GUIDELINES ON

THE EXPORT OF FRESH CAPSICUM

COLEAD

NEW PLANT HEALTH RULES FROM THE EUROPEAN UNION

COLEAD GUIDELINES ON THE EXPORT OF CAPSICUM FROM AFRICA, MADAGASCAR, CAPE VERDE, AND MAURITIUS

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PART 1

Background and guidelines on meeting EU requirements for regulated pests: fruit fly (*Tephritidae – Bactrocera latifrons*), false codling moth (*Thaumatotibia leucotreta*), tomato fruit borer (*Neoleucinodes elegantalis*) and fall armyworm (*Spodoptera frugiperda*) on *Capsicum*

1. BACKGROUND

The European Union is overhauling its plant health (phytosanitary) regulations. On 14th December 2019, the new EU Plant Health Law (Regulation [EU] No 2016/2031) came into operation, bringing rigorous new rules to prevent the introduction and spread of harmful pests and diseases in the EU. The rules continue to evolve, and further amendments to the regulations came into force in 2023.

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 stringent new requirements covering the export of *Capsicum* to prevent the introduction of False Codling Moth (*Thaumatotibia leucotreta*), Tomato Fruit Borer (*Neoleucinodes elegantalis*) and Fall Armyworm (*Spodoptera frugiperda*) into Europe.

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

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

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).*

National action plans and stakeholder engagement

Meeting these new rules requires immediate and concerted action from producers, exporters and the National Plant Protection Organisations. If there are continued interceptions of pests in exported *Capsica*, 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 *Capsicum* is 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 the public sector authorities, in particular the National Plant Protection Organisation (NPPO).

COLEAD recommends the establishment of committees or tasks forces that bring all major stakeholders around the table to develop (and oversee the implementation) of a national *Capsicum* 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 exporter concerned (large and small). It is essential that all stakeholders agree to and implement the national

action plan; if only one exporter sends infested consignments to the EU, this could bring down the entire export sector.

COLEAD support

This document was prepared by COLEAD for national authorities and *Capsicum* 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 manage the pests concerned. 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. Note that the elements included here are not exhaustive. The national *Capsicum* action plan and dossier could include all or a selection of the measures outlined, as well as any others that may be available and appropriate locally.

2. REGULATORY CHANGES AFFECTING *CAPSICUM* EXPORTS TO 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.

A legislative piece concerning false codling moth (FCM, *Thaumatotibia leucotreta*) was published in June 2022 as (EU) 2022/959, and came into effect in July 2022. FCM was already recognized as a priority pest but, due to continued interceptions of this pest on various host plants at EU border inspections, more stringent regulations were introduced.

The implications of these updated regulations for the export of fresh fruit of Capsicum and Solanum species to the EU are detailed below.

Rules on the fruit fly *Bactrocera latifrons*

Regulation (EU) No 2021/2285 affects **all fresh fruits of the genus** *Capsicum* **L. and** *Solanum* **L.** (including chilli, pepper, tomato and eggplants) exported to the EU from the third countries[1] listed in point 72.1. of the regulation. Exports of *Capsicum* from these countries must be accompanied by a phytosanitary certificate (Chapter 3) and there must be an official declaration that the fruit complies 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 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. 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 (ISPM 4), 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

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, signs of *Bactrocera latifrons* (Hendel), and information on traceability is included in the phytosanitary certificate (ISPM 10; see Chapter 4),

or

d. the fruits have been subjected to an effective systems approach or an effective post-harvest treatment to ensure freedom from *Bactrocera latifrons* (Hendel) 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 have been communicated in advance in writing to the Commission by the national plant protection organisation of the third country concerned.

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

Meeting the options in practice

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

In any event, surveillance should be carried out to monitor populations of this pest in *Capsicum* producing areas.

Option (c) requires a place of production and its immediate vicinity (buffer zone) to be designated as free from *B. latifrons.* Some countries have adopted this option by using insect-proof screen houses. The place of production must be designated as pest-free through a series of inspections by the NPPO (at least monthly during the three months prior to harvesting), which are conducted strictly according to procedures specified in ISPM 10.

Option (d) requires *Capsicum* to 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 describing in detail the measures that will be applied to *Capsicum* exports to ensure they are free from *B. latifrons*. As there are hardly any effective post-harvest treatments available for use on *Capsicum* that will guarantee it is pest free, 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 pest risk (ISPM 14). These measures may include surveillance, cultural practices, crop treatment, post-harvest disinfestation, inspection, and others.

In the dossier, the exporting country must provide sufficient information to the EU to enable the evaluation and approval of the proposed systems approach. **Part 2 of this document provides guidance on the development and submission of a dossier, using FCM as an example.**

Amended rules on false codling moth (FCM)

As a result of the large number of *Capsicum* consignments that have been intercepted at EU border controls due to the presence of FCM, the EU is once again tightening its requirements for the exporting countries concerned.

The new implementing Regulation (EU) 2022/959 applying as from July 2022, requires exports of *Capsicum* from Africa, Madagascar, Cape Verde and Mauritius, to be accompanied by a phytosanitary certificate (Chapter 3), and an official declaration that the fruit complies with one of the following options:

a) the fruits originate in a country recognised as being free from *Thaumatotibia*

leucotreta in accordance with 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 country of origin,

or

b) the fruits originate in an area established by the national plant protection organisation in the country of origin as being free from *T. leucotreta*, in accordance with the relevant International Standard for Phytosanitary Measures ISPM 4,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 country of origin,

or

c) fruits (i) originate in a place of production established by the national plant protection organisation in the country of origin as being free from *T. leucotreta* (Meyrick) in accordance with the International Standard for Phytosanitary Measures ISPM 10, and which is included in the list of place of production codes that has been communicated in advance in writing to the Commission by the national plant protection organisation of the country of origin, and

(ii) have been subjected to official inspections carried out in the place of production at appropriate times during the growing season and prior to export, including a visual examination with an intensity to enable at least the detection of a 2 % level of infestation, with a level of confidence of 95 % in accordance with the International Standard for Phytosanitary Measures ISPM 31 and including destructive sampling in case of symptoms, and have been found to be free from *T. leucotreta* (Meyrick), and

(iii) are accompanied by a phytosanitary certificate that indicates the place of production codes.

or

d) (i) the fruits have been produced in an approved site of production, which is included in the list of production site codes that has been communicated in advance in writing to the Commission by the national plant protection organisation of the country of origin,

and

(ii) have been subjected to an effective systems approach to ensure freedom from *T. leucotreta* (Meyrick), in accordance with the International Standards for Phytosanitary Measures ISPM 14, or an effective stand-alone post-harvest treatment to ensure freedom from *T. leucotreta* (Meyrick), provided that the respective systems approach used or the post-harvest treatment, together with documentary evidence of its effectiveness, have been communicated in advance in writing to the Commission by the national plant protection organisation of the country of origin and that post-harvest treatment has been assessed by the European Food Safety Authority,

and

(iii) prior to export, have been subjected to official inspections for the presence of *T. leucotreta* (Meyrick), with an intensity to enable at least the detection of 2 % level of infestation, with a level of confidence of 95 % in accordance with the International Standard for Phytosanitary Measures ISPM 31 and including destructive sampling in case of symptoms,

and

(iv) are accompanied by a phytosanitary certificate that indicates the production site codes and mentions the details of the post-harvest treatment used, or the use of the systems approach

Meeting the options in practice

In practical terms, only Options (c) and (d) are potentially applicable to the *Capsicum* sector in the countries concerned. The first two require pest-free countries or areas, which are not generally feasible because of the widespread distribution of FCM. Options (a) and (b) are therefore not described in detail in this document, but general information is provided in Chapter 4 on "Pest Free status".

Option (c) requires a place of production designated as free from FCM. Some countries have adopted this option by using insect-proof screen houses. 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. It is an effective option, but requires significant investment and is out of reach of many smallholder farmers involved in *Capsicum* production. In order to comply with Option (c), it is also necessary to comply with the following:

- The NPPO of the exporting country has to communicate in advance in writing to the European Commission the list of place of production codes.
- Inspections will have to be carried out prior to export, including a visual examination with an intensity to enable at least the detection of 2 % level of infestation, with a level of confidence of 95 % in accordance with the International Standard for Phytosanitary Measures ISPM 31 (see the table in ISPM 31 annexes) and including destructive sampling in case of symptoms.

Option (d) requires *Capsicum* to be subjected to an effective treatment. The NPPO must submit a dossier to the European Commission describing in detail the "effective treatment" that will be applied to all *Capsicum* exports to ensure they are free from FCM. There are currently few effective single treatments available for post-harvest control on *Capsicum* that will guarantee it is FCM free. Therefore, 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 pest risk (ISPM 14[2]). These measures may include surveillance, cultural practices, crop treatment, post-harvest

[2] ISPM 14: "The use of integrated measures in a systems approach for pest risk management". http://www.fao.org/3/a-y4221e.pdf

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 FCM. **Part 2 of this document provides a guideline on the development and submission of a dossier.**

In order to comply with Option (d), it will be also necessary to comply with the following:

- The NPPO of the exporting country must send to the Commission in advance in writing the list of place of production codes;
- Inspections will have to be carried out prior to export, including a visual examination with an intensity to enable at least the detection of 2 % level of infestation, with a level of confidence of 95 % in accordance with the International Standard for Phytosanitary Measures ISPM 31 (see the table in ISPM 31 annexes) and including destructive sampling in case of symptoms.

Once the dossier is submitted, its acceptance or rejection by the European authorities should be checked using the following link: Declarations on pest status from non-EU countries[3] (PDF files attached to each country show the status of their pest dossiers and declarations). Exports can only take place once the dossier is officially accepted.

If the exporting country has decided to export under option (d) for FCM and for *Bactrocera latifrons,* two possibilities could be envisaged. The NPPO could prepare 2 separate dossiers (one for each pest), or one dossier that combines both pests. In the case of one combined dossier, this could be organised with a common section (with general information on the national *Capsicum* sector), plus separate chapters for the management of each pest species. However, COLEAD advises that separate dossiers should preferably be prepared.

According to the regulation, *Capsicum* exported to the EU must be accompanied by a phytosanitary certificate and there are strict requirements on how this should be filled. Options selected for each relevant pests, and references to the regulation must be mentioned in the certificate. Chapter 3 provides clear instructions on how to complete the phytosanitary certificate.

Rules on fall armyworm (*Spodoptera frugiperda*)

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.

[3] https://ec.europa.eu/food/plant/plant_health_biosecurity/non_eu_trade/declarations_en

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.

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*).

Capsicum 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) originate from a country where the pest is not known to occur;

(b) 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';

(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;

(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;

(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.

As mentioned in earlier sections, options (c) and (d) are the most feasible for producers in most circumstances; the first two require pest-free countries or areas. Option (e) is also problematic as there are few effective single treatments available for post-harvest control of fall armyworm on *Capsicum* that will guarantee it is pest free.

Option (c) requires a place of production designated as pest free. This can be achieved using insect-proof screen houses coupled with the required inspections by the NPPO. As noted earlier, this is an effective option, but requires significant investment in infrastructure.

Option (d) requires *Capsicum* to be subjected to an effective treatment, in addition to specified supervision and inspections by the NPPO. As in the case of FCM, this allows for the use of a systems approach for management of the pest.

Applying Option (d): National fall armyworm action plan and the role of the NPPO

As in the case of FCM and *B. latifrons*, Option (d) of this Directive is the most accessible for the majority of *Capsicum* operators. However, there are some important differences:

1. In the case of fall armyworm, 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 take a similar approach to that recommended for FCM; **they must 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 *Capsicum*; it is critical to ensure that there is no risk of it being present in exported consignments.**
2. There are specific actions that must be taken by the NPPO for all production sites that supply *Capsicum* 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 at all production sites during the three months prior to export. Exports can only be permitted 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 from fall armyworm.

3. If there is a problem or interception, or if a country is subject to an audit by the EU authorities (DG Santé) at any stage, the **national authorities in the exporting country must be able to provide all the necessary documentation to demonstrate that the 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 *Capsicum* from the place of production to the point of export.

Rules on 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[4] under Point 68.

The regulation applies to a number of fresh products exported into the EU from any third country including fruits of *Capsicum annum* L., Ethiopian eggplant (*Solanum aethiopicum*), tomato (*S. lycopersicum*) and eggplant/aubergine (*S. melongena*).

Capsicum exports must be accompanied by a phytosanitary certificate, (Chapter 3) and must meet requirements set out in **one** of the following options. There must be an official statement that the fruit originates in either:

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 communicated in advance 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 in the country of origin as being free from *Neoleucinodes elegantalis* (Guenée) 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 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) a place of production established by the national plant protection organisation of the country of origin as being free from of *Neoleucinodes elegantalis* (Guenée) in accordance with the relevant International Standards for Phytosanitary Measures and official inspections have been carried out in

[4] Annex IV. Part A, Section 1 Point 25.7.3 of Commission Implementing Directive (EU) 2019/523.

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

or

d) an insect proof site of production, established by the national plant protection organisation in the country of origin as being free from *Neoleucinodes elegantalis* (Guenée), on the basis of official inspections and surveys carried out during the three months prior to export, and information on traceability is included in the phytosanitary certificate referred to in Article 71 of Regulation (EU) No 2016/2031.

Recommended action by NPPOs

For countries in Africa as well as Madagascar, Cape Verde and Mauritius, the pest *Neoleucinodes elegantalis* has not so far been recorded. At the present time therefore, COLEAD recommends that countries select Option (a) as the most appropriate.

In order to use this option, NPPOs must take the following 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* (Guenée), 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 (PDF files attached to each country show the status of each declaration).
3) Information about 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 actions that need to be taken with regard to pest-free country status for tomato fruit borer. If there is a problem or interception, or if a country is subject to an audit by the EU authorities (DG SANTE) 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).

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.

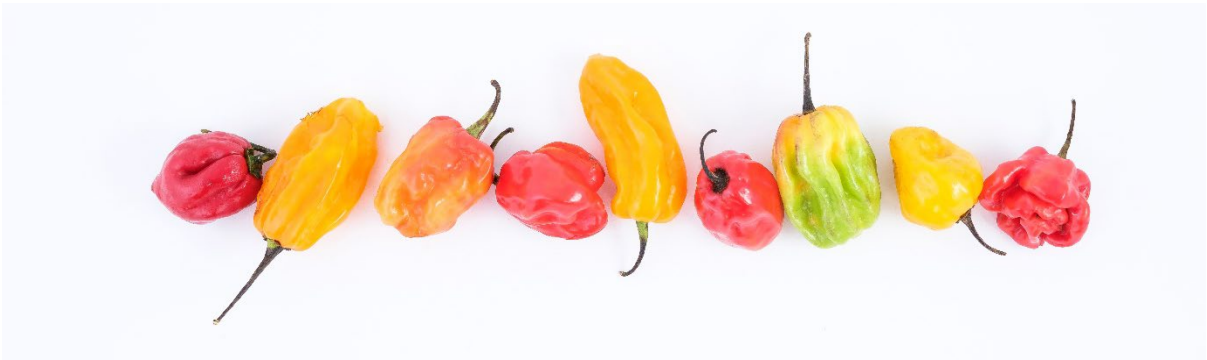
The new EU Plant Health Law, (EU) 2016/2031, classifies all plant pests according to the following four categories:

- **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 Commission Implementing Regulation (EU) No 2019/2072 of 28 November 2019.
- **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) No 2019/1702.

Fall armyworm (*S. frugiperda*) and false codling moth (*T. leucotreta*) are listed as Priority Pests, and consequently are subject to the very strict measures outlined in this document. The other pests included here are Union Quarantine Pests, which are also subject to statutory controls.

It is important to note that this document is not exhaustive. There are other Union quarantine pests that concern *Capsicum*, and whose introduction into the EU is banned but for which no additional special measures or declarations are specified. For example, *Bemisia tabaci* Genn. (non-European populations), a known virus vector, is a Union quarantine pest. Each year there are several interceptions of imported *Capsicum* where this pest is detected, and the consignment is detained at EU border controls. **It is essential to monitor and avoid the presence of any quarantine pest in *Capsicum* for export.**

Note that in Regulation (EU) No 2021/2285, published in December 2021, the non-European isolates of potato viruses A, M, V and Y were removed from the list of Union quarantine pests.



3. COMPLETING THE PHYTOSANITARY CERTIFICATE

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

a. a review of the phytosanitary certificate and associated documents to ensure that the consignment meets EU requirements;

b. an identity check to make sure that the consignment corresponds with the certificate;

c. an inspection of the produce to ensure that it is free from harmful organisms.

All *Capsica* exported to the EU must be accompanied by a phytosanitary certificate. There are strict requirements on how this should be filled, and it is important to note that:

1. The phytosanitary certificate must include information on all regulated pests of concern for the exported product. The fruit fly (*Bactrocera latifrons*), false codling moth (*Thaumatotibia leucotreta*), tomato fruit borer (*Neoleucinodes elegantalis*) and fall armyworm (*Spodoptera frugiperda*) are all now regulated pests for *Capsicum*, and so **all of them must be included.**

2. 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.

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 about consignments of *Capsicum* entering Europe that have been rejected and destroyed because the phytosanitary certificate has been filled incorrectly.

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 between pests, and depending on which management option is selected. The following section gives guidance for the main pests addressed in the EU regulations.

For the fruit fly *Bactrocera latifrons*

Exporting under Option (c): pest free production site

If exporting countries are using Option (c) to export these fruits, it is essential to include the following 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 2019/2072: 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, signs of *Bactrocera latifrons* (Hendel), and information on traceability is included in the phytosanitary certificate."

Information on traceability: 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.

Exporting under option (d): systems approach

If exporting countries are using 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 take place, 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 2019/2072: the fruits have been subjected to an effective systems approach to ensure freedom from *Bactrocera latifrons* (Hendel) and the use of a systems approach or details of the treatment method are indicated on the phytosanitary certificate, provided that the systems approach method have been communicated in advance in writing to the Commission by the national plant protection organisation of the third country concerned.

For false codling moth (Implementing Regulation [EU] No 2019/2072)

Exporting under Option (c): pest free production site

If exporting countries are using Option (c) for a pest free production site (for example with *Capsicum* grown in insect-proof screenhouses), it is essential to include the following wording in the phytosanitary certificate (note that the list of "places of production" codes must be submitted in advance to the European Commission).

In the **Additional Declaration** write: "The consignment complies with Option (c) of Annex VII, Point 62 of Implementing Regulation (EU) No 2019/2072: fruits (i) originate in a place of production established by the national plant protection organisation in the country of origin as being free from *T. leucotreta* (Meyrick) in accordance with the International Standard for Phytosanitary Measures ISPM 10, and which is included in the list of place of production codes that has been communicated in advance in writing to the Commission by the national plant protection organisation of the country of origin, and

(ii) have been subjected to official inspections carried out in the place of production at appropriate times during the growing season and prior to export, including a visual examination with an intensity to enable at least the detection of a 2 % level of infestation, with a level of confidence of 95 % in accordance with the International Standard for Phytosanitary Measures ISPM 31 and including destructive sampling in case of symptoms, and have been found to be free from *T. leucotreta* (Meyrick), and

(iii) are accompanied by a phytosanitary certificate that indicates the place of production codes.

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.

Exporting under Option (d): Systems Approach

If exporting countries are using Option (d) for an effective treatment, first they must submit a dossier and the list of production site codes to the European Commission. Once this has been submitted and accepted, it is essential to include the following wording in the phytosanitary certificate:

1. In the **Treatment Box/section** write: "Systems approach".
2. In the **Additional Declaration** write: "The consignment complies with Option (d) of Annex VII, Point 62 of Implementing Regulation (EU) No 2019/2072.

   (i) the fruits have been produced in an approved site of production, which is included in the list of production site codes that has been communicated in advance in writing to the Commission by the national plant protection organisation of the country of origin,

   and

   (ii) have been subjected to an effective systems approach to ensure freedom from

T. leucotreta (Meyrick), in accordance with the International Standards for Phytosanitary Measures ISPM 14, or an effective stand-alone post-harvest treatment to ensure freedom from *T. leucotreta* (Meyrick), provided that the respective systems approach used or the post-harvest treatment, together with documentary evidence of its effectiveness, have been communicated in advance in writing to the Commission by the national plant protection organisation of the country of origin and that post-harvest treatment has been assessed by the European Food Safety Authority,

and

(iii) prior to export, have been subjected to official inspections for the presence of *T. leucotreta* (Meyrick), with an intensity to enable at least the detection of 2 % level of infestation, with a level of confidence of 95 % in accordance with the International Standard for Phytosanitary Measures ISPM 31 and including destructive sampling in case of symptoms,

and

(iv) are accompanied by a phytosanitary certificate that indicates the production site codes and mentions the details of the post-harvest treatment used, or the use of the systems approach

3. **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.

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 (*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 the 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:

(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 pri export, and no presence of the specified pest has been detected on specified plants;

(iii) it has physical isolation against the introduction of the specified pest;

(iv) information ensuring traceability of the specified plants to that sit

production has been ensured during their movement prior to export;

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.

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:

3. In the **Treatment Box/section** write: "Systems approach".
4. In the **Additional Declaration** write: "The consignment complies with Option (d) of Article 10 of the 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;

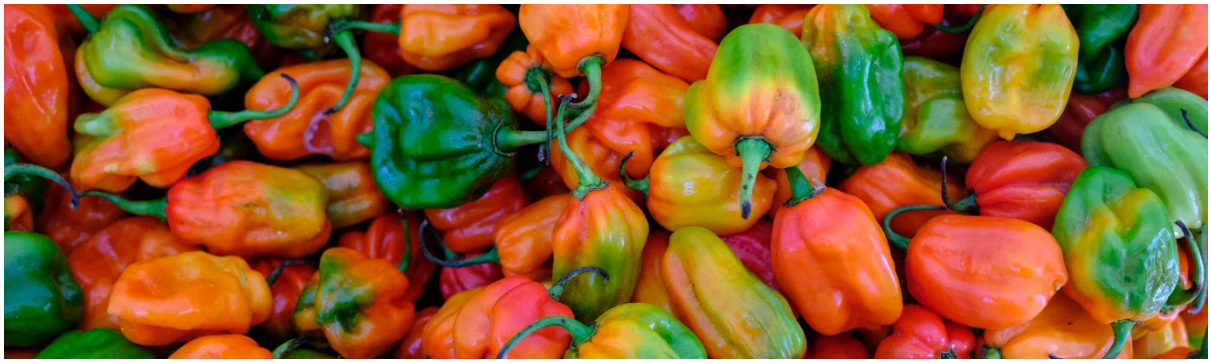
(iv) information ensuring the traceability of the specified plants to that site of production has been ensured during their movement prior to export;

For tomato fruit borer (Implementing Regulation [EU] No 2019/2072)

Exporting under option (a): Pest free country

First NPPOs must notify the European Commission that they are a country free from *Neoleucinodes elegantalis*. Once this is done and accepted, the following wording must be included in the phytosanitary certificate:

a) In the **Additional Declaration**, write: "The consignment complies with Option (a) of Annex VII, Point 68 of Implementing Regulation (EU) No 2019/2072:The fruit/consignment originates in 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 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 are (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 FCM or fall armyworm on *Capsicum* 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 *Neoleucinode*s in the EU, *Capsicum* exports can continue without the need for any of the additional phytosanitary measures listed in the regulations.

Pest or disease free area:	An area in which a specific pest is absent as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained

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:

i. systems to establish freedom;

ii. phytosanitary measures to maintain freedom;

iii. 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);

ii. regulatory controls (protective measures against the introduction into the country, including listing as a quarantine pests);

iii. audits (reviews and evaluation);

iv. documentation (reports, work plans).

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

i. ISPM 4 on requirements for establishing pest free areas

ii. 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 .

iii. 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".

Directives covering the three regulated pests of *Capsicum* allow countries to export if *Capsicum* has 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 producers. However, where resources are available, this can be an effective option.

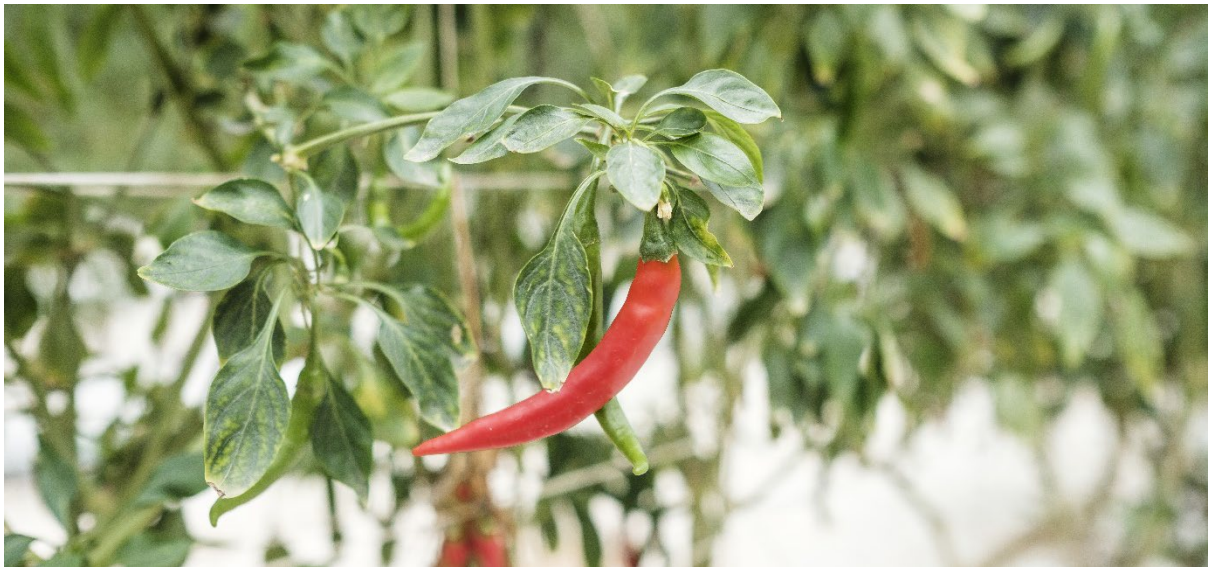
A place of production can only be designated as pest free by the NPPO. The NPPO and producers/exporters are required to conduct surveillance and inspections according to international guidelines.

In addition to this, producers growing *Capsicum* 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 documents and guides from IPPC/FAO provide further information:

i. ISPM 10 for the establishment of pest free places of production and pest free production sites;

ii. 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 False Codling Moth (*Thaumatotibia leucotreta*) on *Capsicum*

According to Implementing Regulation (EU) No 2021/2285, (UE) No 2022/959 & (UE) No 2019/2072

BACKGROUND TO THE DOSSIER

As noted in Part 1, new EU phytosanitary requirements are being introduced concerning fruit flies on *Capsicum*, as well as more stringent measures for false codling moth (FCM). In the case of both FCM and *Bactrocera latifrons,* exporting countries must select from a series of options specified in the regulations that define the conditions under which *Capsicum* is produced and exported.

Part 2 of this document is a guide for the development of a dossier to meet Option (d) for a systems approach to manage FCM. **This provides an example that can be used to develop similar dossiers for other pests.**

If an exporting country decides to export under Option (d) for both FCM and *Bactrocera latifrons,* two possibilities could be envisaged. The NPPO could prepare 2 separate dossiers (one for each pest), or one dossier that combines both pests. In the case of a combined dossier, this could be organised with a common section (including general information on the national *Capsicum* sector), plus separate chapters for the management of each pest species. However, COLEAD advises that separate files should preferably be prepared among others to facilitate validation.

Option (d) in more detail

According to Implementing Regulation (EU) No 2021/2285 and Option (d) Points 62 of Annex VII to Implementing Regulation (EU) No 2019/2072, *Capsicum* exported to the EU must conform with all the following requirements:

> (i) the fruits have been produced in an approved site of production, which is included in the list of production site codes that has been communicated in advance in writing to the Commission by the national plant protection organisation of the country of origin,
>
> and
>
> (ii) have been subjected to an effective systems approach to ensure freedom from T. leucotreta (Meyrick), in accordance with the International Standards for Phytosanitary Measures ISPM 14, or an effective stand-alone post-harvest treatment to ensure freedom from T. leucotreta (Meyrick), provided that the respective systems approach used or the post-harvest treatment, together with documentary evidence of its effectiveness, have been communicated in advance in writing to the Commission by the national plant protection organisation of the country of origin and that post-harvest treatment has been assessed by the European Food Safety Authority,
>
> and

(iii) prior to export, have been subjected to official inspections for the presence of T. leucotreta (Meyrick), with an intensity to enable at least the detection of 2 % level of infestation, with a level of confidence of 95 % in accordance with the International Standard for Phytosanitary Measures ISPM 31 and including destructive sampling in case of symptoms,

and

(iv) are accompanied by a phytosanitary certificate that indicates the production site codes and mentions the details of the post-harvest treatment used, or the use of the systems approach

The NPPO of each exporting country must submit a dossier to the EC describing in detail the measures applied to *Capsicum* exports to ensure they are free from FCM. There are currently few effective single treatments available for post-harvest control on *Capsicum* that will guarantee it is FCM free. It is why, we recommend the use of a **systems approach.**

A systems approach means developing an action plan that combines several different pest management measures that, used together, will significantly reduce 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.

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 FCM. This includes providing as much evidence as possible that the measures included in the dossier are effective.

Introduction to this Guide

This document was prepared by COLEAD as a guide for national authorities and *Capsicum* sectors to help orientate the development of a dossiers in the context of Implementing Regulation (EU) No 2021/2285, (UE) No 2022/959 and (UE) n° 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 False Codling Moth (FCM). 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 national *Capsicum* 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 *Capsicum* sector;

b. Phytosanitary measures taken before, during and after harvest to prevent and control FCM;

c. Phytosanitary inspection and certification system;

d. Quality management system put in place by the NPPO to ensure that the national *Capsicum* pest management dossier is effectively implemented and monitored.

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

a) 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.

b) 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.

c) 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.

d) 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.).

e. Procedures such as pest surveillance, trapping and sampling can also be components of a systems approach.

f. 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 *Capsicum* 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 exporter 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: GENERAL OVERVIEW OF THE NATIONAL *CAPSICUM* 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
- The production, harvesting, packaging/handling and transportation
- The crop/pest dynamics
- The plant health risk management measures that will be included in the systems approach, and relevant data on their efficacy
- The relevant references

Information on the national sector

Crop details:

Capsicum species and varieties grown for export (scientific names and common names);

b. characteristics of each species and variety;

c. sensitivity or resistance to FCM;

d. Production Zones: describe and map the main production zones of *Capsicum* for export;

e. describe the production seasons (timeframe), by zone;

f. describe the climate in each production zone, assessed according to risk of pest infestation.

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

destination country;

b. method of shipment (sea, air, land).

Presence and distribution of FCM in the country:

geographical distribution and prevalence,

b. period of infestation

of other host plants in *Capsicum* production areas

SECTION 2: INTEGRATED PRE-HARVEST AND POST- HARVEST MEASURES FOR THE PREVENTION AND CONTROL OF FALSE CODLING MOTH

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.

Combined into an integrated management system, these measures will reduce the risk of any *Capsicum* exported to the EU being infested with FCM

Measures at plantation level to monitor and control FCM

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

i. Apply good crop hygiene.

Good field management and crop hygiene are critical to eliminate FCM adults and larvae in fallen fruit, and to remove injured fruit as these are more attractive and susceptible to FCM attack. In all production sites, growers must:

- remove all damaged and injured fruit, including fruit on the plants or ground;
- remove all dead or dying plants;
- destroy all crops and crop waste as soon as possible after harvest;
- dispose of all crop debris by composting under conditions that destroy FCM eggs/larvae, by burning, or by burial.

ii. Conduct surveillance and monitoring.

Surveillance is a major component of the integrated management of FCM.

- All production sites growing *Capsicum* for export should undertake

monitoring on a daily basis using traps with pheromones specific to FCM. 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 FCM will trigger a decision to spray or stop harvesting for export. As the level of tolerance to FCM in export *Capsicum* is zero, the sector should agree to take action as soon as the first male moth is caught.

iii. Agree the procedure to be followed by companies when there is an FCM Alert. Strict procedures should be maintained until the pest is under control and *Capsicum* crops are certified FCM free by the NPPO. For example:

- quarantine all harvest from the infested site and initiate a product recall of fruit recently harvest in the vicinity;
- implement an eradication program;
- apply cultural and chemical control;
- adhere to bio-safety measures on the farm to eliminate pest transfer.

iv. Implement cultural control of FCM to reduce FCM incidence, for example:

- rotate FCM susceptible crops with non-susceptible or low risk crops (e.g., baby corn and green beans);
- allow land to remain fallow in the dry season so that FCM is less likely to reach pest proportions;
- plough before transplanting during the dry season;
- keep land free of *Capsicum* plants and other susceptible crops for at least four months every year to break the FCM cycle and remove egg laying sites for new generations;
- produce *Capsicum* away from other host crops.

v. Control FCM using plant protection products.

- The national authorities should 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. See more details in Section 5.

vi. Be trained. Growers and workers must be trained (and updated) in good practice relating to the identification, prevention, surveillance, and control of FCM.

During harvest, growers producing *Capsicum* 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 managed carefully to reduce the risk of FCM gaining access to harvested fruit;

iii. operate a traceability system that allows for the identification of plantations, and 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 FCM attack; this includes good practice for prevention, control, crop hygiene, and traceability.

Measures at the packhouse to prevent introduction, infestation and spread of FCM

On receiving the fruit, packhouse managers must:

i. Have procedures in place to record the condition and phytosanitary status (pest presence) of *Capsicum* when it arrives at the packhouse;

ii. Have a system in place to record all FCM 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 FCM

i. Ensure that all operators involved in harvest and post-harvest activities can recognise FCM damage and know what to do when they find it.

ii. Have procedures in place in the field and packhouse to inspect for FCM presence and damage at all *Capsicum* handling, packing and storage sites. This involves visual checks, and slicing fruits open to check for FCM larvae. Slicing a minimum of 2 fruit from every 100 fruit is recommended.

iii. Initiate the FCM alert system, and put intervention and isolation procedures in place, when FCM infested fruit is identified.

iv. Maintain a system to keep records of packhouse inspections.

v. Ensure practices and facilities are in place for the management of all *Capsicum* waste, including pest damaged fruit.

vi. Use refrigerated storage facilities where possible.

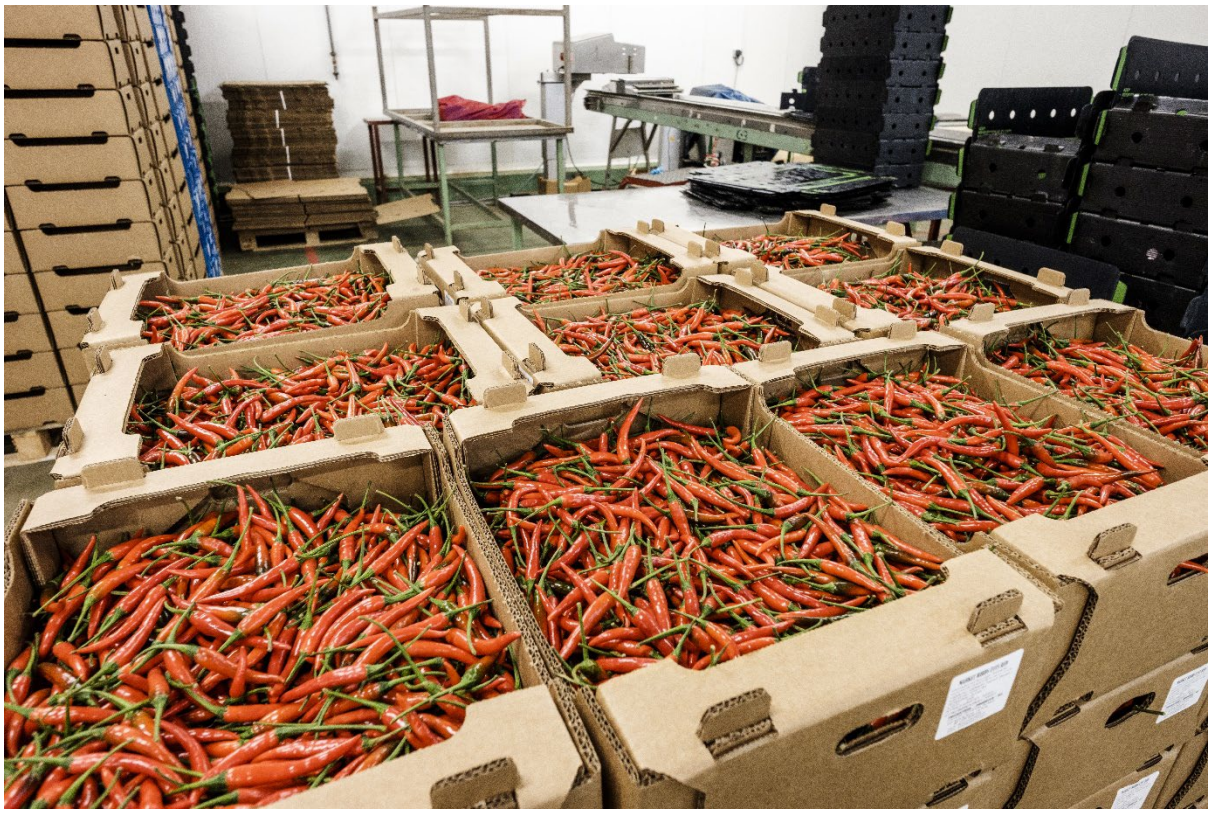
vii. Apply post-harvest treatments, when necessary, using plant protection products.

    a. 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 (e.g., application method, dose rate, pre-harvest interval).

    b. 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.

viii. Ensure that harvested fruit is never exposed to pest 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 pest entry. Use of pest-proof packaging is also an option.

ix. 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

The following sections outline the administrative and regulatory framework that needs to be in place, with an emphasis on the official control system and its enforcement by the NPPO.

Administrative and regulatory framework governing export of *Capsicum* 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 production sites that supply *Capsicum* for export to the EU.

iii. Authorities should conduct risk categorization of exporters (high, medium and low risk).

iv. Authorities should conduct risk categorisation of exports (e.g., locations and seasons with higher pest pressure).

National system for monitoring FCM populations

This includes:

i. Surveillance. Monitoring of FCM populations (using traps) in and near areas where *Capsicum* 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 FCM 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 *Capsicum* export value chain. This includes providing advice and training, as well as monitoring the implementation of plant health measures (that may include specific controls and

certification). In brief:

i. At the plantation level, the NPPO provides advice and training to private sector operators on *Capsicum* production, and on the monitoring and control of FCM. They should oversee and ensure the application of good practice.

ii. At the packhouse level, the NPPO controls infrastructure and packing conditions. Training of private sector operators will be provided in identification of FCM presence and damage, crop waste management, among others.

iii. At the point of export (ports, airports, road borders), procedures are 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 *Capsicum* for export to the EU

i. Confirming exporter registration.

ii. Checking traceability of all plantations that supply *Capsicum* 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. FCM monitoring system using approved traps;

   d. Implementation of FCM control;

   e. Others.

iv. Establishing a system to verify the training of operators in good practices for the prevention and control of FCM.

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

The NPPO will conduct an assessment of:

i. Premises and equipment, to ensure the prevention of FCM entry and spread.

ii. The implementation of good hygiene practices, and measures to prevent the risk of FCM infestation.

iii. The implementation of inspection/monitoring by packhouse personnel at all handling and storage sites to check for FCM.

iv. The effectiveness of sorting and isolation systems, and the suitability of

infrastructure, to deal with *Capsicum* that shows FCM presence and damage.

v. The facilities and procedures for disposal of damaged fruit and 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. This must address:

i. The implementation of document checks

ii. Identity checks

iii. Physical inspection (including destructive sampling of some visually inspected fruits)

iv. Sampling method

v. The NPPO must have in place a system for tracking and archiving inspection data

vi. The NPPO must have a procedure in order to communicate in advance in writing to the European Commission the list of place of production codes

vii. The NPPO must have a system for the tracking and archiving of phytosanitary certificates

SECTION 4: NPPO QUALITY MANAGEMENT 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.

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:

a. training of NPPO managers and technical personnel (inspectors, enforcement officers);

b. designing and implementing effective procedures for the inspection of production sites and packhouses.

Management of interceptions/notifications

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

a. statistics on FCM notifications;

b. information on processing, tracking and communicating official notifications.

SECTION 5: PROVIDING EVIDENCE OF EFFECTIVENESS

Option (d) of implementing Regulation (EU) No 2021/2285 and Option (d -ii), point 62 of Annex VII to Implementing Regulation (EU) No 2019/2072 stipulates that:

> (ii) have been subjected to an effective systems approach to ensure freedom from *T. leucotreta* (Meyrick), in accordance with the International Standards for Phytosanitary Measures ISPM 14, or an effective stand-alone post-harvest treatment to ensure freedom from *T. leucotreta* (Meyrick), provided that the respective systems approach used or the post-harvest treatment, together with **documentary evidence of its effectiveness, have been communicated in advance in writing** to the Commission by the national plant protection organisation of the country of origin and that post-harvest treatment has been assessed by the European Food Safety Authority,

Evidencing effectiveness of the national approach

For the moment, the EU requires documentary evidence of effectiveness of the systems approach only in the case of FCM (and not yet for fruit fly).

Collecting evidence on the effectiveness of a systems approach in its entirety is complex and requires more than one season. The evidence must be based on information **specific to the applicant country**. NPPOs should provide as much evidence as possible on the general effectiveness of an IPM system, and on the individual control methods included in the dossier. This evidence can be obtained from research reports and scientific publications (see examples below).

It is important to emphasise in the dossier that the national FCM management plan takes a risk-based approach. The results of monitoring, surveillance and inspections are used to guide FCM management decisions. Monitoring data's can be added in annexes of the dossier.

Also emphasise that training at all levels of the value chain is core to the success of the systems approach. In the dossier, provide a list of all training courses that should be undertaken by the private sector. The NPPO, when undertaking site visits, should seek evidence that this training has been received.

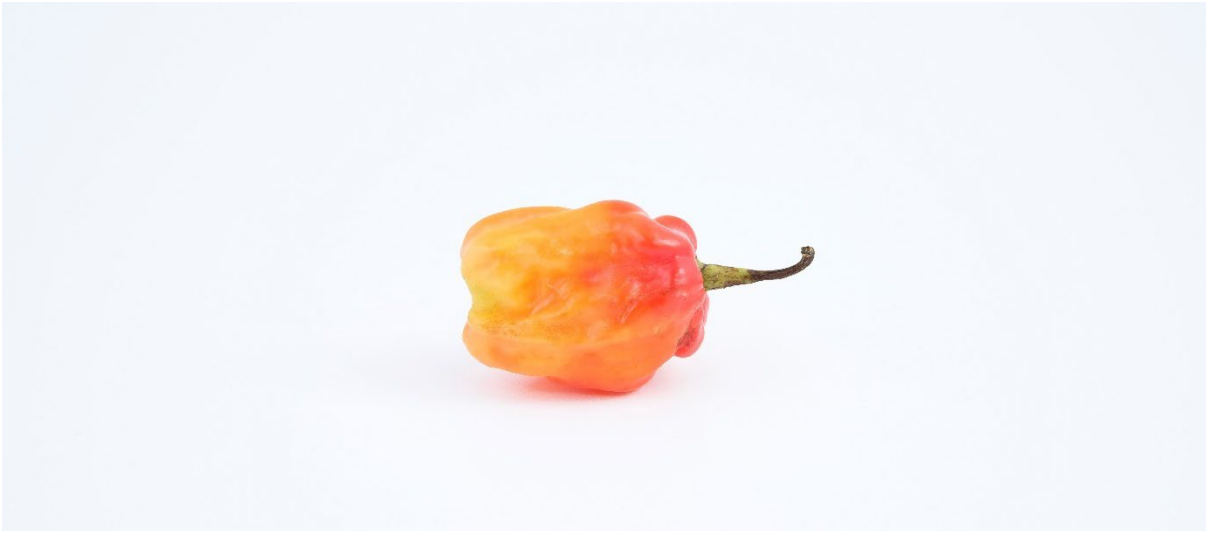
Finally, explain that surveillance, cultural practices, crop treatment, post-harvest disinfestation, inspection, and others are used in combination to deliver effective and efficient FCM management that mitigates the risk of infestation in *Capsicum* exported to the EU.

Examples of information sources

1. Several new and effective control measures for FCM have been introduced, and *Capsicum* benefits from the outputs of IPM research conducted on other crops, particularly citrus. FCM control has become more sophisticated with the use of multiple control measures, and less reliance on single treatments. In citrus the level of control achieved has been shown as the sum of the efficacy of all the measures used, denoting that, even if efficacy of a single measure is sub-optimal, when several effective measures are used in combination through the course of one season, levels of FCM control exceed 95%. (Moore and Hattingh, 2012).
2. A treatment protocol that combines several different pest control measures (cultural, physical, biological and chemical) used together can significantly reduce pest risk (FAO, 2017).
3. Crop sanitation is a critical element of the IPM of FCM. In tree fruits in South Africa, research has shown that it is possible to remove an average of 75% of FCM larvae from a crop by conducting weekly crop sanitation (Moore, 2017)
4. If there is a long dry season, allow land to remain fallow so that FCM (which needs a continual source of food) is less likely to reach pest proportions (CABI, 2019 a).
5. Ploughing before transplanting during the dry spell exposes the FCM larvae/pupae to natural enemies and extremes of heat (CABI, 2019 b)
6. Producing *Capsicum* in isolated regions, away from other *Capsica* or alternate host crops (e.g., cotton, tomato, okra, eggplant, pigeon pea and sweet potato) is effective in reducing FCM (CABI, 2019 b)
7. The pyrethroids insecticides kill FCM larvae by contact on the fruit surface. They are intended to be used to protect fruit against FCM infestation. Data from field trials conducted in Ghana provide evidence of their effectiveness (Fening *et al.*, 2017). Results from trials on *Capsicum* showed that cypermethrin and lambda cyhalothrin are highly effective for the control of FCM in *Capsicum*. The same trial on garden egg plants (aubergine) gave similar results.
8. Trials to test pyrethroid insecticides for control of FCM have also been conducted on citrus in South Africa, where crop losses due to FCM of up to 20% have been registered. Trials on citrus by Hofmeyr (1983) indicated that cypermethrin and deltamethrin, applied two to three months before harvest, reduced fruit drop by an average of 90%. Reduction in fruit lost between 65% and 82% was reported four weeks after single spray treatment of Navel oranges with cypermethrin (P.J. Newton, 1987). Cypermethrin is registered for FCM control in South Africa (Moore, 2017).
9. *Bacillus thuringiensis* (BT) has been shown to be effective against False Codling

Moth (Li Bouwer, 2012) and is widely use in Africa against most lepidopteran pests including FCM. USDA (2010) recommend the use of Bt for FCM control in an area where chemical insecticides should be alternated or discontinued. It is applied as a full coverage spray when larvae are present, and can be repeated at 10-14-day intervals while larvae are active.

10. There is a range of active ingredients for the control of FCM. This includes active substances with alternative modes of action that help to prevent the build-up of pest resistance. These include teflubenzuron, spinetoram, chlorantraniliprole, and methoxyfenozide. NPPOs in each country will need to recommend those that are locally approved for use on *Capsicum*.



SECTION 6: SUMMARY AND GENERAL RECOMMENDATIONS ON PREPARATION AND SUBMISSION OF THE *CAPSICUM*-FCM DOSSIER

Capsicum exports to the EU must comply with one of four options (a-d) stipulated under implementing Regulation (EU) No 2021/2285 and point 62 of Annex VII to Implementing Regulation (EU) No 2019/2072.

Countries exporting *Capsicum* according to Option (d) must submit a dossier to the European Commission describing in detail the system that will be applied to ensure that all *Capsicum* exported to the EU is free from FCM. No exports will be received under Option (d) unless and until a dossier has been received and accepted by the European Commission.

The system described in the dossier must then be followed by all stakeholders involved in the *Capsicum* export sector including growers, private operators, and the NPPO. The dossier in effect becomes a national FCM 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.

a. 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

b. 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 exporter 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 *Capsicum*-FCM dossier.

The Group will be convened by the NPPO. The composition of the group may vary according to the local *Capsicum* 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:

a. Contains representatives of the NPPO with sound knowledge and experience in the relevant phytosanitary controls and enforcement;

b. Is acceptable to organisations representing the private sector;

c. Is representative of the *Capsicum* export sector, including both large and small-scale operators who have a sound knowledge of *Capsicum* production and export;

d. Contains representatives with 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 COLEAD guide can be used to provide a framework for the dossier; the content of each section should be adapted and customised according to 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 NPPO; only an NPPO is authorized to submit the official documentation to their counterparts in the European Union.

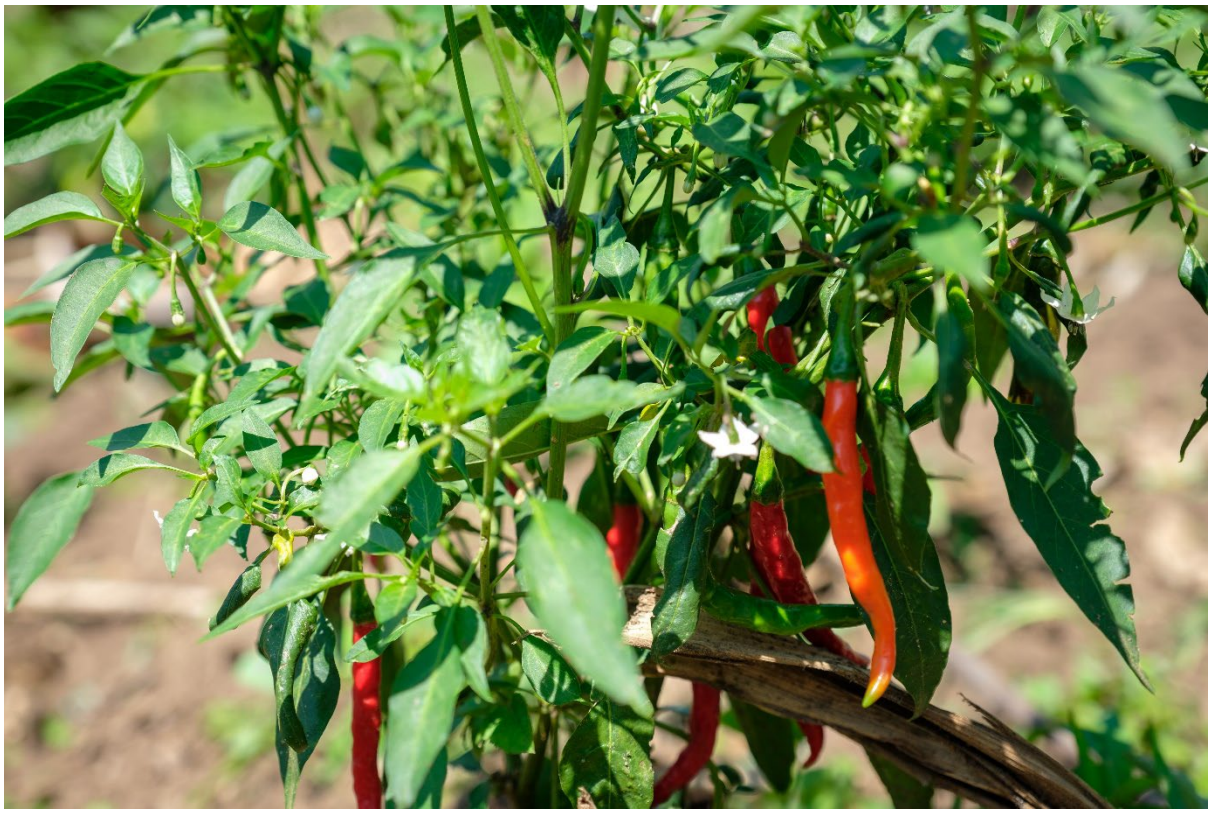
The dossier should be forwarded by the designated Contact Point at the NPPO to the following e-mail address: SANTE-G1-PLANT-HEALTH@ec.europa.eu.

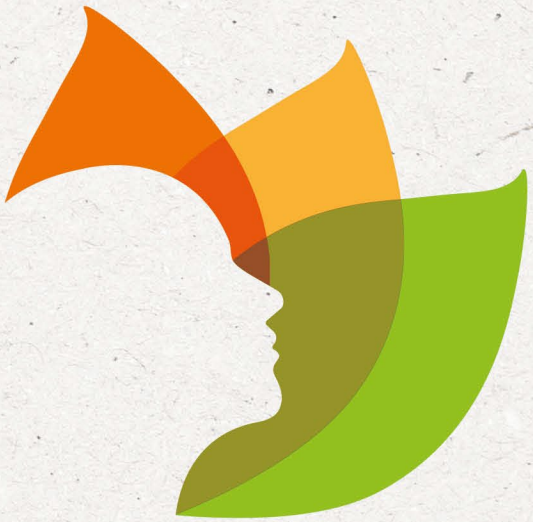
Once the dossier is submitted, its acceptance or rejection by the European authorities should be checked using the following link: Declarations on pest status from non-EU countries.

Preparing and implementing a national *Capsicum*-FCM management system 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.

Requests for technical support can be made to COLEAD: https://eservices.COLEAD.org/en/request-for-intervention-fit-for-market .





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