Food and Agriculture Organization of the United Nations

International Plant Protection Convention

INTERNATIONAL YEAR OF PLANT HEALTH 2020

PROTECTING PLANTS, PROTECTING LIFE

IPPC guide on Establishing and Maintaining Pest Free Areas: Implementation of the Convention and ISPMs

2020 IPPC REGIONAL WORKSHOPS

IYPH@fao.org

www.fao.org/plant-health-2020

IPPC Pest Free Area Programme

Objective:

Support NPPOs to establish and maintain pest free areas (PFAs) including places and/or sites of production an/or areas of low pest prevalence (PFPP/PFPS/ALPP)

Products:

- Guide for Establishing and Maintaining Pest Free Areas - Published in 2019
  Available at https://www.ippc.int/en/publications/88508/
- An Implementation Plan for the Guide is under the development
- IPPC International Symposium on PFAs and Surveillance - October, 2019
  Materials available at https://www.ippc.int/en/core-activities/capacity-development/symposia/symposium-on-pfas-and-surveillance/
- IRSS survey on PFAs - initiated in 2019, results to be published in 2020
- E-learning ?

Insect Pests 18-20% Direct Crop Loss (USD 470 Billion/Year)

SDG: ZERO HUNGER, POVERTY ALLEVIATION

Horticultural Crops Major Pesticide Targets

SDG: FOOD SAFETY, LIFE ON LAND

Consuming **32%** of global agrochemicals

This is unsustainable due to:

- Resistance development
- Secondary pest outbreaks
- Rejection of imports due to high Maximum residue levels (MRL)

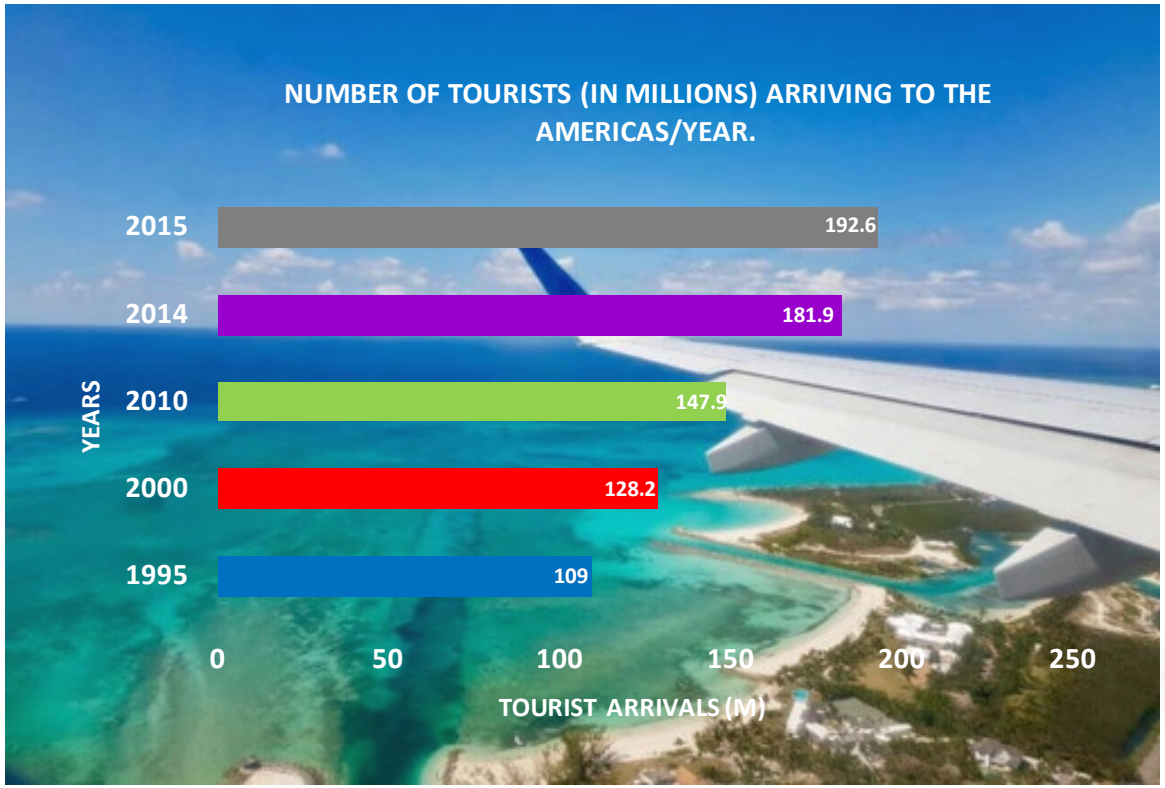
FRUIT AND VEGETABLE CONSUMPTION

SDG: GOOD HEALTH & WELL-BEING

The **WHO** is promoting healthy diets with daily fresh fruit / vegetable consumption of at least 400 g/day

FACTORS THAT CONTRIBUTE TO PEST MOVEMENT & ESTABLISHMENT

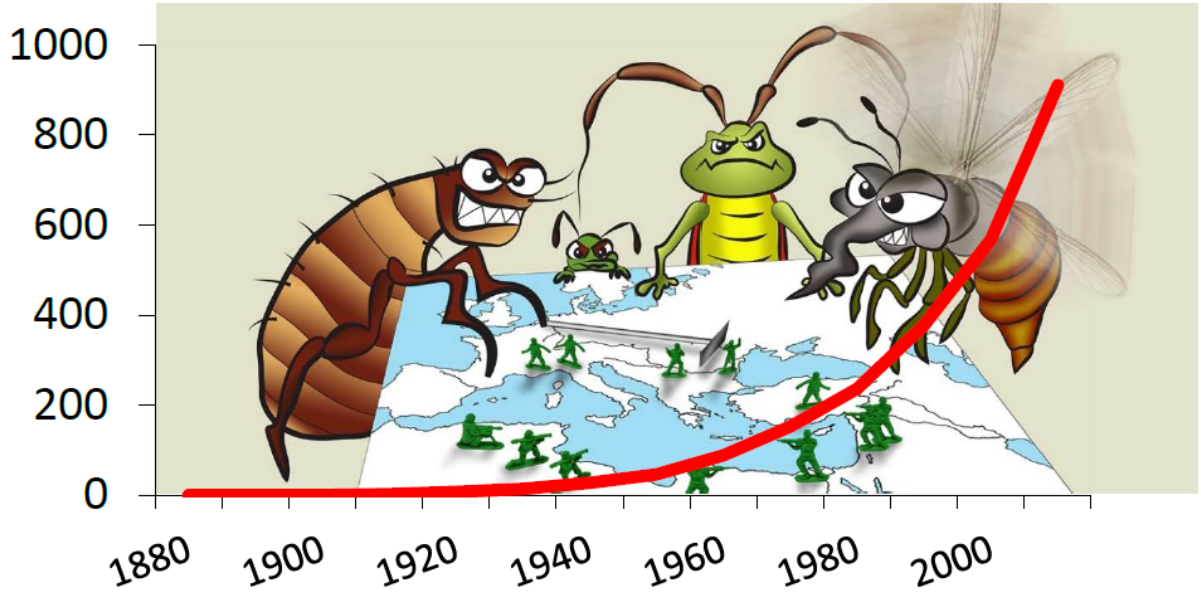
- **INTERNATIONAL TRADE:** 1/3 of world trade comes from agricultural production
- **HUMAN MOVEMENT/TRAVEL:** The dependence of the rate of introduction of invasive species on the growth of trade and travel is widely recognized
- **CLIMATE CHANGE:** New areas are becoming susceptible to invasive species



https://www.statista.com/statistics/209349/forecast-number-of-international-tourist-arrivals-worldwide-by-region/

Invasive pests that preclude access to markets

INSECT RESPONSE PROGRAMMES BY YEAR – new pests increasing



Data: http://b3.net.nz/gerda/

OPPORTUNITIES: MARKET TRENDS

- Many tropical and subtropical countries have ideal conditions for producing these high value export commodities
- But have to address increasingly stringent requirements for exports:
  - customers demand for **perfect fruit**
  - supermarkets and retailers request for ever **lower pesticide residue limits**
  - **stricter phytosanitary** requirements are put in place

INTERNATIONAL FRAMEWORK FOR PFAs and ALPPs

WTO – Article 6 SPS AGREEMENT

✓ Pest — or Disease — Free Areas and Areas of Low Pest or Disease Prevalence

- Members shall, in particular, recognize the concepts of pest — or disease-free areas and areas of low pest or disease prevalence.
- Determination of such areas shall be based on factors such as geography, ecosystems, epidemiological surveillance, and the effectiveness of sanitary or phytosanitary controls.
- Shall provide the necessary evidence thereof in order to objectively demonstrate to the importing Member the PFA or ALPP status.
- For this, reasonable access shall be given, upon request, to the importing Member for inspection, testing and other relevant procedures.

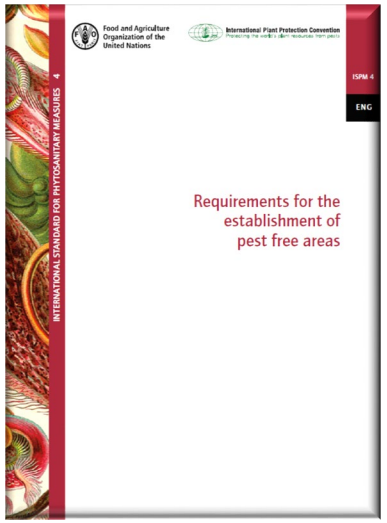
IPPC FRAMEWORK

IPPC, Article IV 2: Responsibilities of an NPPO	Basic and operational principles
Protection of endangered areas and the designation, maintenance and surveillance of pest free areas and areas of low pest prevalence (ALPPs)	▪ Sovereignty and cooperation ▪ Managed risk ▪ Minimal impact ▪ Transparency ▪ Non-discrimination ▪ Technical justification ▪ Equivalence of phytosanitary measures ▪ Modification
	▪ Pest risk analysis ▪ Pest listing ▪ Recognition of pest free areas and areas of low pest prevalence ▪ Official control for regulated pests ▪ Systems approach ▪ Surveillance ▪ Pest reporting ▪ Phytosanitary certification ▪ Phytosanitary integrity and security of consignments ▪ Avoidance of undue delays ▪ Information exchange and technical assistance

ISPMs (16) DIRECTLY ASSOCIATED TO PFAs and ALPPs

Establishment (Phase 3) – 11 ISPMs

- **ISPM 4** Requirements for the establishment of pest free areas
- **ISPM 10** Requirements for the establishment of pest free places of production and pest free production sites
- **ISPM 22** Requirememnts for the establishment of areas of low pest prevalence
- **ISPM 6** Surveillance
- **ISPM 8** Determination of pest status in an area
- **ISPM 9** Guidelines for pest eradication programmes
- **ISPM 25** Consignments in transit
- **ISPM 26** Establishment of pest free areas for fruit flies (Tephritidae)
- **ISPM 29** Recognition of pest free areas and areas of low pest prevalence
- **ISPM 14** Systems Approach
- **ISPM 35** Systems Approach for fruit flies



Maintenance (Phase 4) – 6 ISPMs

- **ISPM 4,8, 9,10, 14, 25, 26, 35**

Market Access (Phase 5) – 5 ISPMs

- **ISPM 7** Phytosanitary certification system
- **ISPM 13** Guidelines for the notification of non-compliance and emergency action
- **ISPM 15** Regulation of wood packaging material in international trade
- **ISPM 23** Guidelines for inspection
- **ISPM 31** Methodologies for sampling of consignments

IPPC GLOSSARY (ISPM No. 5):
DEFINITIONS - PFA, PFPP / PFPS and ALPPs

Pest Free Area (PFA)

- 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

Pest Free Place of Production (PFPP)

- **Place of production** 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

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

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 is present at low levels and which is subject to effective surveillance or control measures

PFA, PFPP / PFPS - "DISTINCTIONS"

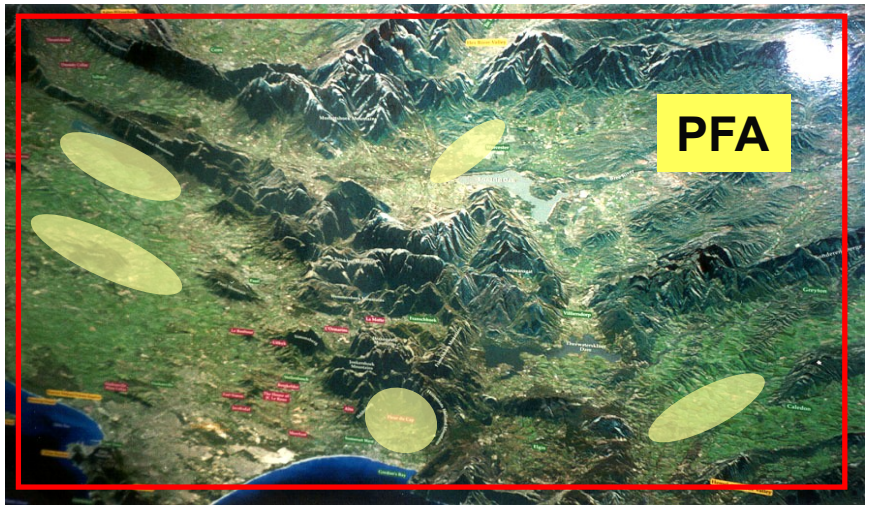
- **Size**
- ✓ PFA large scale (area-wide). Country or parts of a country May include many PFPP
- ✓ PFPP much smaller scale operated as a single farming unit (farm by farm)
- ✓ PFPS a subset of a PFPP

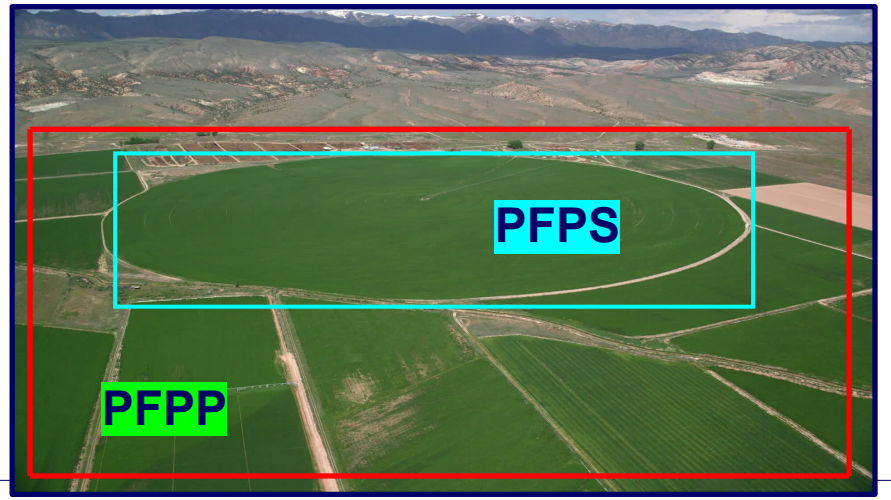
- **Buffer**
- ✓ PFA large buffer
- ✓ PFPP/PFPS in the immediate vicinity of the farming unit

- **Time frame**
- ✓ PFA maintained for years
- ✓ PFPP/PFPS can be maintained for one or few growing seasons

- **Management**
- ✓ PFA managed by the NPPO as a whole with growers participation
- ✓ PFPP/PFPS individually by growers with supervision of NPPO

- **Status**
- ✓ PFA if pest is found the status of all the areas is affected
- ✓ PFPP/PFPS only the place of production where the pest was found is affected

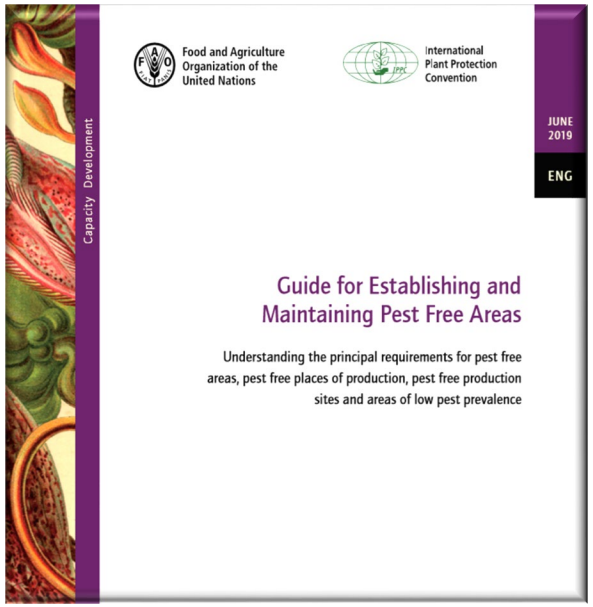




PEST FREE AREA (PFA)

IMPLEMENTATION FRAMEWORK

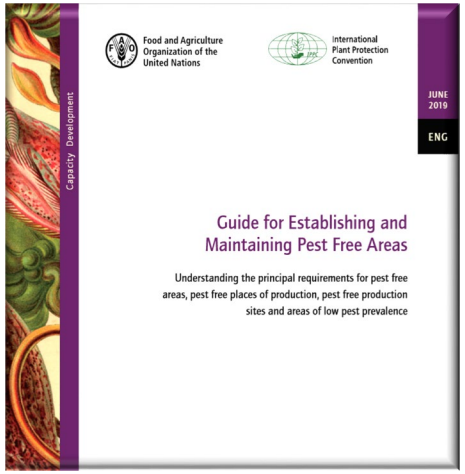
GUIDELINES AND PROCEDURES MANUALS



Guide for Establishing and Maintaining Pest Free Areas

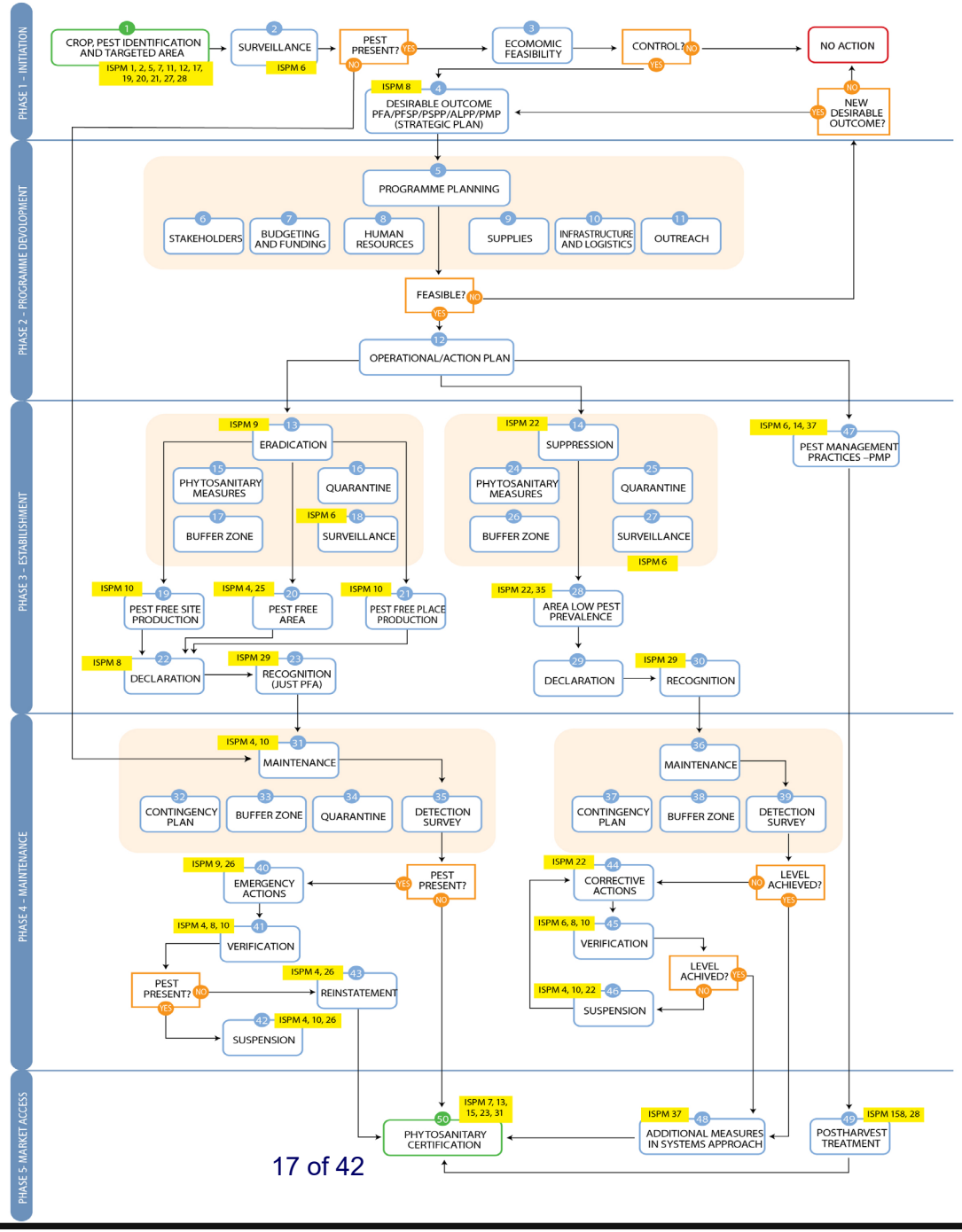
Understanding the principal requirements for pest free areas, pest free places of production, pest free production sites and areas of low pest prevalence

Food and Agriculture Organization of the United Nations



Decision Tree

For Establishment and Maintenance of PFA, PFPP, PFPS and ALPP



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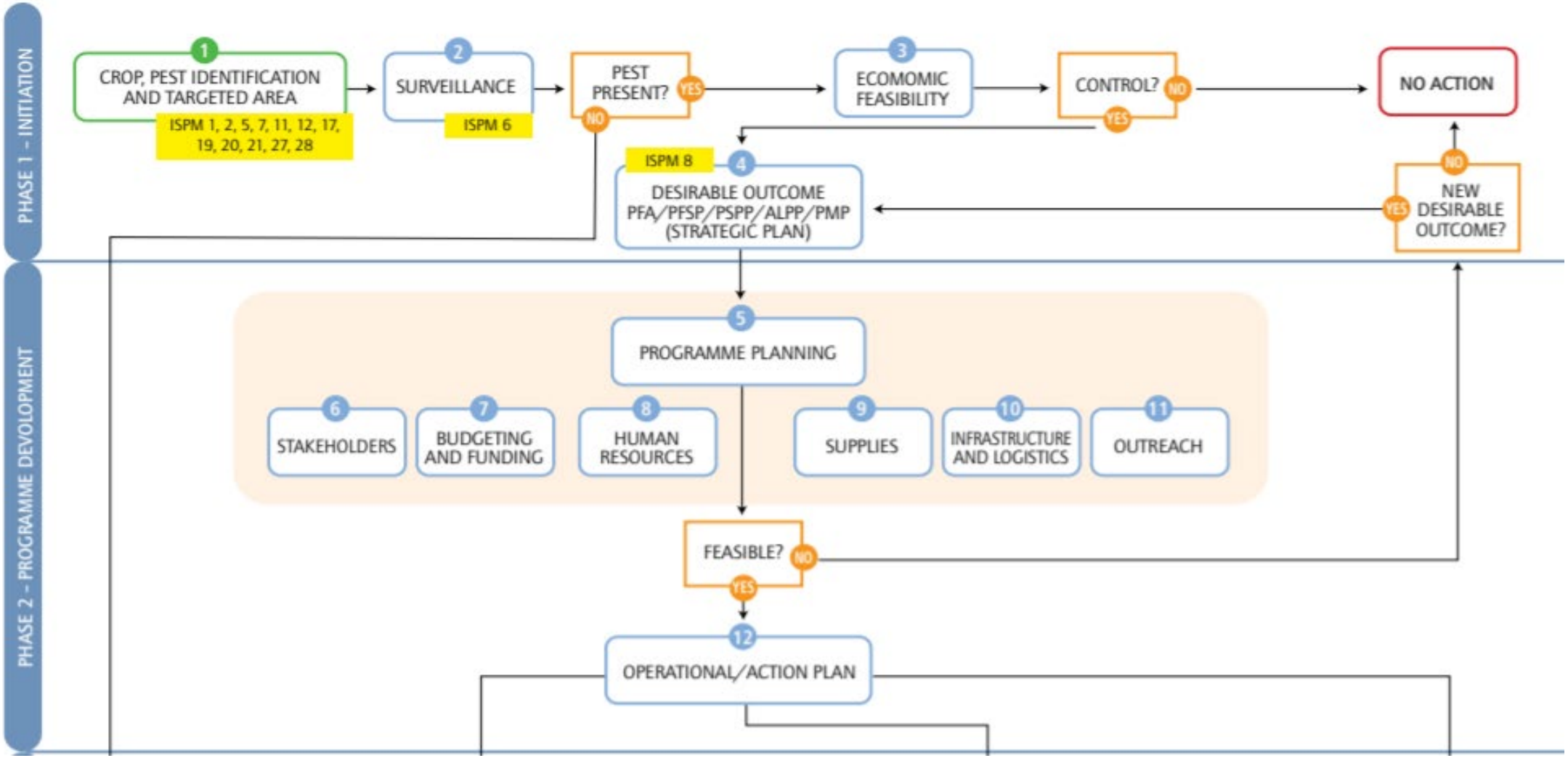
PHASE 1 and 2 (Initiation and Programme Development)



TECHNICAL FEASIBILITY PFA

- **Availability of cost-effective tools to establish and maintain status**

Biocontrol

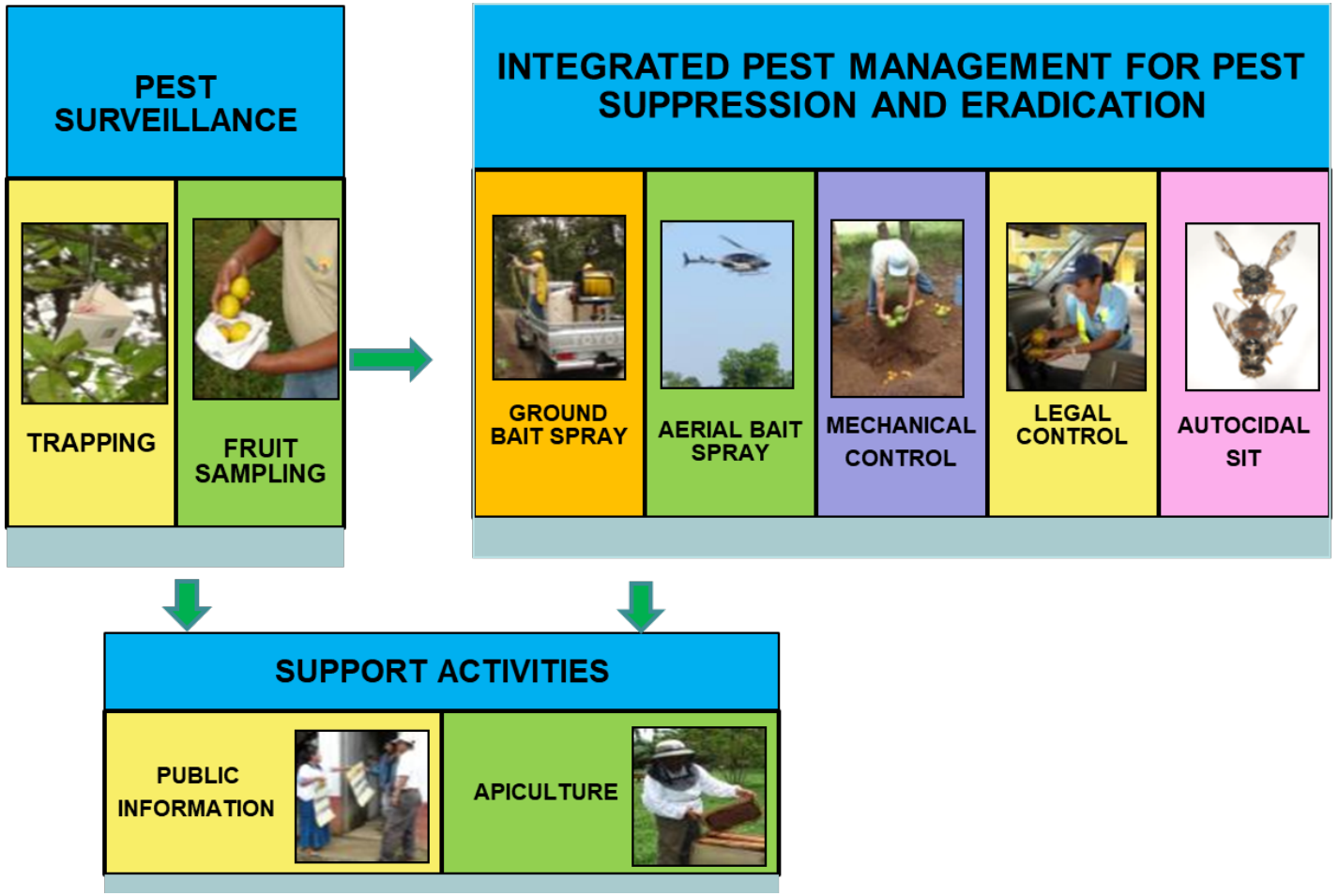
- **Level of risk associated with target pest incursions to the PFA**

Isolation

- **Feasibility of artificially isolating the area to prevent reinfestations**

Checkpoints

INTEGRATING PHYTOSANITARY MEASURES FOR PEST CONTROL



PEST RISK MANAGEMENT OPTIONS TO ESTABLISH AND MAINTAIN A PFA

- ✓ Pest Eradication (Establish PFA)

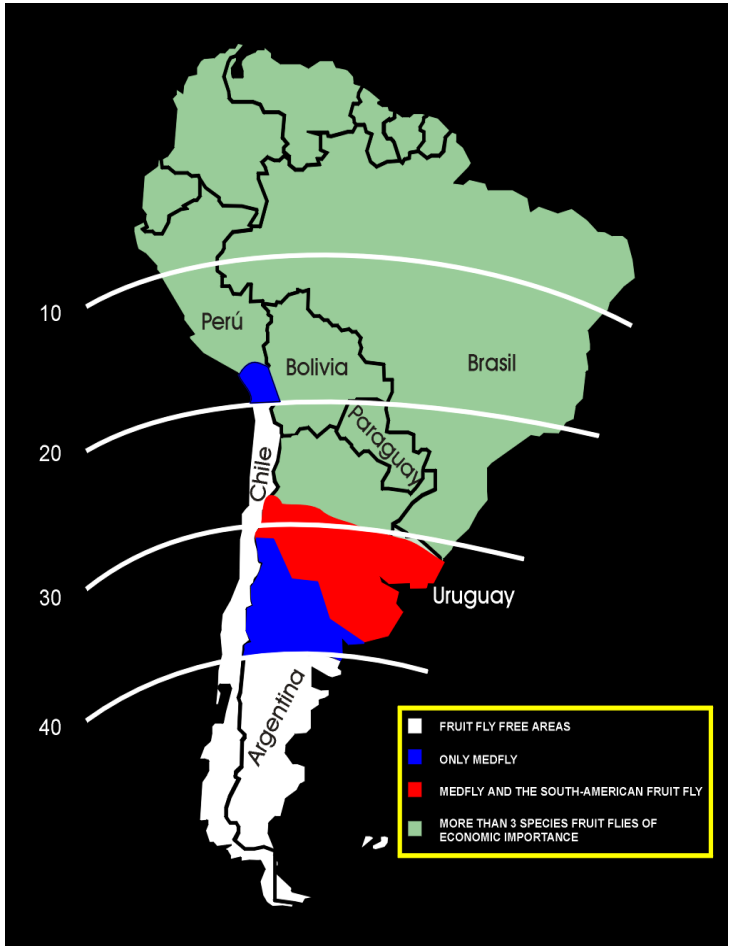
  The application of phytosanitary measures to **eliminate** the pest from an area

- ✓ Pest Containment (Maintain PFA)

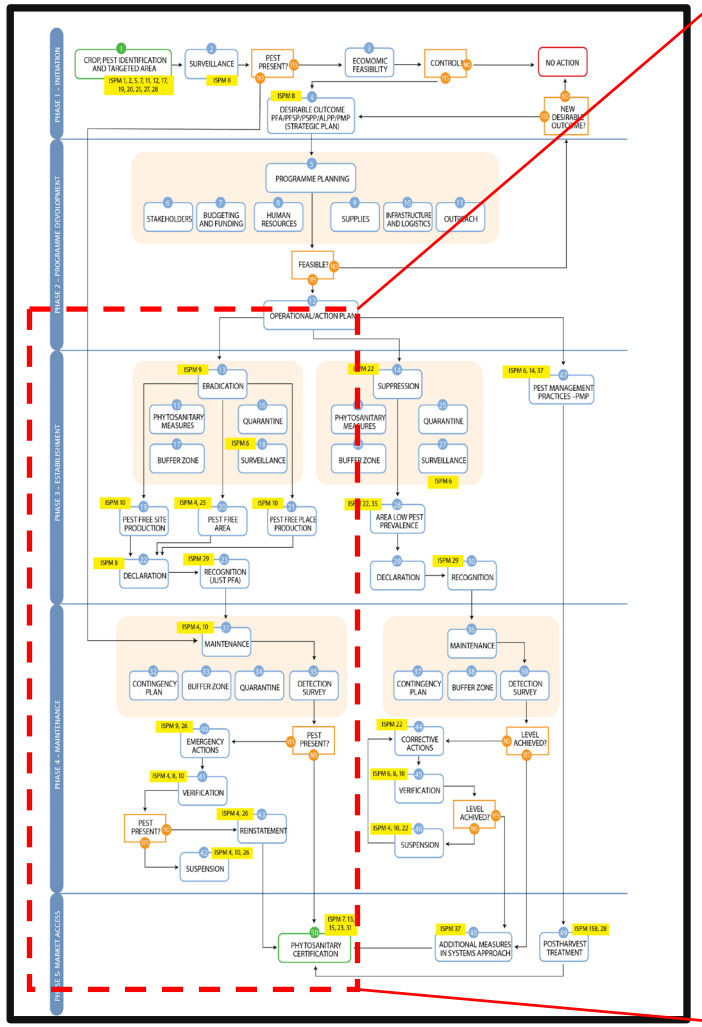
  The application of phytosanitary measures in and around an infested area **to prevent the spread** of a pest

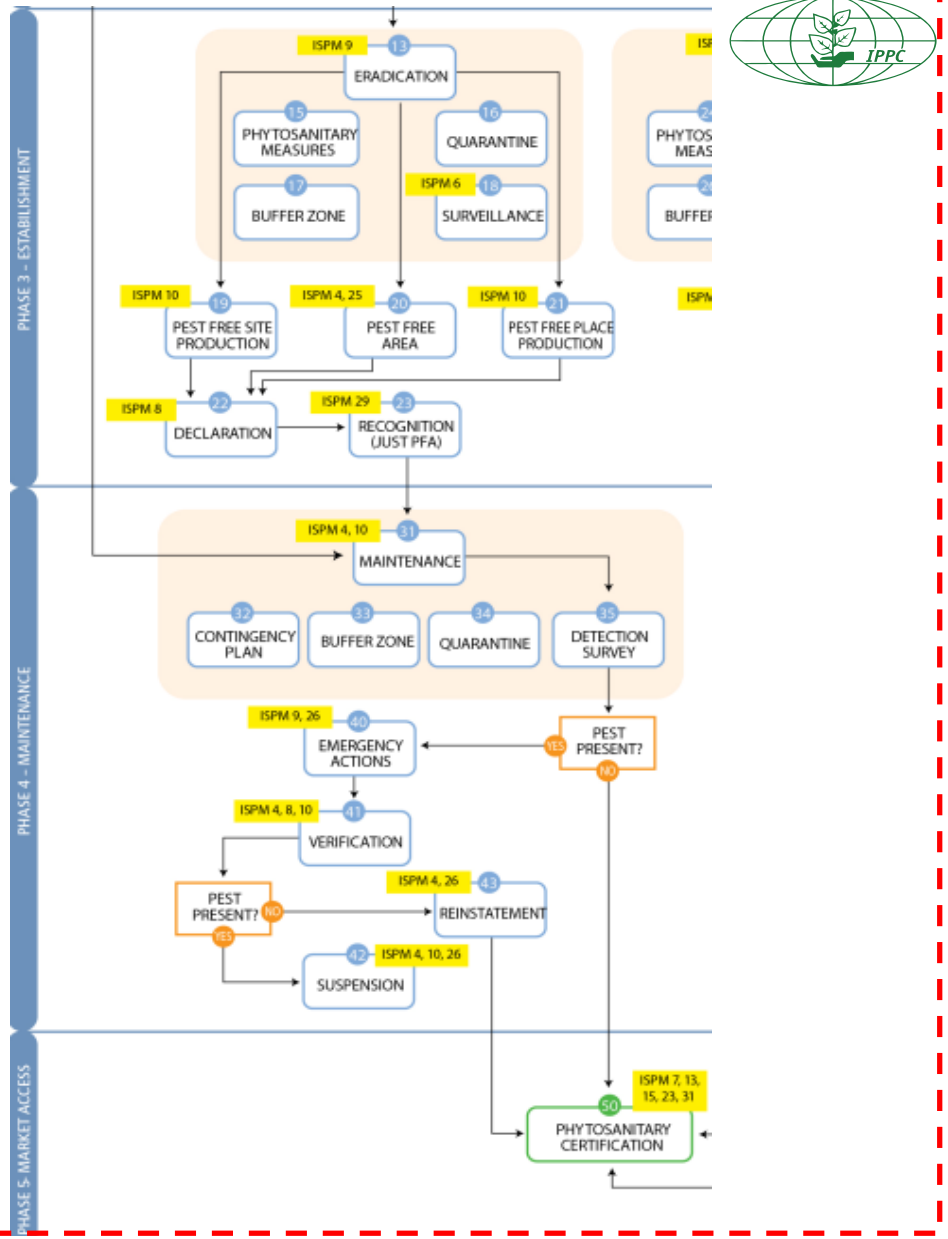
- ✓ Pest Exclusion (Maintain PFA)

  Application of **phytosanitary measures** to prevent the **entry** or **establishment** of a **pest** into an **area**



Decision tree for establishment and maintenance of PFAs, PFPPs, PFPSs and ALPPs





PHASE 3 ESTABLISHEMENT OF A PFA

BILATERAL BASIS / NPPO IMPORTER & EXPORTER

Eradication (Step 13) – NPPO Exporter

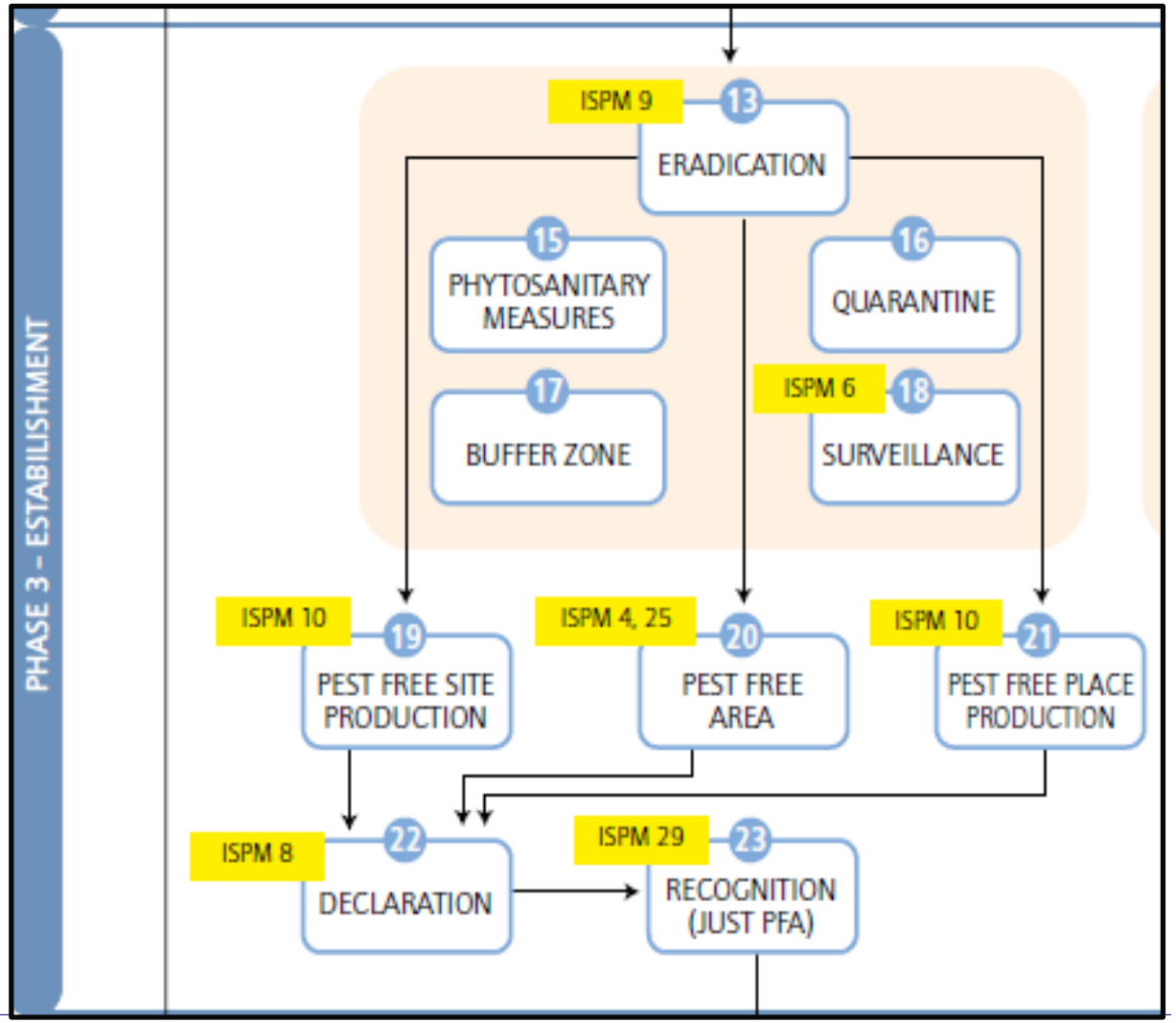
1. Phytosanitary measures for pest eradication are being applied
2. Pest eradication has been verified

Declaration (Step 22)- NPPO Exporter

1. Verification of phytosanitary status
2. National declaration of pest freedom (first time)
3. Official request for recognition of phytosanitary status to importer

Recognition (Step 23) - NPPO Importer

1. Official request to the exporter of information for recognition of PFA
2. On-site verification and recognition of PFA
3. Official Recognition of PFA
4. Publication in the federal journal of the rule for import of the commodity



PHASE 4 AND 5: MAINTENANCE AND MARKET ACCESS

BILATERAL BASIS / NPPO IMPORTER & EXPORTER

Maintenance (Step 31)

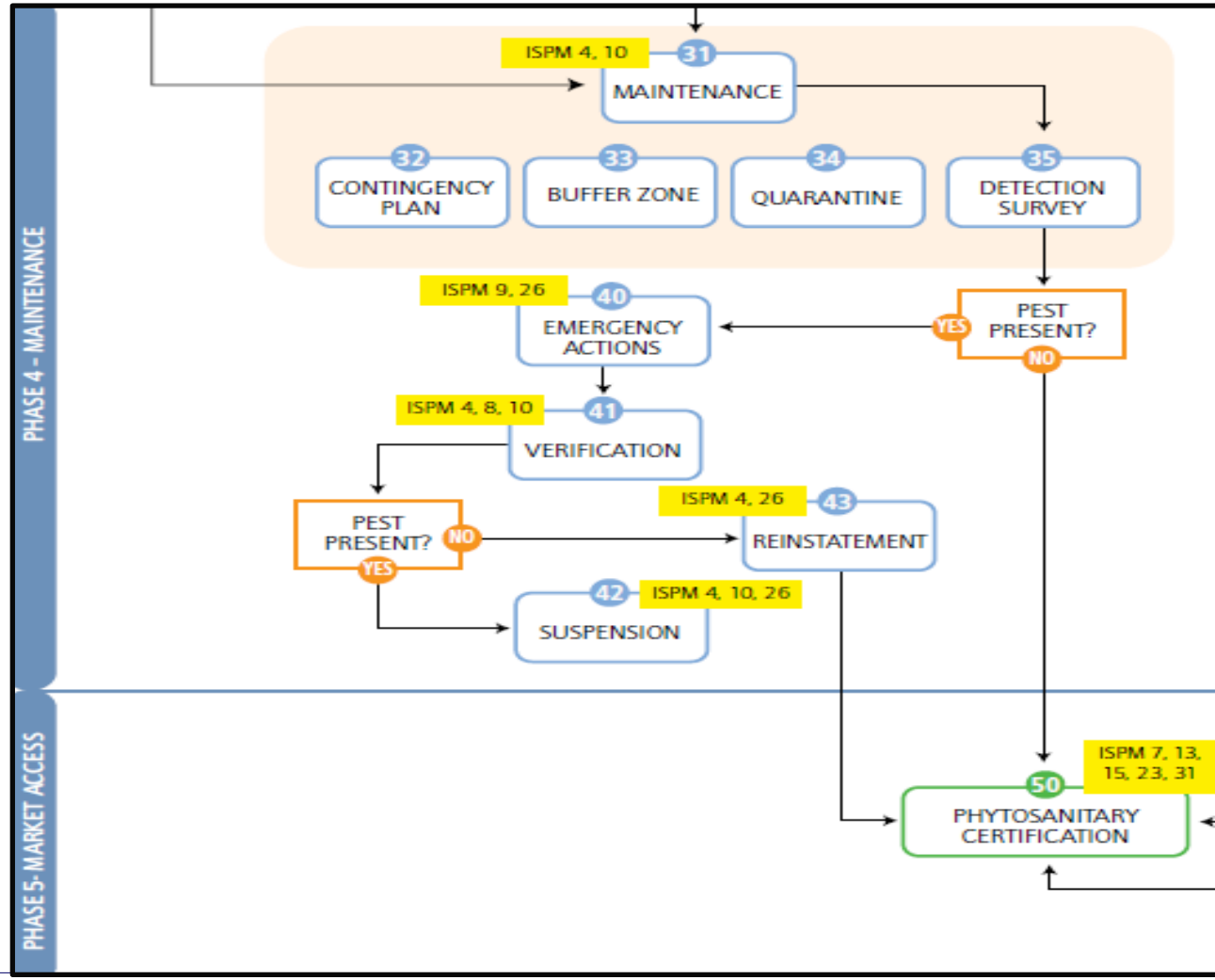
1. Pest status in the area is being mantained – Step 35
2. Emergency actions are being implemented to eliminate pest outbreaks – Step 40
3. Eradication of pest outbreak is being verified – Step 41

Phytosanitary certification (Market Access) – Step 50

1. Subscription of bilateral work plan – NPPO of both countries
2. Initiation of commodity exports – Industry & NPPO Exporter

❖ Phytosanitary certificate – NPPO Exporter

3. Periodic on-site visits for verification of work plan – NPPO importer



SIT ERRADICATION! PFA

Apple and pear production areas in **Patagonia, Argentina**

Eradication of *C. capitata* represents the elimination of costly quarantine treatments to most of the 3 million boxes of quality pears and apples that this region exports yearly.

PEST FREE PLACES OF PRODUCTION (PFPP)

HONDURAS – SENASA

- ✓ Mediterranean fruit fly/Melon
- ✓ Assessment of pest absence
- ✓ Conditional host
- ✓ Surveillance
- ✓ Export market: Taiwan

Melons from fruit fly free places of production in Honduras

CURRENT ACTIONS TO ADVANCE PFA

- ✓ Technology transfer to FAO and IAEA Member Countries through technical cooperation projects
- ✓ Harmonization of technology – Fruit fly surveillance and emergency response, establishment of PFA and ALPP
- ✓ Drafting reference documents in support of international standards (guidelines and procedures manuals)
- ✓ Capacity building - Training courses and knowledge management

CONCLUSIONS

- ✓ Today PFAs have been established in a number of countries from where very large volumes of fruits and vegetables are being exported to high value markets without quarantine restrictions.
- ✓ Nevertheless, most of the PFAs have been established for fruit fly pests.
- ✓ It is critical that decisions on the type of option that will be selected to mitigate pest risk are based on a solid analysis that incorporates technical and economic feasibility.
- ✓ The IPPC provides a framework to establish and maintain PFA.
- ✓ PFA contribute to UN Sustainable Development Goals (SDGs) including: Zero Hunger, Poverty Alleviation, Good Health and Well-Being and Life on Land.

Areas of Low Pest Prevalence (ALPPs)

IMPLEMENTATION FRAMEWORK

AN ALPP CAN BE USED

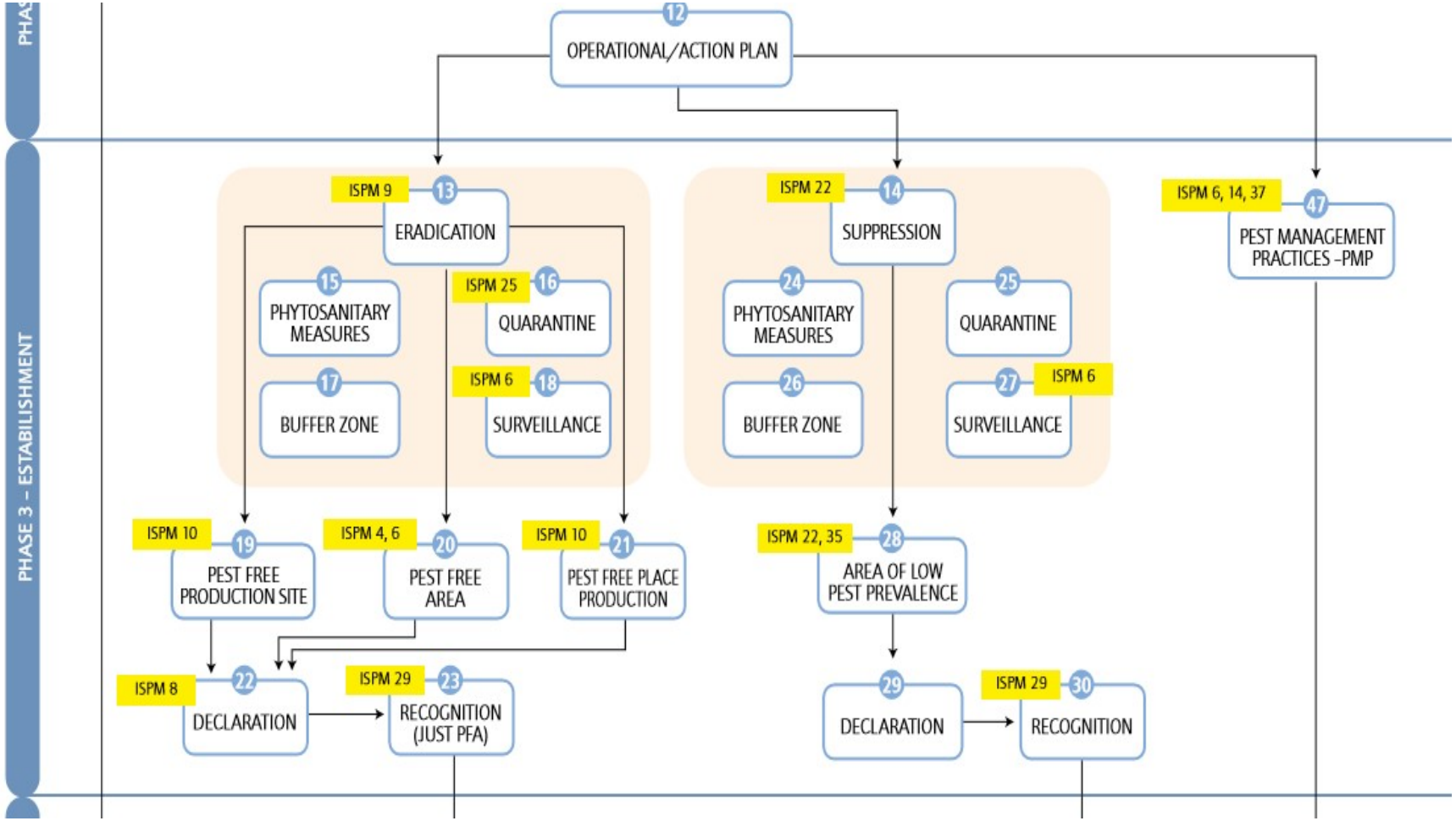
- As a buffer zone to an PFA
- As part of a process of population suppression aimed at eradication and establishment of a PFA
- Or in combination with Systems Approach

PHASE 1 and 2 (INITIATION AND PROGRAMME DEVELOPMENT)

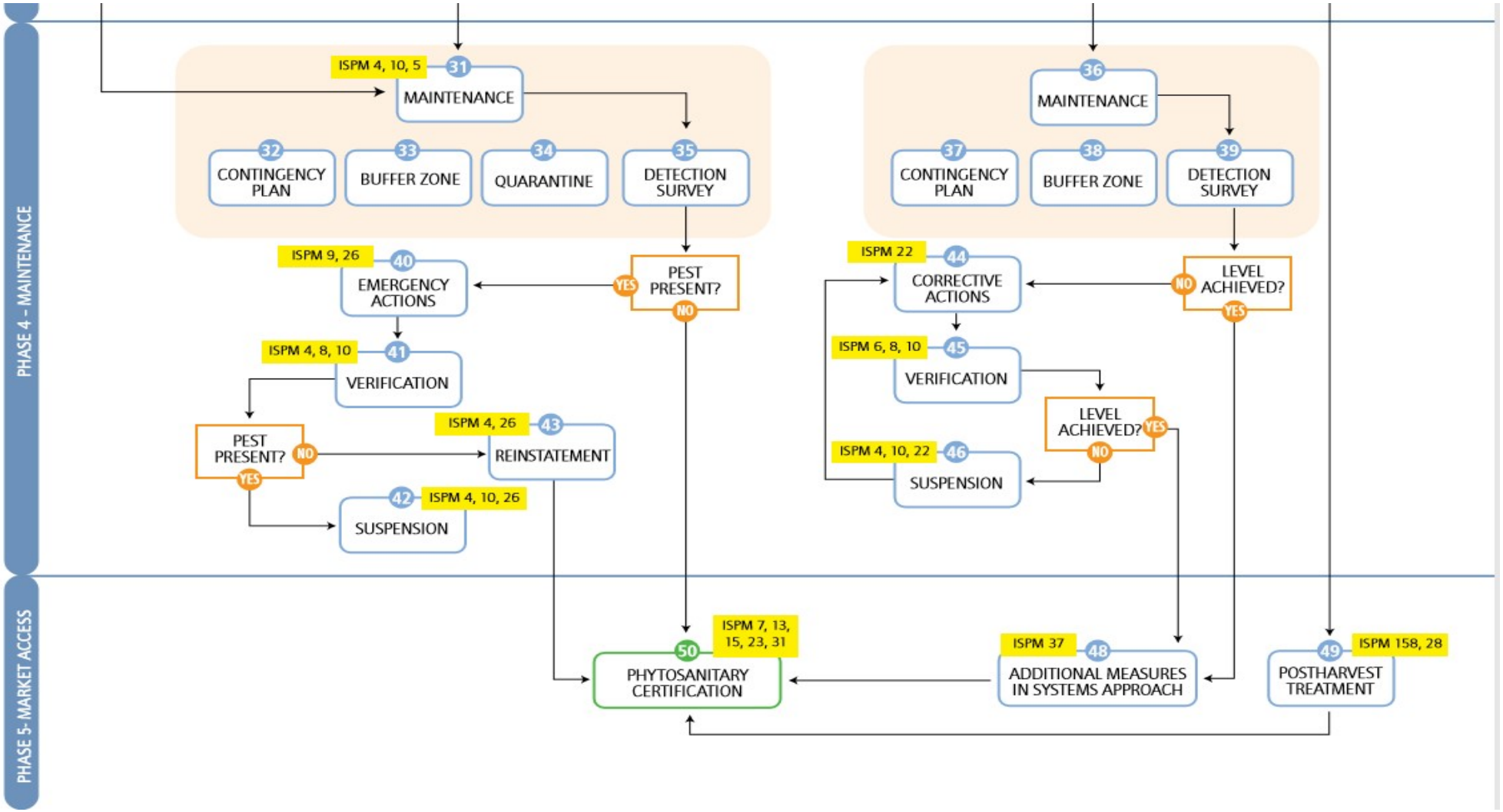
The same approaches apply as for PFAs

PHASE 3 ESTABLISHEMENT OF AN ALPP

Suppression - The application of phytosanitary measures in an infested area to reduce pest populations



PHASE 4 AND 5: MAINTENANCE AND MARKET ACCESS



SYSTEMS APPROACH

Systems approaches - groups of integrated pest risk management measures designed to provide importing countries with adequate phytosanitary security while facilitating trade in situations where direct postharvest commodity treatment is undesirable, not feasible or non-existent or imported products are marginal hosts of the quarantine pest produced in a low-pest prevalence area.

Systems Approach

The components of systems approaches may be grouped into a series of five categories of measures (Jang and Moffit 1994):

- field or production measures
- preharvest measures
- postharvest measures
- Inspection AND
- shipping and distribution measures.

Systems Approach

- These measures may take various forms from traditional field and postharvest treatments to SIT, to less commonly used measures like pest free growing structures and restricted shipping seasons.
- Whatever measures are chosen, the successful design and implementation of systems approaches as phytosanitary measures requires close cooperation between the NPPOs of the importing and exporting countries.

Some examples…More are available in the guide

Onion fly (*Delia antiqua*) ALPP (The Netherlands)

- Onion fly is present throughout the Europian region, so eradication is not an option.
- It is more economical to mass-rear and release, than to eradicate, create a barrier and control new invasions.
- Because the onion flies do not disperse much beyond a particular field, it has proved feasible for this SIT service to be purchased on an individual grower basis.

Onion fly (*Delia antiqua*) ALPP

- Advantages: pesticide usage is reduced, and development of a pesticide-resistant strain is also much diminished.
- Sterile flies are released from May to September; around 10 000 hectares is treated annually, mainly onions for seed production.
- The SIT approach for onion fly also has been below, or is competitive with, the cost of chemicals.

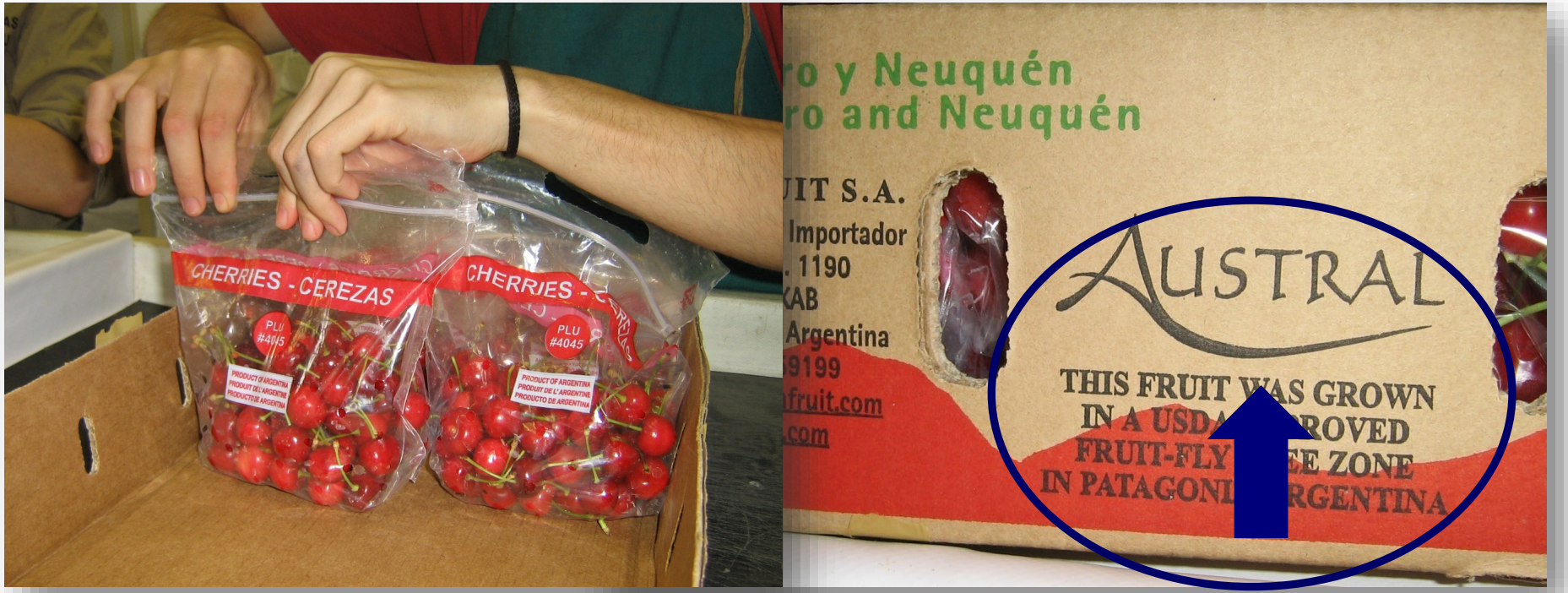
Some Conclusions

- ALPP and Systems approach offer possibilities to produce (and export) from areas that are not pest free.
- It does require research to develop methods and a lot of cooperation between NPPO's of exporting and importing countries.
- There are many examples regarding fruit flies, but much less for other pests and diseases.

IPPC Implementation Resources to Support the PFA Guide

- Market Access
- Transit
- Export Certification
- Import Verification
- Managing Relationships with Stakeholders
- Plant Pest Surveillance
- Guide to Delivering Phytosanitary Diagnostic Services
- Guide to Pest Risk Communication

More IPPC guides and training materials could be found at https://www.ippc.int/en/core-activities/capacity-development/guides-and-training-materials/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THANK YOU!