Systems Approaches

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Joint STDF and World Bank webinar

SYSTEMS APPROACH FOR FOOD SAFETY AND PLANT HEALTH

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Systems Approaches

- Flexible approach to comply with non-tariff measures
- Applied along a production continuum – chain of events along a supply chain
- Opportunities to address health hazards or plant health pest risk
- Best practices - measures address hazards and pest risks
- Cumulative approach, rather than single treatments or end point product testing

Graphic: Gooch et al 2019
What is a Systems Approach?
Plant Health Systems Approach

Systems Approach – “A pest risk management option that integrates different measures, at least two of which act independently, with cumulative effect” [ISPM 14, 2002; CPM, 2015]

Based on Pest Risk Analysis (PRA) – method of categorising and estimating risk from pests associated with a pathway or product

HACCP system (production of food)
Food Safety Systems Approaches

- HACCP (Hazard Analysis and Critical Control Point system) principles for good hygiene practices
- Food preparation and production
- Codex Alimentarius 1969

1. Hazard analysis
2. Critical control points (CCPs)
3. Critical limits establishment
4. Establish a system to monitor control of CCPs
5. Corrective actions
6. Verification procedures
7. Documentation and records procedures

**Critical Control point**
A step at which control can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level
Food Safety Systems Approaches

Farm to table Food Safety

- HACCP principles combined with Farm Good Agricultural Practices

Diagram:

- Farm Good Agricultural Practices
- Food Production HACCP
- Table HACCP Kitchen safety Public Education

Plant health systems approach
Examples of measures or procedures

- Pre-planting
- Pre-harvest
- Post-harvest treatment
- Transport/distribution

- Examples of measures or procedures include:
  - Pest-free areas
  - Pest-free places of production
  - Cultural practices
  - Testing disinfestation/treatment
  - Resistant hosts
  - Pest surveillance
  - Sampling
  - Packing
  - Protection

- Pre-planting
- Planting
- Pre-harvest
- Harvest
- Post-harvest treatment
- Transport/distribution
Systems approach – cooperative development

Based on good production practices
- Trial period – require import permit and 100% inspection
- Reporting on failure of the system (Notification of non-compliance)
- Continuous improve the system – feed back loop

Canada – Egypt
Grapes (*Vitis* spp.)
European grapevine moth
*Lobesia botrana*
Summary - Why use a systems approach?

- Equivalent to, but less restrictive than other measures
- Innovation and flexibility for managing risk
- Addressing more than one pest or hazard
- Environmental or health issues
- Single measure not economically feasible or available
- Single treatment option may reduce the quality of the product
- Common system applied for many importing countries
- More efficient/ effective than end treatments or end product testing
Resources

ISPM 14 - International Standard – systems approach for pest risk management

RSPM 41 - North American Plant Protection Regional Standard – systems approaches for forest products

Codex Alimentarius

Beyond Compliance – A production chain framework for plant health risk management in trade

EU Exporter Guide for Alternatives to MBr (CFIA)
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