



Regional Training on Establishing Pest Free Area

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ESTABLISHMENT OF PEST FREE AREAS PRACTICAL CONSIDERATIONS

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Content

- Principal components and requirements for establishment
- Resources for establishing and maintaining a PFA
- Technical processes
- Cross-cutting supporting mechanisms
- Available tools

Principal components and requirements for establishing PFAs

- Programme manager and allocated staff
- Resources (vehicles, trappin material)
- Legislative mandate
- Workplans and Procedures
- Informational and public relations programme
- DATA management equipment and software

Personnel assignments

Programme manager – oversees all operations and reports to head of the NPPO or unit manager

Field personnel-

- surveillance and trapping personnel
- Eradication and pest response staff (full time and temporary)
- IT personnel
- Public Relations personnel

Laboratory personnel (identifiers with capacity to determine species and biological stages of the pest)

NPPO personnel to handle the internal control points
(additional commitments from police and/or military)

Physical Resources

- Vehicles/motorcycles
- Spraying equipment (tractors/sprayers/planes)
- Fruit collection equipment (tractors/fruit shredders)
- GPS/GIS equipment
- Computers and specialized software for data management
- Specialized traps and lures
- Inspection and sampling management equipment
- Laboratory capacity installed (stereoscopes, microscopes, reagents, taxonomy keys)

Legislation

- Regulation declaring the areas as buffer zones, areas of low pest prevalence and eventually pest free areas for a target pest
- Should include measures being taken and powers of the NPPO staff (enter premises, take samples, remove infested fruit and apply treatments)
- Requirements to report cases of the target pest
- Compliance with phytosanitary measures as determined by the NPPO
- Delamination and designation of internal control points
- Fines and penalties

Workplans

- Establishment of trapping routes
- Eradication workplan (SIT and host reduction strategies)
- Training plan for personnel- trap placement, data generation, taxonomy and pest biology)
- Establishment of control points (PFA within a country vs the whole country as pest free area)
- Procurement plan- essential materials often imported and can be logistically complicated

- PFA workplans

In general, importing countries will require that a comprehensive workplan is developed for the host commodity

These will include inspection and certification components as well, inclusive of field and packing house inspections and processes.

Development of Procedures

- Surveillance procedures
- Handling of biological sampling (chain of command)
- Trapping procedures
- Eradication Procedures
- Identification guides
- Data management
- Notification procedures (chain of command for information management)

Technical processes

Suppression and eradication process

- Determine the method to be used. (dependent on the pest)
- Suppression procedures may be needed initially to lower the high population of a target pest.
- Eradication procedures will follow to eliminate the pest from the target area.

Suppression and eradication strategies

- Mass trapping with specific traps protein lures and pheromones
- Bait stations
- Insecticidal sprays
- Sterile insect technique.
- Biological control organismsm (parasitoids such as as *Diachasmimorpha longicaudata* and entomopathogens such as *Metharhizium anisopliae*, *Beauveria bassiana* and *Isaria fumosoroseus*)
- Removal and disposal of host material

Phytosanitary measures

- Movement control into PFA
- Prohibition of imported host commodities when the entire country is pest free
- Declaration of the pest free area or areas by law
- Declaration of the target pest as a quarantine pest.
- Prescribed phytosanitary treatments for commodities moved into the PFA (e.g. fumigation)
- Destruction of host commodities

Buffer zones

- Buffer zones are established around the PFA as a protection to the area.
- Buffer zones are required to be maintained at very low pest prevalence in practice with a requirement to maintain a very low FTD index.
- Buffer zones are established taking into account geography and movement capacity of the pest.
- When the whole country is the PFA, it is not possible to have a Buffer zone.

Surveillance and monitoring

Surveys

- Based on a statistical method that will detect the pest at a significant level.
- Grid system or risk routes
- Grid system- this is applicable for small areas such as small islands and for densely populated areas.
- Risk routes are the most common method based on determining areas of highest probability of pest establishment and distribution.



Factors to consider

- Size of the area
- Topography
- Access
- Populated areas
- Production areas
- Sensitivity of the detection methods (type of traps and lures, visual inspections)



Risk routes include:

- Production areas of host commodities
- Main access areas with human habitation
- Distribution centers for fruit and vegetables
- Points of entry (sea, land and airports)

Types of surveys

- Detection surveys
 - Conducted in an area to determine if a pest is present (or absent)
 - For areas historically known to be free (e.g. a remote area of a country with natural barriers)
 - Used at the beginning of the PFA porcesss of establishment and declaration)
- Delimiting surveys
 - Conducted to establish the boundaries of an area considered to be infested by or free of a pest.
 - In pest free areas used when there are introduction from an infested area.
- Monitoring surveys
 - Conducted to verify the characteristic of a pest population.
 - Conducted for a period of time to determine dynamics of the pest and to determine whether eradication measures have been successful.
 - In most PFA, monitoring surveys are permanent

Emergency response and corrective action

- In cases of target pest introductions into the PFAs, the emergency response and contingency procedures are to be implemented.
- Corrective actions are initiated to eradicate the outbreak as soon as possible.
- For fruitflies, an outbreak normally requires six weekly spraying cycles after the last detection before considering the area free again.
- This is verified through continuous monitoring surveys.

Emergency response

- A site visit is immediately conducted to assess the status of the area inclusive of host availability, population status and access.
- Conduct a delimiting survey in the detection area by use of specialized traps. The trapping intensification is done according to the work plan requirements.
- The affected area is mapped and is where corrective actions will take place.
- In severe outbreak cases, the affected area may be placed under quarantine and internal movement restricted through checkpoints.

Medfly response guidelines for Central America vs *Ceratitis capitata*

- If a single male is detected- considered a detection and only requires additional traps at a density of 100 traps for first Sq. km from the detection point then 50, 25 and 10 respectively for the outlying circles away from the detection point
- More than one male or a single female (unmated or gravid considered an outbreak- requires placement of additional traps (Jacksons, C&C traps and multilure traps). Fruit stripping and spot spraying with protein lures and insecticides, and placement of bait stations

Cross-cutting supporting mechanisms

Data management

- Data Storage management- computers, databases and soft ware)
- Data requirements
- Trapping data
- GPS data on trap placement
- GPS data on detection areas
- Maps (delimiting maps and response areas)

Software

- Conventional databases
- Real time data capture systems
- Georeferenced maps for the country

Informational and public relations programme

- Very critical component
- Often undermined, underestimated, and underfunded
- A combination of radio and television and social media approaches can be applied
- Trade and agricultural shows and specializ fairs

Stakeholders

- Farmers and industry groups
- Homeowners
- Municipal/provincial authorities
- Regulatory bodies (police and military)
- Politicians and decision makers
- Public in general

Key issues

- Dedicated personnel with experience in information and public relations. This is a full-time job.
- A sustained programme is very important. Budget allocation is important

Critical areas of public relations and information

- During eradication- homeowners and farmers resist having their fruits removed.
- Importers and food distributors- put pressure for imported commodities and produce to be allowed into the pest free areas for commerce.
- Checkpoints protecting the free areas (friction at these areas with NPPO and police/military)

- A public awareness programme should:
- Promote the goals and objectives of the programme
- Be customized to the different target groups.
- The different delivery systems should be adjusted to availability of technology with the different target groups.

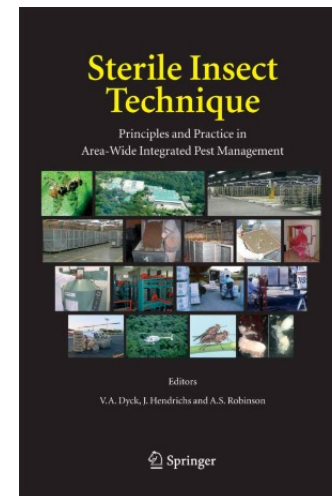
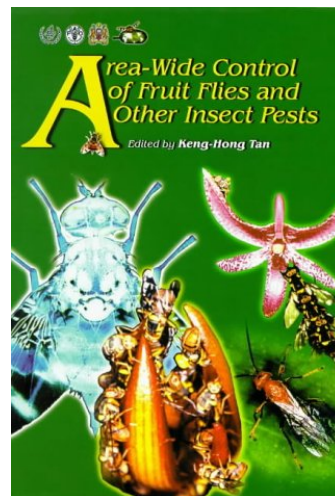
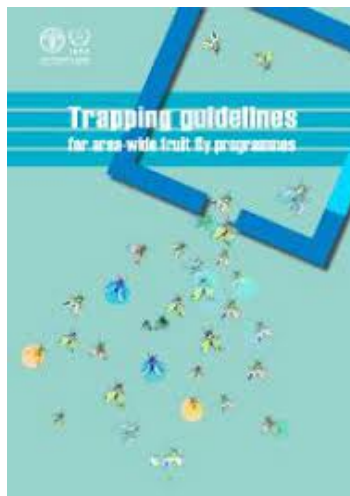
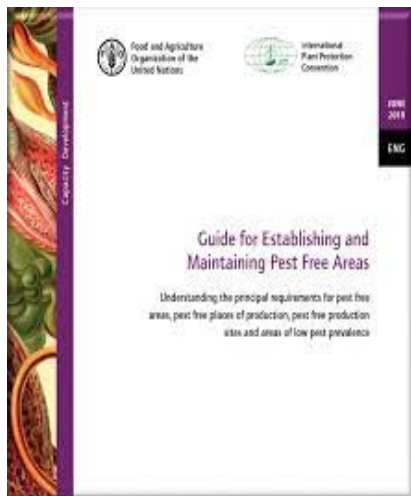
Available tools

- ISPM 22 (Requirements for the establishment of areas of low pest prevalence):
- This standard describes the requirements and procedures for the establishment of areas of low pest prevalence (ALPP) for regulated pests in an area and, to facilitate export, for pests regulated by an importing country only. This includes the identification, verification, maintenance and use of those ALPPs

- ISPM 26 (Establishment of pest free areas for fruit flies (Tephritidae)):
- This standard provides guidance for the establishment of pest free areas for fruit flies (Tephritidae) of economic importance, and for the maintenance of their pest free status

- ISPM 35 (Systems approach for pest risk management of fruit flies (Tephritidae)):
- This standard provides guidance for the development, implementation and verification of integrated measures in a systems approach as an option for pest risk management of fruit flies (Tephritidae) of economic importance to facilitate trade of fruit fly host products or to minimize the spread of regulated fruit flies within an area.

Other Resources



Thank you