Beyond Compliance
Risk Management to meet import requirements and facilitate market access

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An STDF funded project (2011-2014, US$600,000)

With in-kind contributions from Imperial College London, CABI SEA and Queensland University of Technology and from the NPPOs of Thailand, Philippines, Malaysia and Vietnam; regional participation from Indonesia, New Zealand and Singapore
Enhance competency and confidence in the SE Asian sub-region to apply a Systems Approach to plant health

Provide new decision support tools and apply them to case studies of trade opportunities selected by partner countries
Today’s session

1. Market access and import requirements
2. Systems Approach to risk management (ISPM 14)
3. How to evaluate combined measures to meet import requirements
4. Tools from *Beyond Compliance* to support application of ISPM 14:
   - Philippines NPPO
   - Thailand NPPO
1. Market Access and Import Requirements
• Decisions about import requirements are made by the importing country’s designated National Plant Protection Organisation (NPPO)

• Decisions are on a specific commodity/country of origin basis
  • pest status of a country or area may be different from another location

• Usually a bilateral agreement between importer and exporter country NPPOs
  • may be regional (e.g. EU)
Import requirements are based on risk

- Decision to allow trade is based on estimated risk, in terms of possible introduction of pests not already in the importing country
- This is considered using the framework of a pest risk analysis
Pest Risk Analysis

• Categorisation of the organism as a pest
• Pest Risk Assessment
  • Probability of entry, establishment and spread
  • Consequences of introduction
• Pest Risk Management
  • Options for management in proportion to the estimated risk
  • Consideration of feasibility, socioeconomic and environmental issues
• Pest Risk Communication
2. Systems Approach to risk management (ISPM no. 14)
ISPM14 (2002): *The use of integrated measures in a systems approach for pest risk management*

Describes an approach using at least two independent measures to provide risk management proportionate to the risk estimated in the PRA.
Elements of Systems Approach (ISPM 14 section 8)

- Pre-planting
- Pre-harvest
- Harvest
- Post harvest treatment and handling
- Transportation and distribution
Why use Systems Approach?

**Risk of failure of single treatments**

**Complexity of pest profile post PRA of a commodity**
- NPPOs undertaking PRAs identify more regulated pests
- One treatment cannot deal with a range of regulated pests (Insect+disease)

**Reduction in use of chemical treatments**
- Reduction in shelf life of commodities (especially MeBr)
- Residue concerns particularly “organic” products
- Not all countries are Montreal Protocol signatories
  - Cannot use MeBr

**Main risk can be managed offshore**

**Resource requirements**
- Most components can be integrated into IPM or GAP
- Many countries do not have treatment facilities or staff and must rely on offshore procedures and what is available locally
3. How to evaluate combined measures for meeting import requirements
• Consider **feasibility** of options
• Estimate **efficacy** (impact on risk) of measures and synergy or duplicative impact
• Consider if measure affects **multiple pests**
• **Select combination** of measures for system and appropriate verification
• **Determine equivalence** with existing requirements
Introduce control points in the system

Original definition: A step in a system where specific procedures can be applied to achieve a defined effect and can be measured, monitored, controlled and corrected [ISPM 14, 2002]
Why use a control point?

- An opportunity for the NPPO to learn **what is actually happening** (vs predicted to happen), in terms of pest population or infestation, before the point of issuing a phytosanitary certificate.
4. Tools from Beyond Compliance to support application of ISPM 14
Tools to support Systems Approach

Key opportunities:

• Provide framework for available information
• Address uncertainty arising in the assessment
• Support estimates of efficacy of measures with limited data and a range of opinion
• Allow more flexibility in management schemes
Planned progression of tools

- PRA from importing NPPO or dossier
- Production chain and stakeholder discussions
- Evaluation of measures in the DSS framework
- Bayesian Network with control points (CP-BN)
- Sensitivity Analysis amongst measures
Production chain for Dragon fruit with possible measures and monitoring actions against insects pest

The diagram lists ALL POSSIBLE MEASURES. The green bubbles show one possible situation.

**OBJECTIVE**

- Supress pest populations in the field
- Treatment of planting material against mealybugs
- Field sanitation at end of previous season
- Pruning and tree structure
- Lure and kill pheromonal/insecticide traps or lures and annihilation
- Protect bait with insecticide dust
- Insecticide cover sprays
- Harvesting fruit, fruit handling and tagging
- Harvested fruit kept in shade in plastic boxes with strict setting for prompt transportation to processing facility
- Avoid pests re-infestation
- Detect, remove and destroy infected
- Harvested dragon fruit are held in pest-proof covers while avoiding packing
- Remove fruit in a water bath containing surfactant to remove pathogens and external arthropods from the surface
- Spray the dragon fruit to clean off dirt and insects on the fruit
- Initial inspection by both of import and export quarantine inspection. If dirt and mealybugs are found on the fruit, measure 10.4 will be re-applied
- Detect and remove external pests
- KIll internal and external insect pests
- Protect fruit post-harvest fruit re-infestation
-Detect infestation of fruit and compliance with measures and record keeping
- Dragon fruit is treated by VNM/IVT
- Pestling boxes are manufactured to a high standard with ventilation holes are covered in mesh to prevent insects entering
- Quarantine inspection conducted by qualified specialists from both countries before signing an exporting certificate

**MEASURES**

- Farm records of work done
- Farm records of work done, including collecting fallen fruit and preparing land
- Farm records of work done
- Farm records and NPPA surveillance report
- Farm records and NPPA surveillance report
- Farm records of work done
- Farm records of work done
- Farm records of work done
- Farm records of work done
- Farm records of work done
- Farm records of work done
- Farm records of work done
- Farm records of work done
- Records of inspection by quarantine inspector of Vietnam and Korea
- Records of inspection by quarantine inspector of Vietnam and Korea
- Records of inspection at entry-point of Korea

**STAGE**

- Planting and preparation
- Field orchard / Farm
- Harvesting
- Processing and treatment
- Export from country

**Production chains**
Production chains

Separate columns:

Objective of the measure
Measures
Time/place/stage in chain
Verification measures

Colour coding:

Official or commercial measures
Currently applied or potential
In line with least restrictive, or to be discussed for removal
For risk reduction or verification
NPPO and other government partners work on Excel™ based Decision Support System
Decision Support System (DSS) with graphic representation of expert input
Taking answers to ISPM 11 into a relationship framework

The final tool is a structured approach to summarise the role and relationship of each measure (e.g. reducing pest prevalence, preventing infestation, verify another measure’s performance, etc), estimates of efficacy and weigh priorities. This can help people understand the value and necessity of different phytosanitary measures and clarify the relative importance of each of them in a systems approach.
Facilitators support proper structuring of Control Point-Bayesian Network (CP-BN)
Reality?

Tools have now been used for:

• New market access
• Maintaining markets
• Negotiating equivalence agreements
  • e.g. removal of a treatment or proposal for alternative measure
• Challenging the number of measures required and their scientific justification
Among 4 countries, ~20 domestic stakeholder meetings directly arising from the project

- Cooperation with other projects (PRATIQUE, AusAID-BC, IAEA/FAO) and other national initiatives (NZ, Australia)
- Establishment of a new industry group in Vietnam to capture benefits of enhanced markets
Reality?

• Wide adoption of production chain mapping
• Improvements to DSS for capturing distributions of efficacy estimates, which can then feed into a CP-BN
• Increased use of Bayesian Networks for plant health
  • but new applications will still benefit from facilitation
Thank you for supporting *Beyond Compliance*