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**CNCI Pest Module Companion Document**

***What is a pest module?***

A “pest module” is a combination of independent pest risk management measures applied to a specific pest, that when implemented, mitigate introduction, establishment, and spread of the pest. A pest module is intended to be delivered under a systems approach framework, meaning that it is a sub-set of measures applicable to a specific pest rather than a complete set of measures which cumulatively achieve the appropriate level of protection against all pests of concern (this whole-facility approach is the basis for over-arching programs such as the GCP, CNCP, and Clean Plants). Pest modules focus on preventing spread of the specified pest.

A universal template was developed with the intent to be a standardized form that can be used for any pest, whether it be an insect, fungus, bacteria, or a virus. The pest biology is reviewed for potential risk factors (risk of spread, etc.), then the facility needs to evaluate their facility for risks related to that particular pest. The final, and most in-depth section includes the detailed measures that the facility will undertake to address their identified risks. Note that there are sections in the universal template that are ‘place holders’ for risk points that may not be relevant for every pest, but they need to be in the module or they might get missed - i.e., it gives regulators confidence that we considered all risk factors but deemed some not applicable for a particular pest.

***What is the value of using pest modules at your facility?***

A pest module is a tool that helps you identify the particular risks for a specific pest and risk points at your facility, so you can describe the measures that directly off-set these risks. By implementing a pest module under a systems approach program, the facility is communicating to regulators and/or other industry members that their facility is actively mitigating the risk of pest movement. The implementation of a pest module may be simply providing assurance to customers that the product is free of the pest of concern, or to meet the regulatory requirements for shipping plants between jurisdictions (either domestically or internationally).

***Definitions***

Definitions are adopted from ISPM 5 (2018) and the GCP Technical Requirements (June 2016).

Pest exclusion structure: a physical location with a cover that effectively prevents the entry or establishment of a pest into an area

Pest Free Production Site (PFPS): A production site in which a specific pest is absent, as demonstrated by scientific evidence, and in which, where appropriate, this condition is being officially maintained for a defined period [ISPM 10, 1999; revised CPM, 2015]

Pest Modules: include specific pest risk management measures for regulated pests, including a written description of procedures or processes designed to control, suppress, or eradicate pest populations and produce plants that meet the phytosanitary requirements for trade.

Production site: a defined part of a place of production that is managed as a separate unit for phytosanitary purposes

Protected environment: ﻿a physical location where plants are grown within, under, or sheltered by structures to provide a modified growing condition and/or protection from pests and the outdoor environment. These structures may include greenhouses, hoop houses, screen houses, shade houses, or other structures as determined by CFIA.

Systems approach: The integration of different risk management measures, at least two of which act independently, and which cumulatively achieve the appropriate level of protection against regulated pests.

***Guidance for Filling out the Pest Module***

*A.1 Contact Information*

Include the name of the key contact person at the facility that will oversee or manage the activities related to the pest module, and who will be the main contact for the program. Identify all the farm locations where you have host plants. Identify the systems-approached based phytosanitary program that your facility participates in, as this information communicates to the regulator that whether or not you have a core third-party audited program managing phytosanitary risks at the farm. Include your participation certification number if applicable. Facilities not currently participating in a systems approach program need to complete Section A.2.

*A.3 Specific Risk Factors to Consider*

This section includes basic information about the pest biology. The information provided is the biological characteristics of the target pest that will affect the facility’s pest risk management decisions. The content of this section is developed through a collaboration between your industry association, and provincial and federal ministries. There may also be references to additional pest information sources.

*A.4 Facility Risk Analysis*

The facility risk analysis section provides examples of places in the nursery production system where the target pest may enter the production chain or be spread within the nursery. The list may not be compelte and the nursery should add any site-specific factors to the analysis tool.

Knowing the risk factors at your facility is key to understanding where there should be specific measures in place to prevent introduction and spread of the pest within your production system. Essentially, this section should be an abbreviated description of the production of host plants at your facility with consideration for the likelihood of infestation by the target pest. Record or highlight which risks are applicable at your facility – the results of this analysis are critical for ensuring that the pest risk mitigation measures are appropriate for the target pest.

Location

Is your facility in a regulated area? Is the pest located in your region, or is there the potential for the pest to be introduced at your facility? If a pest is regulated, there may be restrictions on where you can ship host plants. There will be different levels of phytosanitary measures required for facilities within regulated areas and completing a risk analysis for your facility is a critical component in understanding the measures your facility will need to meet the phytosanitary requirements for trade outside of the regulated area. There may be regions within a regulated area where it’s not as likely for the pest to establish (e.g., Northern Ontario for Box Tree Moth (BTM)). As per CFIA’s Risk Management Document on BTM (RMD-22-02), facilities further from main area of infestation may qualify to establish Pest-Free Places of Production and Pest-Free Production Sites in accordance with ISPM 10. Note that CFIA does not perform surveys within regulated areas, so systematic monitory to verify absence of the pest may be an necessary part of the pest module.

Production Activities

Take the time to consider each step in the production process to ensure you have identified every risk point. Using the definitions above and the example points in the risk analysis text box of the pest module as a guide, consider the various production systems at your facility as well as the inputs and production activities. An example table is included below that can be modified for your facility. Fill in the details and rank the risk based on the knowledge of the target pest’s biology.

|  |  |  |  |
| --- | --- | --- | --- |
| **Category** | **Risk Factor** | **Details** | **Level of Risk** |
| Inputs | Water | *e.g., well source water, treated pond or surface water source, untreated recaptured and recirculated water*  | *Risk level N/A or low for insect pests, higher for water-borne diseases – particularly if water is recaptured and re-used without adequate treatment* |
|  | Media |  |  |
|  | Starter plants/liners |  |  |
|  | Pots/cans/containers/burlap/etc. |  |  |
| Production | Propagation |  |  |
|  | Potting/planting/seeding |  |  |
|  | Cycle (i.e., typical growing period) |  |  |
|  | Crop scouting |  |  |
|  | Standard pest control program |  |  |
|  | Plant maintenance – plant debris management |  |  |
|  | Movement of plants |  |  |
|  | Movement of people |  |  |
|  | Movement of equipment |  |  |
|  | Harvesting |  |  |
|  | Receiving |  |  |
|  | Shipping |  |  |
| System | Protected environment (e.g., greenhouse or other closed, controlled environment) |  |  |
|  | Pest exclusion areas |  |  |
|  | Outdoor production |  |  |
| Administrative | Written procedures |  |  |
|  | Inventory control |  |  |
|  | Record keeping |  |  |

Once the risk factors have been identified for the facility, the next step is taking this information and determining what risks need to be addressed, and to determine appropriate mitigation measures at your nursery. The results of this risk analysis process are entered into Section A.5-A.8. If your facility has limited experience with identifying phytosanitary risks and developing appropriate mitigation measures, it is recommended you contact your local grower association or the CFIA for support.

Include a map of the host production area(s) if not already provided in your systems-approach manual. Note that the 3m (10’) separation (as per pest biology) between blocks may be more relevant for diseases or viruses but can also be applicable to insect pests during certain life stages (e.g., larval stage).

*A.5 to A.8 – Specific Pest Risk Mitigation Measures at the Facility*

This is the most important part of the pest module. If the facility is new to identifying and implementing appropriate pest risk management measures, it may be useful to consult with extension specialists, regulators, or other professionals.

For convenience and to assist in developing the most applicable suite of pest risk management measures, these sections include check boxes with examples of measures/activities that will assist you in determining appropriate measures for your facility. The provided measures are not all inclusive and facilities may detail additional measures unique to their operations. Facilities in regulated areas or areas of higher pest prevalence will need to include measures that may not be relevant for facilities outside of the regulated area. Include details of how each measure will be executed at your facility. Facilities should ensure that the pest risk management measures detailed in the pest module are being delivered (and are auditable). Not all check boxes will be applicable to the risks identified by individual facilities. If a particular input or activity does not have an associated risk for the target pest, the pest module template may include a “N/A” (not applicable) notation.

Facilities that participate in a third-party audited systems-approach phytosanitary program (e.g., CNCP, GCP, CNCI’s Clean Plants) will already have core activities and measures in place that support the specific pest risk mitigation measures in the pest module. Staff responsibilities and training, traceability, receiving and shipping inspections, record-keeping, audits, and use of certification stamps/labels are already described in their facility manual or management plan. If the information requested in the pest module is already contained in your systems-approach program, you may refer to the relevant section of your program management plan or manual instead of re-stating in the pest module.

Facilities that are not on a systems approach program will need to contact the CFIA for any further requirements to facilitate trade of the host plants for a specific pest. Facilities new to a systems approach program will need to demonstrate that their facility has implemented and are following the activities detailed in their module.

Emergency planning is an important component to the pest module. Example emergencies include detection of the target pest in incoming plants prepared for shipment or finding the target pest within an area that was secured with pest exclusion barrier. To effectively deal with emergencies, immediate response(s) should be preplanned. Identifying a key point person, notifying CFIA, stopping shipping of host plants, sampling, control actions, and analysis of the root cause of the emergency are all critical parts to an emergency plan.

*B. Signatures*

The facility ownership signs the document, indicating that the facility is committed to carrying out the activities described in the pest module. The CFIA must approve any pest module that is accepted as the basis for meeting official domestic movement requirements.

*C. Additional Documentation for facilities entering Clean Plants through the Phase-In Program*

Facilities entering Clean Plants through a pest-specific Phase-In program are required to complete Sections A, B, and C to have a complete Pest Module submission. The template for Section C is an appendix within the Pest Module standard, and there is a guidance document to assist with completing this template also found in the appendices.