Pest Risk Analysis (PRA) Stage 3: Risk Management
Stages

- **Stage 1: Initiation**
- **Stage 2: Pest Risk Assessment**
  - Step 1: Pest Categorization
  - Step 2: Assessment of the Probability of Introduction and Spread
  - Step 3: Impacts
  - Step 4: Overall Assessment of Risk
  - Step 5: Uncertainty
- **Stage 3: Pest Risk Management**
Pest risk analysis

- **Stage 1 (initiation)** asked:
  - What bad thing can happen?

- **Stage 2 (pest risk assessment)** asked:
  - How likely is it to happen?
  - How bad will it be?
  - Does it matter? Is the risk acceptable?

- **Stage 3 (pest risk management)** asks:
  - What can be done about it?
Stage 3: Pest Risk Management

• Conclusions of pest risk assessment
• Risk acceptable? PRA ends
• Risk unacceptable? PRA continues

– Risk management analysis
Risk management analysis

- Involves identifying and evaluating options for reducing, avoiding and eliminating pest risk after we have decided that the risk is unacceptably high and in may be possible to mitigate
Risk management analysis

• Information required on:
  – Possible mitigations
    • Efficacy
    • Feasibility
    • Impact
Principles and concepts

Core disciplines applied to both risk management analysis and risk management practice

- Necessity
- Managed risk
- Minimal impact
- Non-discrimination
- Technical justification
- Modification
- Equivalence
• **Equivalence**  
  – Mitigation options that have equivalent or better efficacy and are also feasible should be considered

• **Rational relationship**  
  – Measure in question actually have an effect in mitigating the risk  
  – Strength of measure proportional to risk
Acceptability of risk

- Acceptable level of risk is established by the NPPO
- When might risk be acceptable?
  - Level of risk is so low that specific treatment is not cost effective
  - Level of risk is no greater than that already experienced
  - Cost of mitigation is excessive compared to the benefit
- When is risk unacceptable?
  - Pest incursion would result in economic, environmental or social consequences
Identifying mitigation options

- Measures can be implemented
  - to the growing crop
  - to the harvested commodity
  - to associated materials
Pest Risk Management

- Measures can be implemented
  - at *origin* or in the exporting country
  - at the *point of entry*
  - within the importing country or invaded area
Mitigation points

Country of Origin → Nursery or Orchard → Packing House → Containers → Port of Arrival → Plantation → Country of Destination
Mitigation points

- Place
- Crop
- Commodity
- Pathway

- Storage Facility
  - Container(s)
  - Transport (ship, train, truck …)

- Commodity
  - Pathway
  - Place
  - Other

Country of Origin

In Transit

Country of Destination
Country of origin

• Place/area of production measures
  – General or pest-specific surveillance
  – Historic data
  – Official measures to maintain pest-free status
Country of origin

• Crop measures
  – Treatment of the crop, field or place of production
  – Growing plants under protected conditions to prevent infestation of the crop
  – Specifying time of harvest
  – Phytosanitary certification
Country of origin

- **Commodity Measures**
  - Inspection or laboratory tests
  - Prohibition of parts of the host
  - Restricting the composition of a consignment
  - Pre-shipment quarantine
  - Specified conditions for preparing the consignment
  - Treatment for removal of pest(s)
Country of origin

• Pathway measures
  – Targeted inspections, publicity and fines or incentives
  – Measures for machinery, modes of transportation, or packaging
In transit

**Commodity Measures**

- Storage conditions may be specified
  - Temperature, packaging, separation from other specified plants etc.
- Fumigation or other chemical treatment on board ship
- Ship inspection before loading or at destination
Country of destination

- **Commodity Measures**
  - Inspection of consignments at the point of entry
  - Treat the consignment to kill living pests
  - Contain imported consignments to limit spread of introduced pests
  - Post-entry quarantine
  - Limit use, distribution, or timing of consignments
Country of destination

- Prohibition of a specific commodity from specific source
  - Only if no treatments or inspection techniques are available and effective in reducing risk to acceptable levels
  - A measure of last resort
  - IPPC principles of necessity, science-based, managed risk and minimal impact
Other measures

- **Document**
  - Phytosanitary Certificates
  - Import permits
  - IPPC stamp for SWP

- **Phytosanitary Certificates**
  - Official assurance that specified import requirements are met
  - Confirms that risk management measures have been taken
  - Only for regulated articles

- **Educate**
  - Educate & inform travellers, importers, industry, government or public
Evaluating options

• Is it:
  – Effective *in reducing pest risk to an acceptable level*
  – Efficient; *does it reduce pest with minimum waste and cost?*
  – Cost-effective
  – Feasible? *Practical and possible*
  – Reproducible? *Giving same result each time*
  – Potential negative social, economic or environmental consequences
Analysing mitigation options

Efficacy
How the total benefits associated with the management option are related to the total cost

Feasibility
Is it practical and possible

Impact
What are the direct economic, social and indirect impact of choosing this option
## Selecting options

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<th>Option A</th>
<th>Option B</th>
<th>Option C</th>
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<tr>
<td>Conclusion</td>
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Conclusion of Stage 3

- Risk mitigation measures have been:
  - Identified
  - Evaluated
  - Selected

- Mitigation measures to reduce risk to acceptable level are selected, or

- No mitigation measures are available
Conclusion of PRA

- Pest risk management conclusion:
  - selection of one of more options or series of options, OR
  - no suitable mitigation measures available

- PRA ends
  - options form the basis of phytosanitary regulations or requirements