



## **NAPPO Regional Standards for Phytosanitary Measures (RSPM)**

### **RSPM No. 20**

### **Guidelines for the Establishment, Maintenance and Verification of Areas of Low Pest Prevalence for Insects**

The Secretariat of the North American Plant Protection Organization  
Observatory Crescent, Bldg. # 3  
Ottawa, Ontario, Canada, K1A 0C6  
5 December, 2003

## Contents

	<b>Page</b>
Review	3
Endorsement	3
Implementation	3
Amendment Record	3
Distribution	3
Introduction	4
Scope	4
References	4
Definitions, Abbreviations, Acronyms	4
Outline of Requirements	6
Background	6
Distinction between a PFA and an ALPP	8
Benefits of ALPP	8
General Requirements	8
Specific Requirements	8
1. Establishment of an Area of Low Pest Prevalence	8
1.1 Geographic Description	9
1.2 Surveillance Activities	9
1.3 Control Measures	9
1.4 Other Technical Information	10
2. Maintenance of an Area of Low Pest Prevalence	10
2.1 Control Measures	10
2.2 Surveillance Activities	10
2.3 Movement Controls	11
3. Verification of an Area of Low Pest Prevalence	11
4. Change in the status of an Area of Low Pest Prevalence	11
5. Emergency Plan	12
6. Reinstatement of the status of an Area of Low Pest Prevalence	12
7. Capacity of the NPPO	12
8. Documentation	12
9. Bilateral Workplans	12
10. Appendices	13

**Review**

NAPPO Standards for Phytosanitary Measures are subject to periodic review and amendment. The next review date for this NAPPO standard is 2008. A review of any NAPPO Standard may be initiated at any time upon the request of a NAPPO member country.

**Endorsement**

This Standard was approved by the North American Plant Protection Organization (NAPPO) Executive Committee on December 5, 2003.

***Original signed by:***

---

Gary Koivisto  
Executive Committee Member  
CANADA

---

Richard Dunkle  
Executive Committee Member  
UNITED STATES

---

Jorge Hernandez Baeza  
Executive Committee Member  
MEXICO

**Implementation**

See the attached Implementation Plan.

**Amendment Record**

Amendments to this Standard will be dated and filed with the NAPPO Secretariat. The most recent version will be posted on the NAPPO website at: [www.nappo.org/stds\\_e.htm](http://www.nappo.org/stds_e.htm)

**Distribution**

This standard is distributed by the Secretariat of the NAPPO within NAPPO, including Sustaining Associate Members and Industry Advisory Groups, to the FAO IPPC Secretariat, to the ICGPP, and to the Administrative Heads of the Regional Plant Protection Organizations (RPPOs).

## Introduction

### Scope

This standard provides the guidelines to establish, maintain and verify areas of low pest prevalence (ALPP) for insects. The target pest(s) for this standard can include any group of insects that are considered to be quarantine or regulated non-quarantine pests.

### References

*Glossary of Phytosanitary Terms*, 2002. ISPM No. 5, FAO, Rome.

*Glossary of Phytosanitary Terms*, 2002. NAPPO.

*Guidelines for Surveillance*, 1997. ISPM No. 6, FAO, Rome.

*Requirements for the Establishment of Pest Free Areas*, 1996. ISPM No. 4, FAO, Rome.

*Determination of pest status in an area*, 1998. ISPM No. 8, FAO, Rome.

*Requirements for the Establishment of Pest Free Places of Production and Pest Free Production Sites*, 1999. ISPM No. 10, FAO, Rome.

*Guidelines for Bilateral Workplans*, 2003. RSPM 19. NAPPO.

*Guidelines for the notification of non-compliance and emergency action*, 2001. ISPM No. 13, FAO, Rome.

### Definitions, Abbreviations and Acronyms

area	An officially defined country, part of a country or all or parts of several countries. (FAO, 2002).
area of low pest prevalence (ALPP)	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 occurs at low levels and which is subject to effective surveillance, control or eradication measures. (FAO, 2002).
buffer zone	An area in which a specific pest does not occur or occurs at a low level and is officially controlled, that either encloses or is adjacent to an infested area, an infested place of production, a pest free area, a pest free place of production, or a pest free production site, and in which phytosanitary measures are taken to prevent spread of the pest. (FAO, 2002).
containment	Application of phytosanitary measures in and around an infested area to prevent spread of a pest. (FAO, 2002).
delimiting survey	Survey conducted to establish the boundaries of an area considered to be infested by or free from a pest. (FAO, 2002).
emergency action	A prompt phytosanitary action undertaken in a new or unexpected phytosanitary situation. (FAO, 2002).
FAO	Acronym for Food and Agriculture Organization.

IPPC	International Plant Protection Convention, as deposited in 1951 with FAO in Rome and as subsequently amended. (FAO, 2002).
monitoring survey	Ongoing survey to verify the characteristics of a pest population. (FAO, 2002).
NAPPO	Acronym for North American Plant Protection Organization. (NAPPO, 1999).
National Plant Protection Organization (NPPO)	Official service established by a government to discharge the functions specified by the IPPC. (FAO, 2002).
official	Established, authorized or performed by a National Plant Protection Organization. (FAO, 2002).
pest free area (PFA)	An area in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained. (FAO, 2002).
phytosanitary action	An official operation, such as inspection, testing, surveillance or treatment, undertaken to implement phytosanitary regulations or procedures. (FAO, 2002).
phytosanitary measure (agreed interpretation)	Any legislation, regulation or official procedure having the purpose to prevent the introduction and/or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests. (FAO, 2002).
phytosanitary procedure	Any officially prescribed method for implementing phytosanitary regulations including the performance of inspections, tests, surveillance or treatments in connection with quarantine pests. (FAO, 2002).
phytosanitary regulation	Official rule to prevent the introduction and/or spread of quarantine pests or to limit the economic impact of regulated non-quarantine pests, including establishment of procedures for phytosanitary certification. (FAO, 2002).
place of production	Any premises or collection of fields operated as a single production or farming unit. This may include production sites which are separately managed for phytosanitary purposes. (FAO, 2002).
quarantine pest	A pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled. (FAO, 2002).
regulated article	Any plant, plant product, storage place, packaging, conveyance, container, soil and any other organism, object or material capable of harbouring or spreading pests, deemed to require phytosanitary measures, particularly where international transportation is involved. (FAO, 2002).

regulated non-quarantine pest	A non-quarantine pest whose presence in plants for planting affects the intended use of those plants with an economically unacceptable impact and which is therefore regulated within the territory of the importing contracting party. (FAO, 2002).
standard	Document established by consensus and approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context. (FAO, 2002).
suppression	The application of phytosanitary measures in an infested area to reduce pest populations. (FAO, 2002).
surveillance	An official process that collects and records data on pest occurrence or absence by survey, monitoring or other procedures. (FAO, 2002).
survey	An official procedure conducted over a defined period of time to determine the characteristics of a pest population or to determine which species occur in an area. (FAO, 2002).
systems approach (es)	The integration of different pest risk management measures, at least two of which act independently, and which cumulatively achieve the appropriate level of phytosanitary protection. (FAO, 2002).
treatment	Officially authorized procedure for the killing or removal of pests or rendering pests infertile. (FAO, 2002).

## Outline of Requirements

This standard provides procedures for the establishment, maintenance, and verification of areas of low pest prevalence (ALPP) for insects. The standard outlines measures for maintaining the population at low levels, monitoring the pest, quarantine operations, and emergency planning and response. The criteria for suspension, termination, and reinstatement of the ALPP are included. A bilateral workplan will typically be required to elaborate on the issues described in this standard.

## Background

The FAO definition of an area of low pest prevalence is, “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 occurs at low levels and which is subject to effective surveillance, control or eradication measures (IPPC, 1997).”

Low pest prevalence can be applied to large geographic areas, smaller places of production such as a block of contiguous orchards, and individual production sites. This is feasible provided that compliance with the established population threshold is achieved and maintained. Areas of low pest prevalence must be isolated by a natural barrier or protected with buffer zones where

continuous effective phytosanitary actions can be applied. The dimensions of the protected area and the intensity of the phytosanitary procedures will depend on the biology of the pest and the inherent characteristics of the production area.

An ALPP can be established for tropical, sub-tropical or temperate zone pests across a broad range of environmental and host conditions. Bilateral workplans using concepts described in this standard take into account the variability in pest risk which may be influenced by factors such as: reproductive potential, host range, host distribution, environmental influences on pest establishment, spread and reproduction, and characteristics of damage caused by immature life stages that have an impact on pest detection.

The low prevalence concept can be applied as follows:

- An area temporarily subject to population suppression (to reach the threshold for low prevalence), whose final objective is eradication.
- A permanent low prevalence area acting as a buffer zone to protect a Pest Free Area (PFA).
- A place of production within a PFA that is under Emergency Action Plan.
- A production area (places of production or production sites) permanently under the low prevalence status where products are exported subject to additional control measures, e.g., systems approach.

Areas of low pest prevalence can be used to facilitate the movement of commodities from areas where the target pest(s) is present.

A systems approach that includes an area of low pest prevalence can be used by exporting countries to certify that consignments of plants, plant products and other regulated articles produced in and/or moved from that area are free from the target pest(s) and meet the requirements of the importing country. The application of the concept of an area of low pest prevalence will depend on the biology of the pest, the characteristics of the place of production, the operational capabilities of the producer and responsibilities of the National Plant Protection Organization (NPPO).

Components of the systems approach include an area of low pest prevalence, trapping, host sampling, control measures, and/or post-harvest treatments. The system must be sufficient to mitigate the risk of live pest movement to a level equivalent to that of pest free areas. There are several existing programs that rely on a systems approach that is designed for a specific target pest and market. Examples include:

- Caribbean fruit fly, *Anastrepha suspensa*, protocol for shipment of grapefruit from Florida to Japan;
- Mexican fruit fly, *Anastrepha ludens*, Mexican mango treatment and preclearance program;
- Mexican fruit fly protocol for shipment of grapefruit from Texas to other U.S. states;
- Workplan for the exportation of peaches, nectarines, plums and apricots under systems approach from the United States to Mexico.

## **Distinction between a Pest Free Area and an Area of Low Pest Prevalence**

The main difference between an ALPP and a PFA is that the presence of the pest below a specified population level is accepted in an ALPP, whereas the pest must be totally absent from the PFA. The choice of an ALPP or PFA as a risk management option will depend on the characteristics of the pests, distribution of the pests in the exporting country, and overall feasibility of the program. Both options can offer adequate protection. The main security of the PFA lies in the application of common phytosanitary measures to an area covering many places of production. The main security of the ALPP is that specific phytosanitary measures are applied more intensively. Possible impacts of an ALPP in comparison to PFA may include increases in host sampling, the number of traps relative to regular detection level, and control measures.

## **Benefits of Areas of Low Pest Prevalence**

- Remove need for post-harvest treatment when infestation levels remain below the threshold.
- Use of non-toxic control measures in the field, e.g., sterile insect technique.
- Facilitate market access for areas that were previously excluded.
- Less restrictive movement controls.
  - Movement of commodities from one ALPP to another ALPP.
  - Movement of commodities from an ALPP to a PFA.
  - Movement of commodities from an ALPP through a PFA.
  - Movement of commodities from an ALPP through an ALPP.

## **General Requirements**

Prior to designating an area of low pest prevalence, the NPPO should ensure that the area meets the requirements of this standard and the relevant International Standards for Phytosanitary Measures. Where this standard addresses issues related to establishment of threshold levels, attention should be paid to the ISPM (currently under development) on pest risk analysis for regulated non-quarantine pests.

## **Specific Requirements**

### **1. Establishment of an Area of Low Pest Prevalence**

Low pest prevalence can occur naturally or be achieved through the application of phytosanitary procedures aimed at control of the target pest(s). These procedures should include suppression and containment. Requirements such as field, packinghouse and conveyance controls will vary depending on the commodity, target pest(s), and intended market.

The key elements to consider in determining the feasibility of establishing an area of low pest prevalence include:

- The biology of the target pest(s).
- Available technology and technical expertise required to establish and maintain an ALPP.
- Geographic, operational, and economic factors.
- Legislation and regulations required for the NPPO to carry on all activities necessary to establish and maintain the ALPP.

- Cooperation from growers.
- Community acceptance through public information and education programs.

The NPPO of the country seeking recognition of an ALPP should document the following geographic, surveillance, and other technical information. Appendix A may be used as a checklist.

## **1.1 Geographic Description**

- 1.1.1 Describe the proposed ALPP, with supporting maps demonstrating boundaries of the area, places of production, location of host plants in proximity to commercial production areas, and isolation of the area by a natural barrier (Appendix B).
- 1.1.2 In the absence of an isolating natural barrier, describe, with supporting maps and documentation, the buffer zone adjacent to the ALPP.

## **1.2 Surveillance Activities**

- 1.2.1. Document survey data to demonstrate that populations of the target pest(s) do not exceed threshold levels in commercial, non-commercial, or wild hosts in the proposed ALPP. The survey data should be relevant to the life cycle of the target pest(s).
- 1.2.2. Document survey data to determine the status of other quarantine pests in commercial, non-commercial, or wild hosts in the proposed ALPP. The survey data should be relevant to the life cycle of the quarantine pest(s).
- 1.2.3. Produce technical reports of pest detections, phytosanitary procedures applied, and results of the survey activities for at least the last year. The frequency of reporting will be according to the survey protocol used. It is preferable that data be provided for as long as possible prior to the recognition of the ALPP.
- 1.2.4. Surveys should be conducted under protocols specific for the target pest(s).
- 1.2.5. The NPPO should establish a quality control program for the survey to verify and document that all protocols are met. The key elements of the quality control program would include:
  - Validation of detection techniques.
  - Visual inspection.
  - Host sampling.
  - Verification of trap and lure efficacy.
  - Placement and recovery of marked target pest(s).
  - Regular reviews of survey documentation.
  - Audits of trap placement and servicing.
  - Confirmation of identifier competency.

## **1.3 Control Measures**

- 1.3.1 Apply control measures to reduce the target pest(s) populations below threshold levels in commercial, non-commercial, or wild hosts in the proposed ALPP. The control measures should be relevant to the biology and life cycle of the target pest(s).
- 1.3.2 Document control measures used to reduce the target pest(s) populations below threshold

levels in commercial, non-commercial, or wild hosts in the proposed ALPP. It is preferable that documentation be provided for as long as possible prior to the recognition of the ALPP.

- 1.3.3 The NPPO should establish a monitoring program to assure that the control measures are properly applied.

#### **1.4 Other Technical Information**

- 1.4.1 Establish an official list of the target pest(s) and other quarantine pests that may be present in the proposed ALPP.
- 1.4.2 Retain historical records of detection, population dynamics, and survey activities for the designated target pest(s) and other quarantine pests in the proposed ALPP.
- 1.4.3 If detections of the target pest(s) have occurred in the proposed ALPP, document the phytosanitary actions taken and the results of those actions.
- 1.4.4 Retain records of the commercial production of host crops in the area, an estimate of non-commercial production, and the host plants in proximity to commercial production areas.
- 1.4.5 Document phytosanitary measures taken, and the success of these measures, to prevent spread of the target pest(s) into the ALPP.

## **2. Maintenance of an Area of Low Pest Prevalence**

An area of low pest prevalence is maintained by the continued application of phytosanitary procedures directed at the target pest(s). The status of the area is confirmed by monitoring surveys in the low prevalence area and buffer zone during specific periods of time and at a level of sensitivity that will detect target pests, if present.

### **2.1 Control Measures**

- 2.1.1 Apply control measures to maintain the target pest(s) populations below threshold levels in commercial, non-commercial, or wild hosts in the proposed ALPP. The control measures should be relevant to the biology and life cycle of the target pest(s).
- 2.1.2 Document control measures used to maintain the target pest(s) populations below threshold levels in commercial, non-commercial, or wild hosts in the proposed ALPP.
- 2.1.3 The NPPO should maintain a monitoring program to assure that the control measures are properly applied.

### **2.2. Surveillance activities**

- 2.2.1. Surveillance protocols (e.g., trapping) in the ALPP are dependent upon the biology of the target pest(s) and the assessed level of risk of entry for the target pest(s) and other quarantine pests. The duration of surveillance should extend beyond the activity period of the target pest(s). The pre-season and post-season surveillance periods and the frequency of activities are dependent upon the target species and the prevailing climatic conditions. These parameters should be detailed in the bilateral workplan.
- 2.2.2. The NPPO should maintain a quality control program for the survey to confirm and document that all protocols are met. The key elements of the quality control program would include:
  - Validation of detection techniques.

- Visual inspection.
- Host sampling.
- Verification of trap and lure efficacy.
- Placement and recovery of marked target pest(s).
- Regular reviews of survey documentation.
- Audits of trap placement and servicing.
- Confirmation of identifier competency.

### **2.3 Movement controls**

Effective phytosanitary measures are required to prevent the entry of regulated non-quarantine pest(s) above tolerances established by the NPPO and to prevent the introduction of quarantine pests known to attack hosts present in the ALPP. The key elements may include, among others:

- Identification of the pathways and regulated articles that require control to maintain the ALPP.
- Establishment of an inspection program for regulated articles moving into the ALPP.
- Maintenance of sampling records, identification of intercepted specimens, verification of documents, confirmation that required treatments occurred, and documentation of any other phytosanitary procedures.

### **3. Verification of an Area of Low Pest Prevalence**

The NPPO should verify that the requirements to maintain the ALPP continue to be met. In addition to the surveillance activities, control measures, and movement controls detailed in this standard, field and road station inspections and host sampling in the ALPP should be carried out. ALPP status may be verified by a stated number or frequency of inspections as delineated in the bilateral workplan. The absence of target pests on commodities moved out of the ALPP can also contribute to verification that the ALPP is being maintained.

### **4. Change in the Status of an Area of Low Pest Prevalence**

The detection of the target pest(s) that exceeds the threshold level within the ALPP should result in the implementation of the emergency action plan as specified in Section 6 of this standard and immediate notification of trading partners. The main cause for a change in the status of the ALPP is confirmation of a reproducing population of the target pest(s) above the threshold level in the ALPP, detection of a quarantine pest(s) during inspection of host products, or the detection of a regulated non-quarantine pest above the tolerance level. These situations should result in immediate suspension of the ALPP status. ALPP status may be terminated if appropriate emergency actions are not taken in response to the detection of a target pest(s) above the threshold level. Examples of other possible reasons for change in the status of the ALPP are given in Appendix C.

The NPPO should take appropriate emergency actions to delimit, contain, control target pest(s) or eradicate other quarantine pests detected in the ALPP according to the bilateral workplan. A population level higher than the accepted threshold should result in increased levels of phytosanitary actions. Suspension of ALPP status will remain in effect until it is

demonstrated that populations are below the specified threshold. If the threshold level of the target pest(s) is exceeded in a limited area that can be identified and isolated, then the ALPP may be redefined to exclude that area.

Failure of the NPPO to take appropriate emergency actions will result in termination of the ALPP status.

## **5. Emergency Action Plan**

The NPPO should have a documented plan of emergency actions to be implemented if the target pest(s) exceeds the threshold level in the ALPP. The emergency action plan should include the delimiting survey, commodity sampling, increased regulatory, and control measures. The emergency actions should be initiated within 48 hours of confirmation that the threshold level has been exceeded in the ALPP or detection of target pest(s) during inspection of host products. The importing country should be notified immediately upon initiation of the emergency action plan. Failure to implement emergency actions will result in termination of ALPP status.

## **6. Reinstatement of the Status of an Area of Low Pest Prevalence**

An investigation should be initiated to determine the cause of the ALPP failure that led to implementation of the emergency action plan. The goal is to prevent recurrence by application of corrective actions and additional safeguards.

Implementation of required phytosanitary procedures that achieve verifiable suppression of the target pest(s) population below the specified threshold is the basis for reinstatement of the ALPP status. The period of negative surveillance results prior to reinstatement will vary according to the biology of the target pest(s) and should be delineated in the bilateral workplan.

## **7. Capacity of the NPPO**

The NPPO must have the necessary legal authority, administrative infrastructure, qualified personnel, and material resources to comply with the provisions of this standard.

## **8. Documentation**

Documentation supporting ALPP status (at all phases: establishment, maintenance, verification and reinstatement) should be made immediately available to the importing country upon request.

## **9. Bilateral Workplans**

The requirements of this standard and other NAPPO and IPPC standards should be met when developing a bilateral workplan (RSPM No.19) for recognition of an ALPP as a basis for export. It is recommended that the exporting country involve the importing country in the early stages of the process in order to ensure that importing country requirements are met. It is recognized that transportation, phytosanitary integrity of consignments, financial responsibilities, roles and responsibilities of the NPPOs and producers, among other issues,

should also be addressed in the bilateral workplans.

## 10. Appendices

### Appendix A: Elements required for establishment of the ALPP.

The following is a list of elements to be evaluated in order to determine if an ALPP meets the conditions of this standard:

1. Geographic description of the proposed ALPP
  - maps
  - places of production
  - natural barriers
  - buffer zone
  - size
  - location of regulatory control checkpoints
2. Survey protocols for establishment and maintenance of ALPP
  - target pest
  - survey time period
  - reporting of survey results
  - trapping
    - trap type
    - bait or lure type
    - density of traps
    - trap servicing intervals
      - visual survey
        - host or commodity sampling
        - survey intervals
3. Quality control protocols for surveillance
  - validation of surveillance activities
    - trapping
    - visual survey
      - verification of lure efficacy
      - placement and recovery of marked target pests
      - regular reviews of survey documentation
      - audits of trap placement and servicing
      - confirmation of identifier competency
4. Control measures
  - appropriate to target pest(s) and hosts
  - chemical
  - biocontrol agents
  - agronomic practices
    - documentation of measures employed
  - monitoring program for application of control measures

## 5. Movement controls

- identification of pathways
- establishment of inspection program
  - sampling rates and records
  - identification of intercepted specimens
  - verification of documents
  - confirmation that required treatments occurred
  - documentation of any other phytosanitary procedures

## 6. Emergency Action Plan

- grounds for plan implementation
- delimiting survey
- mitigation measures
- failure analysis
- corrective actions

## Appendix B: Description of the ALPP

The following information may be necessary for each place of production to be included in the ALPP. The completed tables will be supported by a written description of each area and maps that clearly indicate both the total area, the production areas, and buffer zones.

### A. TOTAL AREA DESCRIPTION

**Table 1: Description of the total area.**

Areas	Size (km <sup>2</sup> or mi <sup>2</sup> )	Production area	Urban and suburban areas	Non-host area
Total ALPP				
Production areas				
Buffer zones				

Map 1: Regional map that includes the ALPP (production and buffer area).

### B. PRODUCTION AREA DESCRIPTION

**Table 2: Description of the places of production.**

Place of Production	Size (km <sup>2</sup> or mi <sup>2</sup> )	Characteristics and location
1		
2		
3		
4		
ETC		

Map 2: Treatment area map that includes the production and buffer areas with the trapping grids and delimiting production zone and control zone.

### **Appendix C: Examples of causes for change in the status of the ALPP**

- Populations of the target pest(s) within the ALPP exceed the accepted threshold.
- An outbreak or establishment of other quarantine pests within the ALPP.
- Repeated failure of regulatory procedures.
- Incomplete documentation that jeopardizes the integrity of the ALPP.
- Failure of the exporting country NPPO to take appropriate emergency actions in response to the detection of the target pest(s) or other quarantine pests.
- Detection of an immature life stage of a target pest(s) or other quarantine pests at any time during inspection of the host product prior to export or at the time of arrival at the importing country.
- Detection of regulated non-quarantine pest(s) above the tolerance level established by the importing country for the commodity.