

GUIDELINES ON

EXPORTING FRESH EGGPLANTS AND TOMATOES



NEW PLANT HEALTH RULES FROM THE EUROPEAN UNION

COLEAD GUIDELINES ON EXPORTING
EGGPLANTS AND TOMATOES FROM
AFRICA, MADAGASCAR, CABO VERDE AND
MAURITIUS.

November 2023
Version 3



Funded by
the European Union

DISCLAIMER:

Note that this document is not a regulatory reference. The elements it contains are neither exhaustive nor exclusive, and may or may not be relevant, depending on the situation in each country. The content of each national action plan, as well as the dossiers submitted to the EU, remain the sole responsibility of the NPPO and the industrial actors of the countries concerned.

This publication has been developed by the Fit For Market + programme, implemented by COLEAD within the framework of the Development Cooperation between the Organisation of African, Caribbean and Pacific States (OACPS) and the European Union (EU). It should be noted that the information presented does not necessarily reflect the views of the donors.

This publication is part of a collection of COLEAD resources, which consists of online and offline educational and technical tools and materials. All of these tools and methods are the result of more than 20 years of experience and have been developed progressively through COLEAD's technical assistance programmes, notably in the framework of development cooperation between the OACPS and the EU.

The use of particular designations of countries or territories does not imply any judgement on the part of COLEAD concerning the legal status of these countries or territories, their authorities and institutions or the delimitation of their frontiers.

The content of this publication is provided in a "currently available" form. COLEAD makes no warranty, direct or implied, as to the accuracy, completeness, reliability or suitability of the information at a later date. COLEAD reserves the right to change the content of this publication at any time without notice. The content may contain errors, omissions or inaccuracies, and COLEAD cannot guarantee the accuracy or completeness of the content.

COLEAD cannot guarantee that the content of this publication will always be current or suitable for any particular purpose. Any use of the content is at the user's own risk and the user is solely responsible for the interpretation and use of the information provided.

COLEAD accepts no liability for any loss or damage of any kind arising from the use of, or inability to use, the content of this publication, including but not limited to direct, indirect, special, incidental or consequential damages, loss of profits, loss of data, loss of opportunity, loss of reputation, or any other economic or commercial loss.

This publication may contain hyperlinks. Links to non-COLEAD sites/platforms are provided solely for the information of COLEAD staff, its partner-beneficiaries, its funders and the general public. COLEAD cannot and does not guarantee the authenticity of information on the Internet. Links to non-COLEAD sites/platforms do not imply any official endorsement of, or responsibility for, the opinions, ideas, data or products presented on those sites, or any guarantee as to the validity of the information provided.

Unless otherwise stated, all material contained in this publication is the intellectual property of COLEAD and is protected by copyright or similar rights. As this content is compiled solely for educational and/or technical purposes, the publication may contain copyrighted material, the further use of which is not always specifically authorised by the copyright owner.



Mention of specific company or product names (whether or not indicated as registered) does not imply any intention to infringe proprietary rights and should not be construed as an endorsement or recommendation by COLEAD.

This publication is publicly available and may be freely used provided that the source is credited and/or the publication remains hosted on one of COLEAD's platforms. However, it is strictly forbidden for any third party to state or imply publicly that COLEAD is participating in, or has sponsored, approved or endorsed the manner or purpose of the use or reproduction of the information presented in this publication, without prior written consent from COLEAD. The use of the contents of this publication by any third party does not imply any affiliation and/or partnership with COLEAD.

Similarly, the use of any COLEAD trademark, official mark, official emblem or logo, or any other means of promotion or advertising, is strictly prohibited without the prior written consent of COLEAD. For more information, please contact COLEAD at network@colead.link



Funded by
the European Union

PART 1

Background and guidelines on compliance with EU requirements for regulated pests: tomato fruit borer (*Neoleucinodes elegantis*), fall armyworm (*Spodoptera frugiperda*), tomato pinworm (*Keiferia lycopersicella*), thrips (*Thrips palmi*), and fruit flies (*Bactrocera latifrons*)



1. CONTEXT

The European Union is continuously revising its plant health regulations. On 14 December 2019, a new Plant Health Regulation (EU 2016/2031) entered into force, bringing new stringent rules to prevent the introduction and spread of harmful organisms in the EU. The rules continue to evolve, with further changes to the regulation come into force in April 2022.

This document has been updated to include the most recent amendments to EU legislation. The latest changes are highlighted in orange and include new requirements relating to Fall Armyworm (FAW; *Spodoptera frugiperda*).

Under the new regime, special measures have already been introduced for crops that are a known pathway into the EU for pests that could harm EU agriculture or the environment. These measures include strict new requirements for the export of tomatoes, eggplants, bitter eggplants (also known as Ethiopian eggplants), and African eggplants to prevent the introduction of the following pests

- the tomato fruit borer (*Neoleucinodes elealis*) (not applicable for *Solanum macrocarpon*)
- Fall armyworm (*Spodoptera frugiperda*) (not applicable for *S. lycopersicum*)
- Palm thrips (*Thrips palmi*) (only applicable to *Solanum melongena*)
- tomato pinworm (*Keiferia lycopersicella*) (applicable to *Solanum lycopersicum* and *Solanum melongena*).

In addition, from 11 April 2022, all fruit flies of the *Tephritidae* group are included in the EU list of quarantine pests, and special measures are foreseen to manage individual species such as *Bactrocera latifrons* on certain crops. These include measures covering fresh fruits of *Capsicum* L. and *Solanum* L. originating in certain third countries.

The new rules stipulate certain conditions that exporting countries must meet before exports of tomatoes, bitter eggplants, eggplants and African eggplants are allowed. Some of these conditions refer to the International Standards for Phytosanitary Measures (ISPMs). ISPMs are developed by the International Plant Protection Convention of the Food and Agriculture Organisation of the United Nations (FAO) and are recognised by the WTO Sanitary and Phytosanitary Agreement. Exporting countries should refer to the relevant ISPMs in order to fully understand and comply with EU regulatory requirements.

National action plans and stakeholder engagement

The implementation of these new rules requires immediate and concerted action by producers, exporters and national plant protection organisations. Countries exporting bitter eggplants, eggplants and African eggplants should take the necessary actions. In case of interceptions of these pests in exported tomatoes, bitter eggplants, eggplants and African eggplants, the EU should react and impose stricter measures.

Experience has shown that compliance with the new EU rules requires effective dialogue and engagement between the public and private sectors. All stakeholders need to agree

on the actions needed to ensure that exported tomatoes, bitter eggplants, eggplants and African eggplants are free of the designated pests. 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 public sector authorities, particularly the National Plant Protection Organisation (NPPO).

COLEAD recommends the creation of committees or working groups that bring all major stakeholders to the table to develop (and oversee the implementation) of a national action plan for eggplant and tomato. To be effective, this national action plan needs to be adapted to the local context and usable by the range of different producers and exporters involved (large and small). It is essential that all stakeholders agree to and implement the national action plan; if one exporter sends infested consignments to the EU, this could bring down the entire export sector.

COLEAD Support

This document has been prepared by COLEAD for national authorities and export sectors to help orientate the development of national action plans and dossiers 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 the management of the concerned pests. 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 relevant ISPMs are provided. Note that the elements included here are not exhaustive. The action plan and national dossier could include all or a selection of the measures described, as well as any others that may be available and appropriate locally.



2. REGULATORY CHANGES AFFECTING EGGPLANT AND TOMATO EXPORTS THE EUROPEAN UNION

In June 2023, the European Union, through IMPLEMENTING REGULATION (EU) 2023/1134, strengthened measures to prevent the introduction, establishment, and spread of fall armyworm (FAW; *Spodoptera frugiperda*) within its territories.

Another recent amendment was Implementing Regulation (EU) No 2021/2285 (effective from 11 April 2022), which introduced changes affecting several ACP exports to the EU including eggplants, tomatoes, mangoes, papayas, guavas, peppers, and citrus fruits. This resulted from the re-classification of all fruit flies from the *Tephritidae* family as EU quarantine pests, as well as specific new management requirements for certain species, including *Bactrocera latifrons*, which are stipulated in the regulation, in particular for fresh fruits of *Capsicum* L. and *Solanum* L.

The implications of these updated regulations for the export of fresh tomatoes and eggplants to the EU are detailed below.

Rules on fruit flies (*Bactrocera latifrons*)

Regulation (EU) No. 2021/2285 concerns all fresh fruits of the genus *Solanum* L. exported to the EU from the third countries¹ listed in point 72.1. of the regulation. Exports of *Solanum* from these countries must be accompanied by a phytosanitary certificate (Chapter 3) and there must be an additional declaration that the fruits comply with one of the following options:

- a) the fruits originate in a country recognised as being free from *Bactrocera latifrons* (Hendel) in accordance with the relevant International Standards for Phytosanitary Measures (ISPM 4; see Chapter 4), provided that this free status has been communicated in advance in writing to the Commission by the national plant protection organisation of the third country concerned,

or

- b) the fruits originate in an area established by the national plant protection organisation in the country of origin as being free from *Bactrocera latifrons* (Hendel) in accordance with the relevant International Standards for Phytosanitary Measures, which is mentioned on the phytosanitary certificate, 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

¹ Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Comoros, Congo, Côte d'Ivoire, Democratic Republic of Congo, Djibouti, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritius, Mauritania, Mozambique, Namibia, Niger, Nigeria, Central African Republic, Chad, Réunion, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, Sudan, South Sudan, Tanzania, Togo, Uganda, Zambia, Zimbabwe (plus other non-ACP countries).

- c) no signs of *Bactrocera latifrons* (Hendel) 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, sign of *Bactrocera latifrons* (Hendel),

and information on traceability is included in the phytosanitary certificate,

or

- d) the fruits have been subjected to an effective systemic approach or an effective post-harvest treatment to ensure freedom from *Bactrocera latifrons* (Hendel) and that the use of a systems approach or details of the treatment method are indicated on the Phytosanitary Certificate, provided that the systems approach or 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

Putting the options into practice

In practical terms, if the fruit fly is present in the country and production area, only options (c) and (d) are potentially applicable. Options (a) and (b) require pest-free countries or areas, which is generally not feasible due to the wide distribution of the pest. Options (a) and (b) are therefore not described in detail in this document, although general information is provided in Chapter 4 on "Pest-free status".

In any case, monitoring should be carried out to follow the populations of this pest in the *Solanum* production areas.

Option (c) requires that a place of production and its immediate vicinity (buffer zone) be designated as free from *B. latifrons*. Some countries have adopted this option by using insect-proof shelters. The place of production must be designated as pest-free by a series of NPPO inspections (at least monthly for three months prior to harvest), which are conducted strictly according to the procedures specified in ISPM 10. For the time being, no prior notification is required by the EU for this option c).

Option (d) requires that the fruit and vegetables concerned be subjected to an effective systems approach or an effective post-harvest treatment. To use this option, the NPPO must submit a dossier to the European Commission detailing the measures that will be applied to exports of the affected fruits and vegetables to ensure that they are free from *B. latifrons*. As there are virtually no effective post-harvest treatments available for the fruits and vegetables concerned that guarantee freedom from the pest, the use of a **systems approach is recommended**. This means developing an action plan that combines several different pest management measures that, used together, will significantly reduce the risk of pests (ISPM 14²). These measures may include monitoring, cultural practices,

² 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 of the Council as regards protective measures against plant pests and repealing Regulation (EC) No 690/2008 and amending Commission Regulation (EU) 2018/2019

crop treatment, post-harvest disinfestation, inspection, etc.

In the dossier, the exporting country should provide sufficient information to the EU to allow for the assessment and approval of the proposed systemic approach.

Part 2 of this document provides guidance on the development and submission of a dossier, using the fall armyworm as an example. Part 2 of the mango export guidelines on the development of a dossier related to fruit fly management published by COLEAD can also be used as a reference.

Rules concerning the Tomato fruit borer (*Neoleucinodes elegantalis*)

Implementing Regulation (EC) No 2019/2072, which was introduced in November 2019, brought in specific requirements for tomato fruit borer under Point 68.

The new rules on the tomato fruit borer apply to a number of fresh products exported to the EU from any third country such as Ethiopian (or bitter) eggplants (*Solanum aethiopicum*), tomatoes (*Solanum lycopersicum*) and eggplants (*Solanum melongena*). **Please note that this Directive does not apply to *Solanum macrocarpon* (African eggplant).**

Exports of eggplants and tomatoes must be accompanied by a phytosanitary certificate (Chapter 3) and must meet the requirements set out in one of **the** following options. There must be an official declaration that the products originate from :

- a. a country recognised as being free from *Neoleucinodes elegantalis* (Guenée) in accordance with the relevant International Standards for Phytosanitary Measures, provided that this freedom status has been previously communicated in writing to the Commission by the national plant protection organisation of the third country concerned, or
- b. an area established by the national plant protection organisation of the country of origin as being free from *Neoleucinodes elegantalis* (Gueneas) in accordance with the relevant International Standards for Phytosanitary Measures, which is mentioned on the phytosanitary certificate referred to in Article 71 of Regulation (EU) No 2016/2031 under the rubric "Additional declaration", provided that such free status has been previously communicated in writing to the Commission by the national plant protection organisation of the third country concerned, or
- c. from a place of production established by the national plant protection organization of the country of origin as being free of *Neoleucinodes elegantalis* (Guenée) in accordance with relevant International Standards for Phytosanitary Measures and official inspections have been carried out at the place of production at appropriate times during the growing season to detect the presence of the pest, including an examination on representative samples of fruit, shown to be free from *Neoleucinodes elegantalis* (Guenée), and information on traceability is provided in the phytosanitary certificate referred to in Article 71 of Regulation (EU) No 2016/2031, or
- d. an insect-proof production site established by the national plant protection organisation of the country of origin as being free from *Neoleucinodes elegantalis* (Gueneas), based on official inspections and surveys carried out during the three months prior to export, and traceability information is included in the

phytosanitary certificate referred to in Article 71 of Regulation (EU) No 2016/2031.

Recommended measures for NPPOs

For the African countries as well as Madagascar, Cape Verde and Mauritius, the pest *Neoleucinodes elegantalis* has not yet been reported. COLEAD therefore currently recommends that countries in this region choose option (a) as the most appropriate.

In order to use this option, NPPOs must take action :

1. The NPPO in each exporting country must send an official notification to the European Commission informing them that they are a pest free country with regard to *Neoleucinodes elegantalis* (Guineae), in accordance with the methodology described in ISPM 4.
2. Pest free status for *Neoleucinodes elegantalis* must then be acknowledged by the European Commission. This official acknowledgement can be checked using the following link: [Declarations on pest status from non-EU countries](#) (the PDF files attached to each country indicate the status of each declaration made to the EU).
3. Information on the free country status must be included in the phytosanitary certificate (see Chapter 3).

It is strongly recommended that NPPOs contact COLEAD for advice on additional measures that need to be taken with regard to the free status of the small tomato borer. In case of problems or interceptions, or if a country is subject to an audit by the EU authorities (DG Health) at any stage, the national authorities in the exporting country must be able to provide the necessary documentation to justify pest-free country status according to international standards ([ISPM 4](#)).

New rules on Fall Armyworm (FAW)

The European Commission, in its recent IMPLEMENTING REGULATION (EU) 2023/1134 dated 8 June 2023, has introduced further measures to prevent the introduction, establishment, and spread of FAW, within the European Union territory. This pest, previously not known to exist within the Union, has continued its rapid global spread, with confirmed presence in Cyprus as of January 2023. The high rate of non-compliance concerning the presence of this pest on imported goods, coupled with its growing threat, has necessitated a more protective stance.

The previous measures, detailed under Implementing Decision (EU) 2018/638, were initiated as emergency measures to curtail the spread of FAW. However, with this new regulation, these emergency measures have been replaced. This shift highlights the EU's evolving strategy from a reactive attitude to a more comprehensive and long-term preventative approach.

The regulation has identified specific plant species that have been subject to interceptions due to the presence of FAW. These species are now subject to specific new requirements to ensure that they do not act as carriers for the pest into the EU. The Commission has

decided that this new regulation (EU 2023/1134) will be in effect until 31 December 2025. In the interim further evaluations will be conducted of the threat posed by the pest, a review of the range of plants affected, and the effectiveness of the measures implemented. Art. 10 of the Regulation (“Introduction into the Union of the specified plants”) applied from 1 July 2023, except for the requirements concerning asparagus, which will apply from 1 September 2023.

Included in the specified plants are: Capsicum species; Momordica; Ethiopian eggplant (*Solanum aethiopicum*); African eggplant (*Solanum macrocarpon*), eggplant/aubergine (*Solanum melongena*) and *Asparagus officinalis* exported into the EU from any country. It also covers plants (other than live pollen, plant tissue cultures, seeds and grains) of maize (*Zea mays*).

Fresh product exports must be accompanied by a phytosanitary certificate (see chapter 3) and must meet requirements set out in one of the following options.

They must either:

- (a) they originate from a country where the pest is not known to occur;
or
- (b) they originate from an area free from the specified pest, as established by the National Plant Protection Organisation (NPPO) concerned, in accordance with the International Standard for Phytosanitary Measures No 4; the name of that area shall be stated in the phytosanitary certificate under the rubric ‘place of origin’;
or
- (c) prior to export they have been subject to an official inspection and found free from the specified pest, and originate from a site of production complying with the following conditions:
 - (i) it is registered and supervised by the NPPO in the country of origin;
 - (ii) official inspections have been carried out during the last three months prior to export, and no presence of the specified pest has been detected on the specified plants;
 - (iii) it has physical isolation against the introduction of the specified pest;
 - (iv) information ensuring traceability of the specified plants to that site of production has been ensured during their movement prior to export;or
- (d) - prior to their export they have been subject to an official inspection and found free from the specified pest, and they originate from a site of production complying with the following conditions:
 - (i) - it is registered and supervised by the NPPO in the country of origin;
 - (ii) - official inspections have been carried out during the three

- months prior to export, and no presence of the specified pest has been detected on the specified plants;
 - (iii) - the specified plants have been subjected to an effective treatment to ensure freedom from the specified pest;
 - (iv) - information ensuring the traceability of the specified plants to that site of production has been ensured during their movement prior to export;
 - or
- (e) - they have been subjected to an effective post-harvest treatment to ensure freedom from the specified pest, and that treatment is indicated on the phytosanitary certificate.

Recommended measures for NPPOs

In practical terms, only options (c) and (d) seem feasible for the eggplant sector if FAW is present in the production area / country, the first two (a) and (b) require free countries or areas, which are not viable options for this pest in the countries concerned. Option (e) is also problematic, as there are few effective single treatments for post-harvest fall moth control on these commodities, which will ensure that it is pest-free.

Option (c) requires a designated pest-free production area. This can be achieved by using insect netting coupled with the inspections required by the NPPO. As mentioned earlier, this is an effective option, but requires significant investment in infrastructure.

Option (d) requires fresh produce to be subjected to an effective treatment, in addition to specified supervision and inspection by the NPPO. The effective treatment allows for the use of a systems approach for pest management. For more details, see Part 2 of this document.

Option (d): National Spodoptera Action Plan and the role of the NPPO

As in the case of *Batrocera latifrons*, if this pest is present in the country, option (d) of this guideline is the most accessible for the majority of *Solanum* exporters. However, there are some important differences:

1. There is no requirement for a dossier to be submitted to the European Commission outlining the systems approach that will be used for the “effective treatment”. Nevertheless, COLEAD strongly recommends that exporting countries should prepare and implement a national action plan that specifies the measures to be taken by all stakeholders along the supply chain to manage Fall Armyworm in the products concerned; it is critical to ensure that there is no risk of it being present in exported consignments.
2. The NPPO should take specific measures for all production sites supplying 'Eggplants' for export to the EU. To recap:
 - The NPPO must register and monitor all production sites;
 - The NPPO must carry out official inspections on all production sites

during the three months prior to export. Exports can only be authorised if no fall armyworms have been detected at the production site;

- The NPPO must carry out an official inspection before export. Exports can only be permitted if the produce is found to be free from fall armyworm.
- 3. If there is a problem or interception, or if a country is audited by the EU authorities (DG Health) at any stage the **national authorities in the exporting country must be able to provide all the necessary documentation to demonstrate that correct registration, supervision and inspections have been conducted.**
- 4. The NPPO must inspect all export consignments to ensure that there is full traceability covering all movements of the products concerned from the place of production to the point of export.

Rules on *Keiferia lycopersicella* (Tomato pinworm)

Implementing Regulation (EU) 2019/2072 issued on 28 November 2019 also introduced rules for the pest *Keiferia Lycopersicella* on eggplant (*Solanum melongena*) and tomato (*Solanum lycopersicum*). These state that exports of eggplants and tomatoes must be accompanied by a phytosanitary certificate (Chapter 3) and must meet the requirements set out in **one of the** following options.

There must be an official declaration that the fruits originates in either:

- a. a country recognised as being free from *Keiferia lycopersicella* (Walsingham) according to relevant International Standards for Phytosanitary Measures (ISPM 4); or
- b. an area established by the national plant protection organization of the country of origin as being free from *Keiferia lycopersicella*, in accordance with the relevant International Standards for Phytosanitary Measures. This must be mentioned on the Phytosanitary Certificate in the section "Additional declaration"; or
- c. a place of production, established by the NPPO in the country of origin as being free from *Keiferia lycopersicella*, on the basis of official inspections and surveys carried out during the last three months prior to export. This must be mentioned on the Phytosanitary Certificate in the section "Additional declaration".

Recommended measures for NPPOs

As with the tomato fruit borer (*Neoleucinodes elegantalis*), *Keiferia lycopersicella* has not so far been reported in Africa and is not known to occur outside the Americas. COLEAD therefore currently recommends that countries choose option (a) as the most appropriate.

In order to use this option, NPPOs must take action :

1. The NPPO in each exporting country must send an official notification to the European Commission informing them that they are a pest free country with regard to *Keiferia lycopersicella* (Walsingham), in accordance with the methodology described in ISPM 4. Pest-free status of *Keiferia lycopersicella* must then be

acknowledged by the European Commission. This official acknowledgement can be checked using the following link: [Declarations on t pest status from non-EU countries](#). (This gives links to PDF files for each country to show the status of each phytosanitary declaration received by the European Commission).

2. Information about the pest-free country status must be included in the phytosanitary certificate (see Chapter 3).

It is strongly recommended that NPPOs contact COLEAD to obtain guidance on additional measures that need to be taken with regard to pest-free country status for *Keiferia lycopersicella*. If there is a problem or interception, or if a country is audited by the EU authorities (DG Health) at any time, the national authorities of the exporting country should be able to provide the necessary documentation to justify pest free country status according to international standards ([ISPM 4](#)).

Rules on *Thrips palmi*

Implementing Regulation (EU) 2019/2072 published on 28 November 2019 also introduced updated rules on *Thrips palmi* on eggplant (*Solanum melongena*).

Exports of eggplants must be accompanied by a phytosanitary certificate (Chapter 3) and must meet the requirements set out in one of the following options. There must be an official statement that the fruit :

- a. originate from a country free of *Thrips palmi* in accordance with the relevant International Standards for Phytosanitary Measures; or
- b. originate in an area established by the national plant protection organisation of the country of origin as being free from *Thrips palmi* in accordance with the relevant International Standards for Phytosanitary Measures, mentioned on the certificate referred to in Article 71 of Regulation (EU) No 2016/2031, under the section
"Additional declaration"; or
- c. immediately prior to export, have been officially inspected and found free from *Thrips palmi*.

Recommended measures for NPPOs

National monitoring data will reveal the distribution of *Thrips palmi* in each country. However, the widespread distribution of this pest means that in most cases it will be necessary to use option (c).

In this case, the NPPO must carry out an official inspection before export. Exports can only be authorised if the product is found to be free from *Thrips palmi*. In the event of a problem or interception, or if a country is audited by the EU authorities (DG Health), the **national authorities of the exporting country must be able to provide all the necessary documentation to demonstrate that appropriate supervision and inspections have been conducted.**

Other quarantine pests

Under national plant health legislation, a number of pests and plant diseases are classified as quarantine pests. 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 introduced. Most countries have a quarantine list that identifies the most dangerous harmful organisms whose introduction must be prohibited.

The EU plant health law ((EU) 2016/2031) classifies all plant pests into the following four categories:

- Union quarantine pests: Not present in the EU at all or, if present, only locally and under official control. Union quarantine pests are listed in Commission Implementing Regulation (EU) No 2019/2072 of 28 November 2019.
- Quarantine pests in protected areas : Present in most parts of the Union, but known to be absent from certain "protected zones". These pests are not allowed to enter and spread in these protected zones.
- Regulated non-quarantine pests: Widely present in the EU but having a significant impact, they must be guaranteed free or nearly free of this pest.
- Priority pests: Those that have the most severe impact on the economy, environment and/or society. The European Commission released a list of 20 priority pests in October 2019 (EU Regulation 2019/1702).

The fall armyworm (*S. frugiperda*) is listed as a priority pest and is therefore subject to the very strict measures described in this document. The other pests included here are EU quarantine pests, which are also subject to statutory controls.

It is important to note that this document is not exhaustive. There are other EU quarantine pests of eggplants and tomatoes that are prohibited from being introduced into the EU.

For example, *Bemisia tabaci* Genn (non-European populations) is found on a wide variety of host plants. It is a serious problem for many crops, causing direct damage and acting as a vector for plant viruses. Export consignments of any crop, including eggplant and tomato, found to contain shipments infested with *B. tabaci* will be intercepted and detained at EU border controls. **It is therefore essential to monitor and avoid the presence of *B. tabaci* and any other pests in export crops.**



3. COMPLETING THE PHYTOSANITARY CERTIFICATE

Plants and plant products imported into the EU from third countries are subject to mandatory plant health checks (Annex V, Part B). These include :

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

Eggplants and tomatoes exported to the EU must be accompanied by a phytosanitary certificate. There are strict requirements on how this must be completed, and it is important to note that:

- The Phytosanitary Certificate must include information on all regulated pests of concern for the exported product. Currently, the regulated pests for these crops are as follows :

	TOMATO <i>Solanum lycopersicum</i>	BITTER TOMATO <i>Solanum aethiopicum</i>	EGGPLANT <i>Solanum melongena</i>	AFRICAN EGGPLANT <i>Solanum macrocarpon</i>
Tomato fruit borer Neoleucinodes elegantalis				

- The information to be provided varies according to the pests, the crop and the management option selected from the regulation

It is critically important to complete the certificate correctly as there is a low tolerance of mistakes by European importing countries. COLEAD has received information that consignments entering Europe from African countries in recent weeks have been rejected

and destroyed because the phytosanitary certificate has been filled incorrectly.

- 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 supplementary declaration), it is permitted to add an attachment. If you do so, it is very important to respect the following points:
 - Each page of any attachment must bear the number of the Phytosanitary Certificate and be dated, signed and stamped in the same manner as the Phytosanitary Certificate itself.
 - You must indicate 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 must be indicated on the Phytosanitary Certificate.

It is extremely important to fill in the certificate correctly, as European importing countries have a low tolerance for errors.

As a general rule, it is advisable to write the number of the regulation concerned, and to copy/paste the exact text for the option selected, as it is written in the regulation. This will avoid any possible mistakes or omissions, even if it appears cumbersome.

To streamline the process of completing the phytosanitary certificate, we strongly recommend utilizing the EU system TRACES NT. This tool automatically indicates all the boxes/points in the certificate that are relevant to the country of origin, and it simplifies the selection of options for each relevant pest. For more detailed information and access to this system, please visit the [EU website](#). Alternatively, you can contact SANTE-TRACES@ec.europa.eu for further assistance.

The information to be provided on the phytosanitary certificate varies according to the pests and the management option chosen. The following section provides guidance for the main pests covered by EU regulations.

For fall armyworm (**Implementing Regulation (EU) 2023/1134**)

Exporting under Option (c): Pest free production site

If exporting countries are using Option (c) for a pest free production site (for example with *Capsica* grown in insect-proof screenhouses), it is essential to include the following wording in the phytosanitary certificate:

- in the **Additional Declaration** write: “The consignment complies with the following conditions in accordance with Option (c) of Article 10 of Implementing Regulation (EU) 2023/1134 related to *Spodoptera frugiperda*: prior to export they have been subject to an official inspection and found free from the specified pest, and originate from a site of production complying with the following conditions:
 - it is registered and supervised by the NPPO in the country of origin;
 - official inspections have been carried out during the last three months prior to

- export, and no presence of the specified pest has been detected on the specified plants;
- it has physical isolation against the introduction of the specified pest;
- information ensuring traceability of the specified plants to that site of production has been ensured during their movement prior to export;

Exporting under Option (d): Systems Approach

If exporting countries are using Option (d) for an effective treatment, it is essential to include the following wording in the phytosanitary certificate:

- In the **Treatment Box/section** write: "Systems approach".
- In the **Additional Declaration** write: "The consignment complies with Option (d) of Article 10 of Implementing Regulation (EU) 2023/1134 related to *Spodoptera frugiperda*: prior to their export they have been subject to an official inspection and found free from the specified pest, and they originate from a site of production complying with the following conditions:
 - (i) it is registered and supervised by the NPPO in the country of origin;
 - (ii) official inspections have been carried out during the three months prior to export, and no presence of the specified pest has been detected on the specified plants;
 - (iii) the specified plants have been subjected to an effective treatment to ensure freedom from the specified pest;
 - (iv) information ensuring the traceability of the specified plants to that site of production has been ensured during their movement prior to export;

For the tomato fruit borer (implementing regulation (EU) 2019/2072)

option (a): free country

NPPOs must notify the European Commission that their country is free of *Neoleucinodes elegantalis*. Once this has been done and accepted, the following words must be included in the phytosanitary certificate:

- in the **additional Declaration**, write: "The consignment complies with option (a) of Annex VII, point 68 of Regulation (EU) No 2019/2072: originates from a country recognised as being free from *Neoleucinodes elegantalis* (Guenée) in accordance with the relevant International Standards for Phytosanitary Measures; this status was communicated in writing to the Commission on xx/xx/2019".

For tomato pinworm (Implementing Regulation (EU) 2019/2072)

option (a): free country

NPPOs must notify the European Commission that their country is free from *Keiferia lycopersicella* (option a)). Once this has been done and accepted, the following words must be included in the phytosanitary certificate:

- in the **additional Declaration**, write: "The consignment complies with option (a) of Annex VII, point 69 of Regulation (EU) No 2019/2072: originates from a country recognised as free from *Keiferia lycopersicella* (Walsingham), in accordance with the relevant International Standards for Phytosanitary Measures; this status was communicated in writing to the Commission on xx/xx/2019".

For *Palm thrips* (implementing regulation (EU) 2019/2072)

(Option c) NPPOs should carry out an official inspection prior to export to verify freedom from *Thrips palmi*.

- in the **additional Declaration**, write : The consignment complies with option (c) of Annex VII, point 70 of Regulation (EU) No 2019/2072, the fruits were officially inspected immediately prior to export and found free from *Thrips palmi* Karny.

For the fruit fly *Bactrocera latifrons* (Regulation (EU) No 2021/2285 & (EU) 2019/2072)

option (c): pest-free production site

If exporting countries use option (c) to export these fruits, it is essential to include the following elements in the Phytosanitary Certificate.

- In the **additional declaration**, write: "The consignment complies with option (c) of Annex VII, point 72.1 of Regulation (EU) No. 2021/2285 : that no signs of *Bactrocera latifrons* (Hendel) 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 once a month during the three months prior to harvest, and that no fruits harvested at the place of production have shown signs of the presence of *Bactrocera latifrons* (Hendel) in appropriate official examinations.

and

that traceability information is included in the phytosanitary certificate.

- **Traceability information:** In the Phytosanitary Certificate, next to the product description, you must enter the unique identification number or the name of the approved production site where the product originated.

option (d): systems approach

If exporting countries use option (d), a dossier including this new requirement must be submitted in advance to the European Commission (see Part 2 of this document). Once this submission has been accepted by the Commission, exports can proceed, but it is essential to include the following wording 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 72.1 of Regulation (EU) No 2021/2285 : the fruits have been subjected to an effective systemic approach to ensure freedom from *Bactrocera latifrons* (Hendel) and the use of a systemic approach or details of the treatment method are indicated on the Phytosanitary Certificate, provided that the method of systemic approach has been previously communicated 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 would be difficult to obtain in the case of Fall Armyworm 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.

In the case of Tomato Fruit Borer, as this pest has not so far been found in Africa, Madagascar, Cape Verde or Mauritius, obtaining pest free country status is an option. Once pest free country status is obtained for *Neoleucinodes* in the EU, exports of the products concerned can continue without the need for any of the additional phytosanitary measures listed in the regulations.

Pest or disease free zone :

An area in which a specific pest or disease does not occur. This may be an entire country, an uninfested part of a country where a limited infestation is present, or an uninfested part of a country in a generally infested area.

An area of low prevalence of pests or diseases:

An area, whether the whole 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 in low numbers and is subject to effective surveillance, control or eradication measures.

There are three main steps in establishing and maintaining an FPA:

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

The amount of work required in each case will vary depending on factors such as the

biology of the pest, the characteristics of the area and the level of phytosanitary security required.

The work involved in establishing and maintaining pest-free status is detailed, time-consuming and involves :

- data collection (pest surveys for delimitation, detection, monitoring);
- regulatory controls (protective measures against introduction into the country, including listing as a quarantine pest);
- Audits (reviews and evaluations) ;
- documentation (reports, work plans).

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

- [ISPM 4](#) on requirements for the establishment of pest free areas.
- [Guide to the establishment and maintenance of pest free areas](#) on the requirements for pest free areas, pest free production sites, pest free production sites and low prevalence pest areas.
- [ISPM 6](#) (Guidelines for monitoring) and [ISPM 2](#) (Framework for pest risk analysis) provide more detail on general monitoring requirements and specific surveys.

Pest-free production location and production site

Pest-free production site :

Place of production where a pest is absent (demonstrated by scientific evidence) and generally maintained officially free for a defined period

A production site is "any premises or collection of fields operated as a single production or farming unit".

Pest-free production site :

Place of production where a pest is absent (demonstrated by scientific evidence) and generally maintained officially 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".

Directives covering the regulated pests allow countries to export if the products have been produced in a "Pest free place of production". As noted previously, some countries have adopted this option by using insect-proof screen houses.

Screen houses require significant investment in infrastructure, and are therefore out of reach of many smallholder farmers. However, where resources are available, this can be an effective option.

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.

In addition to this, producers growing in screen houses must use an appropriate design of screen house so that it is insect proof, and ideally with an entry lobby. Strict biosecurity measures need to be in place when people or goods move in or out of the screen house to prevent pest entry.

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

- [ISPM 10](#) for the creation of pest-free production sites and production facilities.
- [Guide to the establishment and maintenance of pest free areas](#) on the requirements for pest free areas, pest free production sites, pest free production sites and low prevalence pest areas.

PART 2

Guideline for the development of a national action plan and systems approach for the management of fall armyworm (*Spodoptera frugiperda*) on bitter eggplant, eggplant and African eggplant

In accordance with the Implementing Regulation (EU) 2023/ 1134 of 8 June 2023 on measures to prevent the introduction into, establishment and spread within the Union territory of *Spodoptera frugiperda*.

CONTEXT OF THE FALL ARMYWORM ACTION PLAN

The EC has published [IMPLEMENTING REGULATION \(EU\) 2023/1134](#) of 8 June 2023 on measures to prevent the introduction into, establishment and spread within the Union territory of *Spodoptera frugiperda* (Smith), amending Implementing Regulation (EU) 2019/2072 and repealing Implementing Decision (EU) 2018/638.

As indicated in Part 1, COLEAD strongly recommends that horticultural export sectors affected by this regulation prepare and implement a national action plan that specifies the measures to be taken by all stakeholders along the supply chain to manage Fall armyworm in the products concerned; it is essential to ensure that there is no risk of it being present in export consignments.

Part 2 of this document deals with the development of a national action plan in order to comply with Option (d) of Article 10 of Implementing Regulation (EU) 2023/1134: prior to their export they have been subject to an official inspection and found free from the specified pest, and they originate from a site of production complying with the following conditions:

- (i) it is registered and supervised by the NPPO in the country of origin;
- (ii) official inspections have been carried out during the three months prior to export, and no presence of the specified pest has been detected on the specified plants;
- (iii) the specified plants have been subjected to an effective treatment to ensure freedom from the specified pest;
- (iv) information ensuring the traceability of the specified plants to that site of production has been ensured during their movement prior to export;

The use of an effective treatment is the most accessible option for the majority of exporters. The Regulation allows the use of a systems approach. While the term "systems approach" is not explicitly mentioned, our communications with the EU have clarified their stance. The EU has confirmed that "effective treatment" covers any official procedure aimed at eradicating, inactivating, or removing pests, rendering them infertile, or achieving devitalization, as defined in ISPM 5. This definition also includes the systems approach.

A systems approach means developing an action plan that combines several different pest management measures that, in combination, will significantly reduce the pest risk. These measures may include surveillance, cultural practices, crop treatment, post-harvest disinfestation, inspection and others. The use of integrated measures in a systems approach for pest risk management is described in [ISPM 14](#).

Introduction to this guide

This document has been prepared by COLEAD as a guide for national authorities and exporters of bitter eggplants, eggplants and African eggplants to help orientate the development of a national action plan for Fall armyworm. It provides a framework to guide the process and describes the various elements that can be incorporated into a systems approach to manage Fall armyworm (FAW). It identifies the information to be provided and the 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 national action plan could include all or some of these measures, as well as any other measures that may be available and appropriate locally.

This guide covers the following sections that should be included in the national action plan

- General information on the national export sector for bitter eggplant, eggplant and African eggplant.
- Phytosanitary measures taken before, during and after harvest to prevent and control fall armyworm.
- Phytosanitary inspection and certification system.
- Quality management system put in place by the NPPO to ensure that the national FAW management file 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, color, 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 ensure the buy-in of all parties concerned. The national action plan must be rigorously followed **by all** stakeholders in that country involved in the export of bitter eggplants, eggplants and African eggplants to the EU. It is therefore very important that the dossier is appropriate for the context and is usable by the range of different producers and exporters involved (large and small).

Useful tool to help implement a systems approach

The Decision Support for Systems Approach (DSSA) tool has been developed to enable users in importing and exporting countries to identify potential pest risk management options that could assist in the formulation of pest risk management plans. The tool facilitates the assessment and development of a systems approach to pest risk management, as defined in ISPM 14

SECTION 1. GENERAL OVERVIEW OF THE NATIONAL EXPORT SECTOR

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

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

Information on the national sector

Details of the crop :

- species and varieties of bitter eggplants, eggplants and African eggplants for export (scientific and common names) ;
- characteristics of each species and variety;
- sensitivity or resistance to fall armyworm.

Production zones :

- describe and map the main export production areas;
- describe the production seasons (timeframe), by zone ;
- describe the climate of each production area, assessed in terms of the risk of pest infestation.

Production and export statistics for the last 2-3 years, specifying if possible :

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

Presence and distribution of the fall armyworm in the country:

- geographical distribution and prevalence ;
- infestation period ;
- other hosts in the production areas of bitter eggplants, eggplants and African eggplants.

SECTION 2. INTEGRATED PRE- AND POST-HARVEST MEASURES FOR THE PREVENTION AND CONTROL OF FALL ARMYWORM

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

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

Combined in an integrated management system, these measures will reduce the risk that any fruit and vegetables exported to the EU will be infested with FCM.

Measures at plantation level to monitor and control fall armyworm

Prior to harvest, producers producing for export to the EU should :

- i. Apply good crop hygiene.

Good field management and crop hygiene are critical to remove FAW adults and larvae in fallen fruit and to remove injured fruit. In all production sites, growers must :

- Remove all damaged and injured fruit, including fruit on the plant or on the ground.
- Remove all dead or dying plants.
- Destroy all crops and crop waste as soon as possible after harvest.

- ii. Conduct surveillance and monitoring

Surveillance is a major component of integrated management of fall armyworm.

- All sites producing bitter eggplants, eggplants and African eggplants for export should undertake daily monitoring.
- The authorities should agree with industry the thresholds of intervention.

- iii. Agree on the procedure to be followed by companies when there is an alert concerning Fall armyworm.

Strict procedures must be maintained until the pest is under control and crops are certified free of armyworm by the NPPO. For example:

- Quarantine all crops from the infested site and recall recently harvested fruit from

the surrounding area.

- Implement an eradication programme.
- Apply cultural and chemical control.
- Follow on-farm biosecurity measures to eliminate the transfer of pests.
- iv. Implement cultural control of armyworms to reduce the incidence of pests, e.g.
:
 - Rotate susceptible crops with non-susceptible or low risk crops.
 - Produce bitter eggplant, eggplant and African eggplant away from other host crops.
- v. Controlling armyworm with plant protection products.
 - National authorities should provide guidance on which products to use and how to use them (including application method, dose rate and pre-harvest interval). These must be consistent with the registration status in the country of origin and the maximum residue level (MRL) of the active ingredient in the EU.
- vi. Be trained. Producers and workers should be trained (and updated) in good practice in the identification, prevention, surveillance and control of fall armyworms.

During harvest, producers of bitter eggplants, eggplants and African eggplants for export to the EU should :

- i. During harvest, ensure that procedures are in place for sorting, isolating and disposing of all damaged fruit.
- ii. Ensure that handling and transport conditions are carefully managed to reduce the risk of fall armyworms gaining access to harvested fruit.
- iii. Set up a traceability system allowing the identification of plantations and the strict separation of harvest lots.
- iv. Ensure that all people involved in harvesting are trained so that they are aware of and apply good practices to reduce the risk of FAW attack; this includes good practice for prevention, control, crop hygiene, and traceability.
- v.

Measures taken at the packinghouse to prevent introduction, infestation and spread of fall armyworms

On receiving the fruit, the packhouse managers must :

- i. Have procedures in place to record the condition and phytosanitary status (presence of pests) of the harvested product upon arrival at the packhouse.
- ii. Have a system to record all pre-harvest and post-harvest armyworm control treatments applied to each lot.
- iii. Have a traceability system in place to ensure that each batch is identified and maintained separately through all the post-harvest operations.

Post-harvest measures to monitor and control armyworms

- i. Ensure that all operators involved in harvest and post-harvest activities can recognise damage caused by armyworms and know what to do when they find it.
- ii. Have procedures in place in the field and packhouse to inspect for FAW presence and damage at all handling, packing and storage sites.
- iii. Operate a fall armyworm alert system and put intervention and isolation procedures in place when infested fruit is identified.
- iv. A system should be maintained to keep records of packhouse inspections.
- v. Ensure that practices and facilities are in place for the management of all crop waste, including fruit damaged by pests.
- vi. Use refrigerated storage facilities where possible.
- vii. Apply post-harvest treatments, if necessary, using plant protection products.
 - a) As with field applications, national authorities should be able to provide guidance on which products to use and how to use them (e.g. application method, dose rate, pre-harvest interval).
 - b) These must comply with the registration status in the country of origin and the maximum residue level (MRL) of the active ingredient in the EU.
- i. Ensure that harvested fruit is never exposed to pest attack during packing, storage (including temporary storage) or transport (road, port or airport). This includes the physical examination of transported consignments and packaging areas to prevent the entry of pests. The use of pest control packaging is also an option.
- ii. 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 pest damage.



SECTION 3: INSPECTION AND CERTIFICATION SYSTEM

As indicated in Part 1, the NPPO should take specific measures for all production sites supplying bitter eggplants, eggplants and African eggplants for export to the EU.

To recap:

- a) The NPPO must register and supervise all production sites.
- b) The NPPO must carry out official inspections on all production sites during the three months prior to export. Exports can only be authorised if no fall armyworm has been detected at the production site.
- c) The NPPO must conduct an official inspection prior to export. Exports can only be permitted if the produce is found to be free of armyworm.

In the event of a problem or interception, or if a country is audited by the EU authorities (DG Health) at any time, the **national authorities of the exporting country must be able to provide all the necessary documentation to demonstrate that registration, supervision and inspections have been properly conducted.**

The NPPO must inspect all exported consignments to ensure that there is full traceability covering all movements of the products concerned from the place of production to the point of export.

The following sections describe the administrative and regulatory frameworks that need to be in place for the effective functioning of the official control system and its enforcement by the NPPO.

Administrative and regulatory framework for exports of bitter eggplants, eggplants and African eggplants to the EU

- i. A system should be put in place to register and identify all individual operators in the production and export chain (e.g. with a unique number).
- ii. A system of identification and traceability of all production sites supplying products for export to the EU should be put in place.
- iii. The authorities should categorise exporters' risks (high, medium and low risk).
- iv. Authorities should conduct risk categorisation of exports (e.g. locations and seasons with higher pest pressure).

National monitoring system for fall armyworm populations

This includes :

- i. Surveillance. Monitoring of armyworm populations (using traps) in and near areas where these crops are grown for export. This needs to be accompanied by a system of data compilation and analysis.

- ii. Risk mitigation measures. Depending on 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 should be in place to inform stakeholders of any increased risk of fall armyworm infestation and any mitigation measures they must take.

Control and certification system

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

- i. At the plantation level, the NPPO provides advice and training to private sector operators on crop production, and on monitoring and control of fall armyworms. They should oversee and ensure the application of good practices.
- ii. At the packhouse level, the NPPO controls the infrastructure and packing conditions. Private sector operators will receive training on identifying the presence and damage of fall armyworms, crop waste management, among others.
- iii. At the point of export (ports, airports, road borders), procedures are in place and effectively implemented for the inspection of products, the issuance of phytosanitary certificates and the preparation of all necessary documentation.

Measures to be taken by the NPPO at the level of producers of bitter eggplants, eggplants and African eggplants for export to the EU

- i. Confirming exporter registration
- ii. Checking traceability of all plantations that supply these crops for export.
- iii. Assessing and documenting the application of good practice by producers covering:
 - a. cropping practices;
 - b. crop hygiene and crop waste management;
 - c. FAW monitoring system using approved traps;
 - d. implementation of FAW control;
 - e. others.
- iv. System to verify the training of operators in good practices for the prevention and control of FAW.

Measures to be taken by the NPPO in all packing centres supplying bitter eggplants, eggplants and African eggplants for export to the EU

The NPPO will carry out an assessment of :

- i. Premises and equipment, to ensure the prevention of the entry and spread of fall armyworms.
- ii. The implementation of good hygiene practices and measures to prevent the risk of fall armyworm infestation.
- iii. The implementation of inspection/monitoring by packhouse staff at all handling and storage sites to check for the presence of fall armyworms.
- iv. The effectiveness of the sorting and isolation systems and the suitability of the infrastructure to deal with produce that show the presence and damage of fall armyworms.
- v. Facilities and procedures for the disposal of damaged fruit and waste.
- vi. The effectiveness and implementation of the traceability system.
- vii. The effectiveness of the system in place for batch isolation.
- viii. The frequency and effectiveness of staff training.

The issuing of phytosanitary certificates

The NPPO should apply a system of controls and certification according to the shipping method. This must be addressed:

- i. The implementation of document checks.
- ii. Physical inspection.
- iii. Identity check.
- iv. Sampling method.
- v. The NPPO must have a system in place for tracking and archiving inspection data.
- vi. The NPPO must have a system for tracking and archiving of phytosanitary certificates.



SECTION 4. THE NPPO'S QUALITY MANAGEMENT SYSTEM

According to ISPM 14, the authorities of the exporting country 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

Internal audit

This document should describe the monitoring and internal audit system in place to ensure the effective implementation of the phytosanitary inspection and certification system, including

- Training of NPPO managers and technical staff (inspectors, enforcement officers).
- Design and implement effective procedures for the inspection of production sites and packhouses.

Interception/notification management

This document should describe the system in place for monitoring notifications and communicating with stakeholders, including

- Statistics on notifications of fall armyworms.
- Information on the processing, tracking and communication of official notifications.

REFERENCES AND OTHER USEFUL PUBLICATIONS

REFERENCES AND OTHER USEFUL PUBLICATIONS

- Andermatt Biological (2019). PheroNorm.

<https://www.ndermattbiocontrol.com/sites/products/diverse-products/monitoring-systems/pheronorm.html> (accessed 20 September 2019)

- Corteva (2019a). Delegate 250 WG label ("a.i. spinetoram").

<https://www.corteva.co.za/label-finder.html> (Accessed on 20 September 2019)

- EU (2019). MRL Database.

<https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=pesticide.residue.selectionanguage=EN> (accessed September 29, 2019)

- EUROPHYT. 2012-2015. European Plant Health Notification and Rapid Alert System.

https://ec.europa.eu/food/sites/food/files/plant/docs/ph_biosec_europhyt-interceptions (accessed 20 September 2019)

- FAO (2017). The use of integrated measures in a systems approach to pest risk management. International Standards for Phytosanitary Measures (ISPM 14). <http://www.fao.org/3/a-y4221e.pdf> (accessed 29 September 2019).

- FAO (2017 a). Guidelines for a phytosanitary import regulatory system. International Standards for Phytosanitary Measures (ISPM 20). <http://www.fao.org/3/a-y5721e.pdf> (accessed 29 September 2019)

- Fening, K. O., Billah, M. K., & Kukiriza, C. N. M. (2017). Roadmap for pest reduction in Ghana's export vegetable sector. GhanaVeg Sector Reports, GhanaVeg (accessed 20.9.2019).

http://ghanaveg.org/wp-content/uploads/Final_GhanaVegSR6_PestRoadmap-1.pdf?x42440

- Fritsch E (1988). Biological control of codling moth, *Cryptophlebia leucotreta* (Meyrick) (Lep., Tortricidae), with granulosis viruses. Mitt. Dtsch. General Medical Officer Ent. 6, 280-283.

- ISPM 14 (2017). The use of integrated measures in a systems approach for pest risk management. <http://www.fao.org/3/a-y4221e.pdf>

- ISPM No. 31 (2008) Methods of sampling shipments. CPM-3 (2008) report <https://www.ippc.int/en/publications/83473/> (accessed 20 September 2019)
- Martin, T., Assogba-Komlan, F., Houndete, T., Hougard, J.M., Chandre, F., 2006. Effectiveness of mosquito netting for sustainable cabbage production by smallholders in Africa. J. Econ. Entomol. 99, 450-454.

- Whyte, C. (2009). Explanatory document to the International Standard for Phytosanitary Measures No. 31 (Methods of sampling lots). (Accessed 20 September 2019) <https://www.ippc.int/en/publications/43/>



COLEAD

colead.link