularly with respect to crop protection practices. GAP is also important for defining harvesting and post-harvest handling activities, traceability and recall throughout the export chain.

c) *B. dorsalis* control programme

- A specific programme shall be in place for *B. dorsalis* in Namibia.
- The programme should include surveillance to detect and determine species composition, and infestation rates.
- The programme shall be maintained by the NPPO of Namibia throughout the year in mango production sites.
- The surveillance programme shall incorporate trapping using cue lure and methyl eugenol, mango orchard surveys, periodic random and targeted cutting of fruit collected from orchards and local markets.
- A protein bait spray and insecticide shall be applied in the orchard for *B. dorsalis* control (Table 1).

POST-HARVEST ACTIVITIES

a) Pre-treatment procedures

Harvested mangoes shall be:

- Covered with insect proof material to prevent re-infestation by arthropods during transit to primary pack houses or directly to packing facilities;
- Leaves and stems are removed from the fruit;
- Damaged/infested/infected fruit is removed;

The above activities provide opportunity for operator inspection of fruit. Removal of damaged fruit can reduce the incidence of storage rots in fruit.

1. RISK MANAGEMENT MEASURES AND PHYTOSANITARY PROCEDURES (Table 1)

1.1. Management damaged fruits/ infested fruit by external feeders

- Fruit with punctures/cracks or fruit damaged by external or surface-feeding arthropods shall not be packed for export to South Africa.

1.2. Management of *B. dorsalis*:

- The production site control program for *B. dorsalis* shall include an Integrated Pest Management (IPM) program using appropriate, effective and compatible measures at critical stages of development of the pest and crop.
- Population monitoring shall be based on production site inspections and forecasts of infestations.
- Information pertaining to production site control program for *B. dorsalis* shall be made available to NPPOZA on request (Table 1).

1.3. Supporting operational maintenance systems and verification of phytosanitary status

- A system of operational procedures shall be in place to ensure that the phytosanitary status of mangoes from Namibia is maintained and verified during the process of production and export to South Africa.

- The proposed system of operational maintenance for the production and export of mangoes from Namibia to South Africa consists of:

✓ pre-export inspection by the NPPO of Namibia;

✓ packaging and labelling compliance;

✓ phytosanitary certification by NPPO of Namibia;

✓ specific conditions for storage and movement; and

✓ on-arrival quarantine inspection by NPPOZA in South Africa.

A. Pre-export inspection and remedial action by the NPPO of Namibia

- ✓ The NPPO of Namibia shall inspect all consignments in accordance with official procedures for all quarantine pests using sampling procedures developed by NPPOZA as outlined.
- ✓ If actionable pests as listed are found during these inspections, then remedial action shall be taken.
- ✓ Records of the interceptions made during these inspections (live or dead quarantine pests) shall be maintained by the NPPO of Namibia and made available to NPPOZA if requested.
- ✓ If *B. dorsalis* is detected, the consignment shall be rejected for export to South Africa.

B. Packing and labelling

- ✓ All packages of mangoes for export shall be free from contaminated plant materials including soil, splinters, twigs, leaves and other plant materials.
- ✓ Inspected and treated mangoes shall be packed in new boxes.
- ✓ No unprocessed packing material of plant origin, such as straw, shall be allowed.
- ✓ All wood material used in packaging of mangoes shall comply with ISPM 15.
- ✓ All boxes shall be labelled with the name of production site and name pack house for the purposes of trace back if necessary.

C. Phytosanitary certification by the NPPO of Namibia

- ✓ Before a phytosanitary certificate is issued, the NPPO of Namibia shall conduct phytosanitary inspection to ensure that the number of packaged fruit is consistent with the number of disinfested fruits, traceability labelling is complete, packaging is insect-proof, the fruit is free from regulated pests and that all other importing country requirements have been met.
- ✓ The NPPO of Namibia shall issue a Phytosanitary Certificate for each consignment upon completion of pre-export phytosanitary inspection.
- ✓ Each Phytosanitary Certificate is to contain the following information:

Distinguishing marks

- ✓ The names of production site and pack house, together with the number of boxes per consignment. This is to ensure trace back to the production site in the event that this is necessary.

D. Specific conditions for storage and movement

- ✓ Packed product and packaging shall be protected from pest contamination during and after packing, during storage and during movement between locations (e.g. pack house to cool storage/depot, to inspection point, to export point).

- ✓ Mangoes for export to South Africa shall be inspected and certified by the NPPO of Namibia, and shall be maintained in secure conditions to prevent mixing with mangoes for export to other destinations or the domestic market and kept in secure storage until export.

E. On-arrival quarantine inspection and remedial action, and clearance by NPPOZA in South Africa

- ✓ On arrival in South Africa, each consignment shall be inspected by NPPOZA.
- ✓ Mangoes from each consignment shall be randomly sampled for inspection. Such sampling methodology will provide for a 95% confidence level of detecting packing units with infested mangoes if the infestation rate is 2% or higher.
- ✓ If actionable quarantine pests are found during these inspections, then remedial action shall be taken.
- ✓ Where consignments are found to be non-compliant with requirements on-arrival, the importer shall be given the option to treat (if suitable treatments for the pests detected can be applied), re-export or destroy the consignment.

ADDENDUM 2: NATIONAL QUARANTINE PESTS LIST FOR *MANGIFERA INDICA* FRUIT FOR SOUTH AFRICA

PATHOGENS

Fungi:
Actinodochium jenkinsii
Aspergillus stellifer
Cytosphaera mangiferae
Elsinoë mangiferae
Macrophoma mangiferae
Phomopsis mangiferae
Phyllosticta mortoni
Phytophthora heveae

ARTHROPODS

Mites:
Oligonychus punicae

Insects:
Anastrepha bistrigata
Anastrepha chiclayae
Anastrepha distincta
Anastrepha fraterculus
Anastrepha ludens
Anastrepha obliqua
Anastrepha pickeli
Anastrepha pseudoparallela
Anastrepha serpentina
Anastrepha sororcula
Anastrepha striata
Anastrepha suspensa
Anastrepha turpiniae
Anastrepha zuelaniae
Aonidiella inornata
Bactrocera aquilonis
Bactrocera carambolae
Bactrocera correcta
Bactrocera curvipennis
Bactrocera diversa
Bactrocera dorsalis

Bactrocera dorsalis complex
Bactrocera facialis
Bactrocera frauenfeldi
Bactrocera jarvisi
Bactrocera kirki
Bactrocera melanotus
Bactrocera neohumeralis
Bactrocera passiflorae
Bactrocera psidii
Bactrocera tau
Bactrocera tryoni
Bactrocera tuberculata
Bactrocera zonata
Ceratitis anonae
Ceratitis catoirii
Ceratitis fasciventris
Ceratitis silvestrii
Ceroplastes actiniformis
Ceroplastes floridensis
Ceroplastes japonicus
Ceroplastes sinensis
Deanolis albizonalis
Insulaspis pallidula
Kilifia acuminata
Lepidosaphes euryae
Lepidosaphes laterochitinosa
Maconellicoccus hirsutus
Neosilba zadolicha
Paracoccus interceptus
Paracoccus marginatus
Paraputo corbetti
Parlatoria crypta
Parlatoria oleae
Phenacoccus gossypii
Phenacoccus madeirensis
Phenacoccus parvus
Pinnaspis tuberculata
Planococcoides njalensis
Planococcus lilacinus
Planococcus minor
Pseudococcus cryptus
Pseudococcus gilbertensis
Pseudococcus jackbeardsleyi
Pseudococcus occiduus
Pseudococcus solenedyos
Pyroderces centrophanes

Rastrococcus iceryoides
Rastrococcus invadens
Rastrococcus spinosus
Rhipiphorothrips cruentatus
Scirtothrips dorsalis
Selenaspidus malzyi
Sternochetus frigidus
Sternochetus olivieri
Thrips hawaiiensis
Thrips palmi
Tmolus echion
Unaspis acuminata
Unaspis citri
Unaspis rousseti
Zeugodacus cucurbitae