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COLEACP GUIDELINES

THE EXPORT OF FRESH MANGO



**NEW PLANT HEALTH RULES
FROM THE EUROPEAN UNION**



COLEACP

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PART 1

Background and guidelines on meeting EU requirements covering regulated fruit flies (*Tephritidae*) on mango



1. BACKGROUND

The European Union is overhauling its plant health (phytosanitary) regulations. On 14th December 2019, a new plant health regulation (EU 2016/2031) came into operation bringing rigorous new rules to prevent the introduction and spread of harmful pests and diseases in the EU.

Under the new regime, special measures have been introduced for crops that are a known pathway into the EU of serious pests that could damage EU agriculture or the environment. These include new requirements covering the export of mango to prevent the introduction of fruit fly (*Tephritidae*).

The new rules stipulate certain conditions that exporting countries must meet before exports of mango are allowed. Some of these conditions refer to International Standards for Phytosanitary Measures (ISPMs) and exporting countries must refer to the relevant ISPMs in order to fully understand and comply with the EU regulatory requirements.

National action plans and stakeholder engagement

Meeting these new rules requires immediate and concerted action from producers, exporters and the National Plant Protection Organisations. There is no room for complacency by any mango exporting country. If there are continued interceptions of fruit fly in exported mango, the EU is expected to react and impose more stringent measures.

Experience has shown that meeting the new EU rules requires effective dialogue and engagement between public and private sectors. All stakeholders must agree on the actions needed to ensure that exported mango is free of fruit fly. This means identifying and agreeing on actions to be taken by private sector operators at all stages, from production to export. It also means agreeing to the responsibilities of the public sector authorities, in particular the National Plant Protection Organisation (NPPO).

COLEACP recommends the establishment of committees or task forces that bring all major stakeholders around the table to develop (and oversee the implementation) of a national mango action plan. To be effective, this national action plan must be appropriate to the local context, and usable by the range of different producers and exporters concerned (large and small). It is essential that all stakeholders agree to and implement the national action plan; if only one exporter sends infested mango to the EU, this could bring down the entire export sector.

COLEACP Support

This document was prepared by COLEACP for national authorities and mango export sectors to help orientate the development of a national action plan and dossier to meet the new rules. It provides a framework to guide the process, and outlines the various elements that can be incorporated into a national approach to manage fruit fly. It identifies the possible information to be provided, and actions to be taken, at all stages from production to export, by both public and private sectors. References and links to the relevant ISPMs are provided.

2. REGULATORY CHANGES AFFECTING MANGO EXPORTS TO THE EUROPEAN UNION

In recent years there have been consistently high numbers of interceptions in Europe of imported mango due to the presence of fruit fly. As a result, a new EU Directive entered into force on 1 September 2019, placing additional requirements on all countries that export mango to the EU. These new requirements were further clarified in [Implementing Regulation \(EU\) 2019/2072](#)¹, which came into force in December 2019.

Some species and genera of fruit flies were already designated as EU quarantine pests. However, due to the lack of methods to identify many fruit flies at species level, the EU has taken a pragmatic approach. It has listed several entire genera as EU quarantine pests so that protective measures can be taken against them until potential identification methods are developed. This means that the entry into the EU of a [wide range of fruit fly species](#) belonging to the *Tephritidae* group is prohibited (point 5 of Commission Implementing Regulation [\(EU\) 2021/2285](#), published on 14th December 2021). This new regulation has applied since [11 April 2022](#).

According to Annex VII, Point 61 of Regulation (EU 2019/2072), all mango exported to the EU must conform with one of the following special requirements:

- a. fruits originate in a country recognised as free from *Tephritidae* as referred to in Point 77 of Table 3, Part A of Annex II, to which those fruits are known to be susceptible, in accordance with the relevant International Standards for Phytosanitary Measures (ISPM 4 – see chapter 4), provided that this freedom status has been communicated in advance in writing to the Commission by the national plant protection organisation of the third country concerned,

or
- b. fruits originate in an area established by the national plant protection organisation in the country of origin as being free from *Tephritidae* as referred to in Point 77 of Table 3, Part A of Annex II, to which those fruits are known to be susceptible, in accordance with the relevant International Standards for Phytosanitary Measures, which is mentioned on the phytosanitary certificate, and this freedom status has been communicated in advance in writing to the Commission by the national plant protection organisation of the third country concerned,

or
- c. no signs of *Tephritidae* as referred to in Point 77 of Table 3, Part A of Annex II, to which those fruits are known to be susceptible, have been observed at the place of production and in its immediate vicinity since the beginning of the last complete cycle of vegetation, on official inspections carried out at least monthly during the three months prior to harvesting, and none of

1 Commission Implementing Regulation (EU) 2019/2072 of 28 November 2019 establishing uniform conditions for the implementation of Regulation (EU) 2016/2031 of the European Parliament and the Council, as regards protective measures against pestsof plants

the fruits harvested at the place of production has shown, in appropriate official examinations, signs of the relevant pest (ISPM 10; see Chapter 4) and information on traceability is included in the phytosanitary certificate,

or

- d. they have been subjected to an effective systems approach or an effective post-harvest treatment to ensure freedom from *Tephritidae* as referred to in Point 77 of Table 3, Part A of Annex II, to which those fruits are known to be susceptible, and the use of a systems approach or details of the treatment method are indicated on the phytosanitary certificate, provided that the systems approach or the post-harvest treatment method has been communicated in advance in writing to the Commission by the national plant protection organisation of the third country concerned.

In practical terms, Option (d) is the most accessible to the ACP mango sector, especially in supply chains involving smallholders. The first two require pest-free countries or areas, which are challenging because of the widespread distribution of fruit fly in mango producing countries.

Option (c) requires a place of production designated as free from fruit fly. This could be attempted where pest pressure is low, but resources are needed to ensure areas of low pest prevalence in the locality, and the place of production must be designated as pest-free through a series of inspections by the NPPO, conducted strictly according to procedures specified in ISPM 10. These options are not described in detail in this document, but general information is provided in Chapter 4 “Pest Free status”.

Other Quarantine Pests

Under national plant health legislation, a number of plant pests and diseases are classified as quarantine organisms. These are pests that are mainly or entirely absent from a country, but which could have a potentially serious economic, environmental or social impact if they were to be introduced. Most countries have a quarantine list that identifies the most dangerous harmful organisms whose introduction must be prohibited.

The new EU Plant Health Law ((EU) 2016/2031) classifies all plant pests according to the following four categories:

- Union quarantine pests: Not present at all in the EU territory or, if present, just locally and under official control. Strict measures must be taken to prevent their entry or further spread within the EU. Union Quarantine Pests are listed in Implementing Regulation (EU) 2019/2072.
- Protected zone quarantine pests: Present in most parts of the Union, but still known to be absent in certain ‘protected zones’. These pests are not allowed to enter and spread within these protected zones.
- Regulated non-quarantine pests: Widely present in the EU territory but since they have an important impact should be guaranteed free or almost free from the pest.
- Priority Pests: Those with the most severe impact on the economy, environment and/or society. The EU Commission released a list of 20

priority pests in October 2019 (Regulation EU 2019/1702).

All flies of the *Tephritidae* group are now considered as quarantine pests. Some species and genera of fruit flies, such as *Bactrocera dorsalis*, *B. cockerelli*, *B. zonata*, *Rhagoletis pomonella* and *Anastrepha ludens*, have been designated as priority pests and are therefore subject to the very strict measures described in this document.

It is important to note that this document is not exhaustive. There are other Quarantine Pests that concern mango, whose introduction into the EU is banned .

For example, *Helicoverpa armigera*; larvae of this pest feed on a wide range of plants, including many important cultivated crops. Export consignments of any crop, including mango, that are found to contain *H. armigera* will be intercepted and detained at EU bordercontrols. **It is therefore essential to monitor and avoid the presence of all harmful organisms in export crops.**



3. COMPLETING THE PHYTOSANITARY CERTIFICATE

All plants and plant products imported into the EU from non-EU countries are subject to compulsory plant health checks. These include:

- a review of the phytosanitary certificate and associated documents to ensure that the consignment meets EU requirements;
- an identity check to make sure that the consignment corresponds with the certificate,
- an inspection of the produce to ensure that it is free from harmful organisms.

According to Regulation (EU) 2019/2072, mango exported to the EU must be accompanied by a phytosanitary certificate and there are strict requirements on how this should be filled.

It is critically important to complete the certificate correctly as there is a low tolerance of mistakes by European importing countries. Consignments entering Europe can be rejected and destroyed if the phytosanitary certificate is filled incorrectly.

The European Commission has provided clear advice on what information must be given in the Additional Declaration section of the phytosanitary certificate, and the wording that must be used. The guidance below from COLEACP is based on this advice from the Commission.

Occasionally operators experience challenges at EU border controls due to the wording of the Additional Declaration. If they have followed closely the guidance from COLEACP, they should refer the border control agents to the following website that explains the wording agreement from the EC: https://ec.europa.eu/food/sites/food/files/plant/docs/sc_plant-health_20200123_sum.pdf (Point 2, pages 7 and 8).

According to [ISPM 12](#), if the space provided in the phytosanitary certificate is not sufficient to insert all the necessary information (e.g. in the additional declaration), it is permitted to add an attachment. If you do so, it is very important to adhere to the following:

- Each page of any attachment must bear the number of the phytosanitary certificate and be dated, signed and stamped in the same manner as required for the phytosanitary certificate itself.
- You must state in the relevant section of the phytosanitary certificate if there is an attachment.
- If an attachment has more than one page, the pages must be numbered, and the number of pages indicated on the phytosanitary certificate.

Option (c)

If exporting countries are using Option (c) for a pest free production site, it is essential to include the following words in the phytosanitary certificate:

- In the **Additional Declaration** write: “The consignment complies with Option (c) of Annex VII, Point 61 of Implementing Regulation (EU 2019/2072): *no signs of *Tephritidae* as referred to in Point 77 of Table 3, Part A of Annex II, to which those fruits are known to be susceptible, have been observed at the place of production and in its immediate vicinity since the beginning of the last complete cycle of vegetation, on official inspections carried out at least monthly during the three months prior to harvesting, and*

none of the fruits harvested at the place of production has shown, in appropriate official examinations, signs of the relevant pest and information on traceability is included in the phytosanitary certificate”

- **Information on traceability** must be provided: In the phytosanitary certificate, alongside the description of the product, you must write the unique identification number or name of the approved production site from which the produce was sourced.

Option (d)

If exporting countries are using Option (d) **linked to systems approach**, a dossier must be submitted in advance to the European Commission (Part 2 of this document). Once this submission has been accepted by the Commission, exports can take place, but it is essential to include the following words in the phytosanitary certificate:

- in the Treatment Box/section write: “Systems approach”.
- in the Additional Declaration write: “The consignment complies with option (d) of Annex VII, point 61 of Implementing Regulation (EU 2019/2072): **fruits have been subjected to an effective systems approach to ensure freedom from *Tephritidae* as referred to in Point 77 of Table 3, Part A of Annex II, to which those fruits are known to be susceptible, and the use of a systems approach is indicated on the phytosanitary certificate, provided that the systems approach has been communicated in advance in writing to the Commission by the national plant protection organisation of the third country concerned.**”



4. PEST FREE STATUS

International standards for phytosanitary measures (ISPMs) describe what needs to be done in order for an area, country, place of production or production site to be officially recognised as pest free. In each case the process must be led by the officially designated NPPO in each country, and it must follow closely the methodology outlined.

Establishing pest free area (PFA) status requires data to be collected so that the presence or absence of the pest can be verified. Establishing pest free status needs to follow strictly the guidelines described in the relevant ISPM, and requires the NPPO (and their designated agents) to have the necessary training, resources and capabilities in data collection and pest risk analysis.

Pest free areas and countries

Pest free area or country status is difficult to obtain in the case of fruit fly on mango as these pests are highly mobile and widely dispersed. This option would only be worth pursuing in areas that are geographically distinct or isolated from the main areas of pest distribution. Establishing and maintaining an area of low pest prevalence may be a possibility (where the capacity and resources are available nationally) and can be part of the systems approach.

Pest or disease free area:	An area in which a specific pest or disease does not occur. This can be an entire country; an un-infested part of a country in which a limited area is infested; or an un-infested part of a country within a generally infested area.
An area of low pest or disease prevalence:	An area, whether all of a country, part of a country, or all or parts of several countries (as identified by the competent authorities) in which a specific pest or disease occurs at low levels and is subject to effective surveillance, control or eradication measures.

There are three main stages to establish and maintain a PFA:

- systems to establish freedom;
- phytosanitary measures to maintain freedom;
- checks to verify freedom has been maintained.

The work needed in each case varies according to factors such as the biology of the pest, the characteristics of the PFA, and the level of phytosanitary security required.

The work involved in establishing and maintaining pest free area/country status is detailed and time consuming and involves:

- data collection (pest surveys for delimiting, detection, monitoring);

- regulatory controls (protective measures against the introduction into the country; including listing as a quarantine pest);
- audits (reviews and evaluation);
- documentation (reports, work plans).

The following documents and guides from IPPC/FAO provide further information:

- [ISPM 4](#) on requirements for establishing pest free areas;
- [Guide for Establishing and Maintaining Pest Free Areas](#) on requirements for pest free areas, pest free places of production, pest free production sites and areas of low pest prevalence;
- [ISPM 6](#) (Guidelines for surveillance) and [ISPM 2](#) (Framework for pest risk analysis) provide further details on general surveillance and specific survey requirements.

Pest free place of production and production site

Pest free place of production: Place of production in which a pest is absent (demonstrated by scientific evidence) and generally maintained officially pest free for a defined period.

A place of production is “any premises or collection of fields operated as a single production or farming unit”.

Pest free production site: Place of production in which a pest is absent (demonstrated by scientific evidence) and generally maintained officially pest free for a defined period.

A production site is “a defined part of a place of production, that is managed as a separate unit for phytosanitary purposes”.

A place of production can only be designated as pest free by the NPPO.

The NPPO and producers/exporters are required to conduct surveillance and inspections according to the international guidelines. The following documents and guides from IPPC/FAO provide further information:

- [ISPM 10](#) for the establishment of pest free places of production and pest free production sites.
- [Guide for Establishing and Maintaining Pest Free Areas](#) on requirements for pest free areas, pest free places of production, pest free production sites and areas of low pest prevalence.

PART 2

Guideline for preparing a dossier for submission to the EU on management of fruit fly (*Tephritidae*) on mango

Using a systems approach according to Option (d) of Annex VII, Point 61 of Implementing Regulation (EC) 2019/2072



BACKGROUND TO THE DOSSIER

As noted in Part 1, a new Implementing Regulation 2019/2072 came into force on 14th December 2019 bringing in more stringent phytosanitary requirements concerning fruit fly on mango. According to this Regulation, mango exported to the EU must conform with one of four options.

Part 2 of this document addresses the development of a dossier to meet Option (d) of Point

61 in Annex VII of the Implementing Regulation. This stipulates that the mangos:

- d. have been subjected to an effective systems approach or an effective post-harvest treatment to ensure freedom from Tephritidae (non-European), to which those fruits are known to be susceptible, and the use of a systems approach or details of the treatment method are indicated on the phytosanitary certificate referred to in Article 71 of Regulation (EU) No 2016/2031, provided that the systems approach or treatment method have been communicated in advance in writing to the Commission by the national plant protection organisation of the third country concerned.

According to the Regulation, to meet the requirements of Option (d), the NPPO in each country concerned must submit a dossier to the European Commission. This must describe in detail the “effective treatment” that will be applied to all mango exports to ensure they are free from fruit fly. From 14th December 2019, no exports will be permitted from a country unless and until a dossier has been received. This “effective treatment” must be applied by everyone involved in mango exports to the EU.

There is currently no single treatment available in Africa for post-harvest control of fruit fly on fresh mango that will guarantee it is pest free. Instead, the new EU Regulation allows for the use of a systems approach. This means developing an action plan that combines several different pest management measures that, used together, will significantly reduce pest risk (ISPM 14²). These measures include surveillance, cultural practices, crop treatment, post-harvest disinfestation, inspection, and others.

In their dossier, the exporting country must provide sufficient information to the EU to enable the evaluation and approval of the proposed systems approach to managing fruit fly.

Once the dossier is submitted, its receipt by the European authorities should be checked using the following link: [Declarations on pest status from non-EU countries](#) (PDF files attached to each country show the status of their pest dossiers and declarations).

Introduction to this Guide

This document was prepared by COLEACP as a guide for national authorities and

² ISPM 14: “The use of integrated measures in a systems approach for pest risk management”.
<http://www.fao.org/3/a-y4221e.pdf>

mango sectors to help orientate the development of a dossier in the context of Regulation 2019/2072. It provides a framework to guide the process and outlines the various elements that can be incorporated into a systems approach to manage fruit fly. It identifies the information to be provided, and actions to be taken, at all stages from production to export, by both public and private sectors.

Note that the elements included here are not exhaustive. The mango dossier could include all or a selection of these measures, as well as any others that may be available and appropriate locally.

This guide covers the following sections that should be included in the dossier:

- general information on the national mango sector;
- phytosanitary measures taken before, during and after harvest to reduce and control fruit fly;
- phytosanitary inspection and certification system;
- quality management system put in place by the NPPO to ensure that the mango – fruit fly dossier is effectively implemented and monitored.

According to ISPM 14, the characteristics of a systems approach are as follows:

- A systems approach requires two or more measures that are independent of each other, and may include any number of measures. An advantage of the systems approach is the ability to address (local) variability and uncertainty by modifying the number and strength of measures (needed) to meet phytosanitary import requirements.
- Measures used in a systems approach may be applied pre- and/or post-harvest wherever national plant protection organizations (NPPOs) have the ability to oversee and ensure compliance with phytosanitary procedures.
- A systems approach may include measures applied in the place of production, during the post-harvest period, at the packing house, or during shipment and distribution of the commodity.
- Risk management measures designed to prevent contamination or re-infestation are generally included (e.g. maintaining the integrity of lots, pest-proof packaging, screening of packing areas, etc.).
- Procedures such as pest surveillance, trapping and sampling can also be components of a systems approach.
- Measures that do not kill pests or reduce their prevalence but reduce their potential for entry or establishment (safeguards) can be included in a systems approach. Examples include designated harvest or shipping periods, restrictions on the maturity, colour, hardness, or other condition of the commodity, the use of resistant hosts, and limited distribution or restricted use at the destination.

Effective engagement between stakeholders

Experience has shown that engagement between public and private sector stakeholders is essential during development of the dossier to ensure that it is adapted to the local context, and to secure the buy-in of all involved. After a dossier has been submitted to the European Commission, it must be rigorously followed by all stakeholders in that country involved in mango exports to the EU. It is very important therefore that the dossier is appropriate for the context, and is usable by the range of different producers and exporters concerned (large and small).

Useful tool to help implement a systems approach

The [Decision Support for Systems Approach \(DSSA\)](#) tool has been developed to allow users in importing or exporting countries to identify potential options for pest risk management that could help with the formulation of pest risk management plans. The DSSA facilitates the evaluation and development of a systems approach to pest risk management, as defined in ISPM 14.



SECTION 1. EXECUTIVE SUMMARY OF THE DOSSIER

It is recommended that the dossier should begin with a general statement. This will help the European Authorities to understand the approach taken. This statement may be along the following lines:

A systems approach has been developed to guide mango producers so that they can integrate a combination of measures that together help to manage the risk of fruit fly and ensure that fruits exported to the European Union are free from this regulated pest.

Risk management of fruit fly is maintained throughout the mango supply chain from production, harvesting, handling, packaging, phytosanitary inspections, certification and transportation through to export. This is achieved through the application of a series of measures and interventions in a systems approach that includes the following components (list whichever are relevant for the national dossier):

- registration of plantations and packhouses;
- risk profiling of operators;
- fruit fly surveillance in production areas using traps, scouting and record keeping to monitor infestation levels;
- application of cultural control and strict crop hygiene at all mango production sites;
- implementation of pre-harvest control measures, guided by surveillance data;
- post-harvest inspections for fruit fly infestation, on delivery at the packhouse;
- establishment of biosecurity measures to minimise introduction of fruit fly into mango packaging and handling areas;
- packhouse grading of mango for export;
- effective functioning of the national administrative and regulatory framework;
- phytosanitary inspections by the NPPO during production, harvesting, and at port and/or airport of exit;
- issuance of phytosanitary certificates for pest free mango consignments;
- application of an internal audit system by the NPPO to ensure the effective implementation of the plant health inspection and certification system.

SECTION 2. GENERAL OVERVIEW OF THE NATIONAL MANGO EXPORT SECTOR

According to ISPM 14, the following information is important for the evaluation of pest risk:

- the crop, place of production, expected volume and frequency of shipments;
- production, harvesting, packaging/handling and transportation;
- the crop/pest dynamics;
- plant health risk management measures that will be included in the systems approach, and relevant data on their efficacy;
- relevant references.

Background information on the mango sector may include the following information:

- Crop details. Mango varieties grown for export:
 - scientific name;
 - common name;
 - characteristics of each variety;
 - sensitivity or resistance to fruit fly.

Production Zones

- describe and map the main production zones of mango for export;
- describe the production seasons (timeframe), by zone;
- describe the climate in each production zone, assessed according to risk of fruit fly infestation.

Production and Export statistics for the last 2 to 3 years, specifying if possible:

- destination country;
- method of shipment (sea, air, land).

Presence and distribution of fruit fly in the country:

- species present, prevalence, period of infestation;
- other host plants in mango production areas.

SECTION 3. INTEGRATED PRE-HARVEST AND POST- HARVEST MEASURES FOR THE PREVENTION AND CONTROL OF FRUIT FLY

According to ISPM 14, the following pre- and post-harvest measures may be integrated into a systems approach:

- surveillance and monitoring (traps);
- treatment, including the use of plant protection products;
- post-harvest disinfestation;
- inspection;
- others.

An effective systems approach will reduce the risk of any mangoes exported to the EU being infested with fruit flies.

The measures described below are general recommended good practices for mango production. During development of the dossier, stakeholders should agree and select which of these measures are appropriate locally, and describe how they will be adapted/ applied by all those involved in mango exports.

1. Measures at plantation level to monitor and control fruit fly

Pre-harvest, growers producing mango for export to the EU should:

- i. Apply cultural control of fruit fly. Good plantation management and crop hygiene are critical. For example, all fruits and fruit waste should be collected and buried, or otherwise disposed of; they should never be left to rot in the open field.
- ii. Conduct surveillance and monitoring. Traps should be used by individual companies, as well as national surveillance programmes, to monitor fruit fly presence.
 - The national authorities should be able to specify the type of trap and attractant to use under local conditions (according to availability and effectiveness), as well as the frequency of collection.
 - The authorities should agree with industry the thresholds of intervention. For example, what number of trapped fruit flies will trigger a decision to spray, or to stop harvesting for export.
 - [FAO/IAEA](#) give guidelines on the most widely used trapping systems,

including traps and attractants, trapping applications, as well as procedures for assessment of trap layouts and trap densities, based on pest risk, data recording and analysis.

- iii. Control fruit fly using plant protection products. The national authorities should be able to provide guidance on which products to use, and how to use them (including application method, dose rate, pre-harvest interval). These must be in accordance with the registration status in the country of origin, and the maximum residue level (MRL) of the active ingredient in the EU.
- iv. Be trained. Growers and workers should be trained (and updated) in good practice relating to the identification, prevention, surveillance, and control of fruit fly.

During harvest, growers producing mango for export to the EU should:

- i. monitor closely the maturity/ripeness of the fruit as this is closely linked to the risk of fruit fly infestation and attack;
- ii. use strict crop hygiene measures at the harvest site, with collection and disposal of all mango waste;
- iii. during harvest, ensure that procedures are in place for sorting, isolating and disposing of all damaged fruit and safeguarding activities to prevent infestation at harvest;
- iv. ensure that handling and transport conditions are managed carefully to reduce the risk of fruit flies gaining access to harvested fruit;
- v. operate a traceability system that allows for the identification of plantations, and strict separation of harvest lots;
- vi. ensure that all people involved in harvesting are trained so that they are aware of and apply good practices to reduce the risk of fruit fly damage; this includes good practice for prevention, control, crop hygiene, and traceability.

2. Measures at the packhouse level to prevent the introduction, infestation and spread of fruit fly

On receiving the fruit, packhouse managers must:

- i. have procedures in place to record the condition and phytosanitary status (pest presence) of the mango when it arrives at the packhouse;
- ii. have a system in place to record all fruit fly control treatments applied pre- and post-harvest to each lot;
- iii. have a traceability system in place to ensure that each lot is identified and maintained separately through all post-harvest operations.

Measures post-harvest to monitor and control fruit fly

- i. ensure that all operators involved in harvest and post-harvest activities can recognise fruit fly damage and know what to do when they find it;
- ii. have procedures in place in the field and packhouse to inspect for fruit fly presence and damage at **all** mango handling, packing and storage sites;
- iii. put intervention and isolation procedures in place when fruit fly damage is identified;
- iv. have systems for washing, drying, and waxing harvested fruit;
- v. ensure practices and facilities are in place for the management of all mango waste, including fruit-fly damaged mango;
- vi. use refrigerated storage facilities where possible;
- vii. apply post-harvest treatments when necessary using plant protection products;
- viii. as in the case of field applications, the national authorities should be able to provide guidance on which products to use, and how to use them (application method, dose rate);
- ix. these must be in accordance with the registration status in the country of origin, and the maximum residue level (MRL) of the active ingredient in the EU;
- x. ensure that harvested fruit is never exposed to fruit fly attack during packing, storage (including temporary storage), or transport (road, port or airport). This includes physical screening of transported consignments and packing areas to prevent the entry of fruit fly. Use of pest-proof packaging is also an option;
- xi. train all people involved in post-harvest handling so they are aware of and apply good practice at all times to reduce the risk of fruit fly damage.

SECTION 4. INSPECTION AND CERTIFICATION SYSTEM

According to ISPM 14, the exporting country authorities are responsible for:

- monitoring, auditing and reporting on the effectiveness of the system;
- taking appropriate corrective measures;
- keeping the relevant documentation up to date;
- use of phytosanitary certificates in accordance with requirements.

The measures in the Fruit Fly-Systems Approach should be implemented in accordance with the approved procedures and should be monitored by the NPPO of the exporting country to ensure the system achieves its objectives.

The measures described below are general recommendations outlining the administrative and regulatory framework that needs to be in place, with an emphasis on the official control system and its enforcement by the competent authorities. The NPPO and associated stakeholders must select which of these measures will be included in the dossier, and describe how they will be adapted/applied in the context of the national mango export sector.

Administrative and regulatory framework governing export of mangoes to the EU

- i. there should be a system in place to register and identify all individual operators in the production and export chain (e.g. with a unique number);
- ii. there should be a system for the identification and traceability of all mango orchards/plantations producing for export;
- iii. authorities should conduct risk categorization of exporters (high, medium and low risk);
- iv. authorities should conduct risk categorisation of exports (late season, airfreight,...);
- v. the opening and closing dates of the export season should be stipulated by competent authorities (with provision under national plant health regulations for this to be legally enforced) according to the risk of fruit fly presence. This should be guided by national fruit fly surveillance data and monitoring of the mango season (fruit maturation).

National system for monitoring fruit fly populations

This includes:

- i. Surveillance. Monitoring of fruit fly populations (using traps) in and near areas where mango is produced for export. This needs to be accompanied by a system to compile and analyse the data.
- ii. Risk mitigation measures. According to the results of the monitoring, measures may need to be taken to reduce the risk of infested fruit entering the export supply chain.
- iii. Alert system. An alert system needs to be in place to inform stakeholders of any increased risk of fruit fly infestation, and any mitigation measures they must take.

Control and certification system

The NPPO will be active at all stages of the mango export value chain. This includes providing advice and training, as well as monitoring and the implementation of plant health measures (that may include specific controls and certification). In brief:

- i. at the plantation level, the NPPO must provide advice and training, and ensure the application of good practice by private sector operators;
- ii. at the packhouse level, the NPPO may control infrastructure and packing conditions. Training of private sector operators will be provided in identification of fruit fly damage, mango waste management, among others;
- iii. at the point of export (ports, airports, road borders), procedures must be in place, and implemented effectively, for the inspection of produce, issuing of plant health certificates, and preparation of all necessary documentation.

Action to be taken by the NPPO at producer level in mango for export to the EU

- i. Confirming exporter registration.
- ii. Checking traceability of all plantations that supply mango for export.
- iii. Assessing and documenting the application of good practice by producers covering:
 - cropping practices;
 - crop hygiene and mango waste management;
 - fruit fly monitoring system using approved traps;
 - implementation of control methods;
 - others.
- iv. System to verify the training of operators in good practices for the

prevention and control of fruit flies.

Action to be taken by the NPPO at all packhouses supplying mango for export to the EU

The NPPO will conduct an assessment of:

- i. premises and equipment, to ensure the prevention of fruit fly entry and spread;
- ii. the implementation of good hygiene practices, and measures to prevent the risk of fruit fly infestation;
- iii. the implementation of inspection/monitoring by packhouse personnel at all handling and storage sites to check for fruit fly;
- iv. the effectiveness of sorting and isolation systems, and the suitability of infrastructure, to deal with mango that shows fruit fly presence and damage;
- v. the facilities and procedures for disposal of damaged fruit and mango waste;
- vi. the effectiveness and implementation of the traceability system;
- vii. the effectiveness of the system in place for the isolation of lots;
- viii. the frequency and effectiveness of staff training

The issuing of phytosanitary certificates

The NPPO must operate a system of controls and certification according to the method of shipment (road, air, sea). This must address:

- i. the implementation of document checks;
- ii. physical inspection;
- iii. identity checks;
- iv. sampling method, according to ISPM 31 requirements;
- v. the NPPO must have in place a system for tracking and archiving inspection data;
- vi. the NPPO must have a system for the tracking and archiving of phytosanitary certificates.

Important Note: See Part I, Chapter 3 for instructions on the correct completion of the phytosanitary certificate.

SECTION 5. NPPO QUALITY MANAGEMENT SYSTEM

The measures described below are general recommendations outlining the NPPO quality management system that needs to be in place. The NPPO and associated stakeholders must select which of these measures will be included in the dossier, and describe how they will be adapted/applied in the context of the national mango export sector.

Internal audit

This should describe the monitoring and internal audit system in place to ensure the effective implementation of the plant health inspection and certification system including:

- training of NPPO managers and technical personnel (inspectors, enforcement officers);
- designing and implementing effective procedures for the inspection of plantations and packhouses.

Management of interceptions/notifications

This should describe the system in place for tracking notifications and communicating with stakeholders including:

- statistics on fruit fly notifications;
- information on processing, tracking and communicating official notifications.

SECTION 6. GENERAL RECOMMENDATIONS ON PREPARATION AND SUBMISSION OF THE DOSSIER

According to Implementing Regulation 2019/2072, each country exporting mango to the EU must submit a dossier to the European Commission. This must describe in detail the system that will be applied to ensure that all mango exported to the EU is free from fruit fly.

After 14th December 2019, no exports will be permitted from a country unless and until a dossier has been received. The system described in the dossier must then be followed by all stakeholders involved, including growers, private operators, and the NPPO. The dossier in effect becomes a national mango fruit fly action plan.

The NPPO of the exporting country has the responsibility for submitting the dossier to the European Commission. However, it is essential that the NPPO works hand-in-hand with the private sector to develop the content of the dossier, and subsequently to ensure that it is implemented effectively.

If private sector operators are not involved in developing the dossier, and the NPPO does not secure their buy-in (agreement), it is less likely that they will understand its importance and implement it effectively.

Feedback from the private sector is essential to ensure that the dossier is adapted to local conditions, and is appropriate and usable by the range of different producers and exporters concerned (large and small).

The following steps are recommended for the preparation and submission of the dossier.

Step 1: Setting up a Technical Working Group (TWG)

The TWG will bring stakeholders together (private and public sector) to consider and agree the elements that should be included in the national mango dossier/action plan.

The Group will be convened by the NPPO. The composition of the group may vary according to the local mango industry and public authorities. As a general rule, a small group will be more effective than a large one but, as a minimum it is important for the group to ensure that the membership:

- contains representatives of the NPPO with sound knowledge and experience in the relevant phytosanitary controls and enforcement;
- is acceptable to organisations representing the private sector;
- is representative of the mango export sector, representing both large and small-scale operators, and including members who have a sound knowledge of mango production and export;
- contains members with a strong scientific and technical expertise. This is essential to document in a clear and precise manner the phytosanitary measures that will be included in the dossier.

Step 2: Preparing the first draft of the dossier

The first draft of the dossier will be prepared by the NPPO with the support and agreement of the TWG. This COLEACP guide can be used as a framework for the dossier, which is adapted and customised according to the local circumstances.

Step 3: Validating the dossier with stakeholders

Consultation with the key public and private stakeholders is essential to ensure that the dossier is fit-for-purpose, locally appropriate, and accepted by all the major stakeholders that will be involved in implementing it.

This consultation will give the wider industry a chance to obtain clarification, and to recommend changes. The aim is to use feedback from the consultation to develop a final version of the dossier that is approved and recognised by all.

If resources are available, consultation is best achieved through the organisation of a national workshop where the dossier can be presented and discussed to a large group. If this is not possible, the draft may be presented to smaller meetings/groups, or circulated via industry associations or other representative bodies.

Step 4: Submitting the Dossier to the European Commission

The dossier must be submitted to the EC by the National Plant Protection Organization; only an NPPO is authorized to submit the official documentation to their counterparts in the European Union.

The dossier should be forwarded by the designated Contact Point at the NPPO to the following e-mail address: SANTE-GI-PLANT-HEALTH@ec.europa.eu

Preparing and implementing a national systems approach for fruit fly management according to ISPM 14 is a significant challenge. The private sector and the NPPO may therefore identify the need for technical assistance.

Where this is the case, it is important to identify and secure the support needed as soon as possible in order to ensure that all necessary action has been taken before the start of the next mango export season.

Requests for technical support can be made to COLEACP.



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