IPPC and the global movement of seeds – an overview of ISPM 38 *International movement of seeds*

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International Seed Testing Association – ISTA
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Session 1 – Regulatory Aspects of Plant Health
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NAPPO
North American Plant Protection Organization
Organización Norteamericana de Protección a las Plantas
MEXICO - USA - CANADA

International Plant Protection Convention

ISTA
Seed Quality Assurance

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- *Plant Health Seminar participants*

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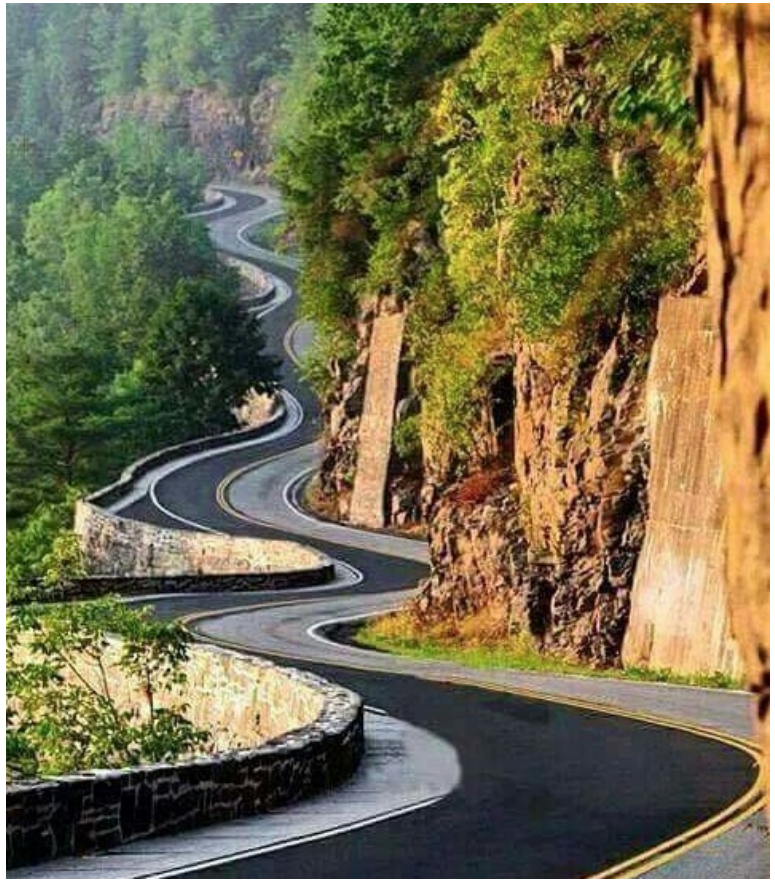
Setting the stage - seed issues

- Global nature of seed trade
- Increasing phytosanitary import requirements; specific requirements for each pest
- Movement of small seed lots
- Is seed a pathway for pests?
- Validation/acceptance/harmonization of diagnostic protocols for seed pests
- Equivalence of phytosanitary measures
- Terminology – different lexicon - government and industry
- PRA issues – timeliness, communication, ID uncertainty, purpose of import, industry practices

The long and winding road …

- 2009 - Seed topic proposed
- 2011 – Standard specification approved
- 2013 - Expert Drafting Group drafted standard
- 2 consultations
- 03/2017 - **ISPM 38 adopted by the Commission on Phytosanitary Measures**
- Implementation
- 2018 – **Annex to ISPM 38 -** *Design and use of systems approaches for phytosanitary certification of seed*
- Next steps

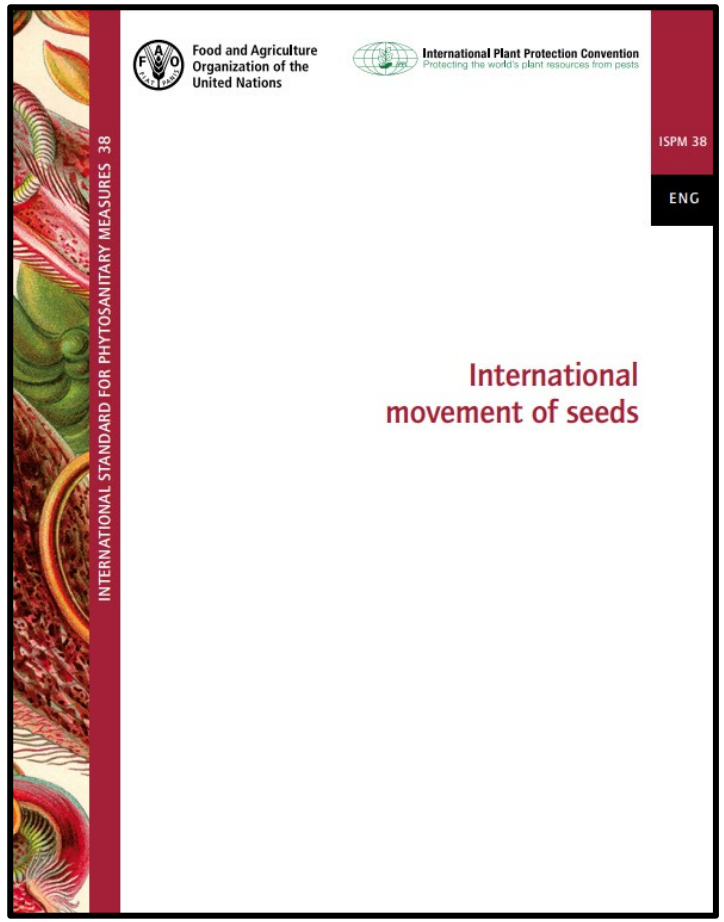


ISPM 38 - **scope**

- Guidance for National plant protection organizations (NPPOs) on how to:
  - Identify, assess and manage pest risk associated with the international movement of seeds (ISPMs 2, 5, 11, 21)
  - Establish phytosanitary import requirements (ISPM 20)
  - Conduct inspection, sampling and testing of seeds (ISPMs 23, 27, 31)
  - Phytosanitary certification of seeds for export and re-export (ISPM 12)
- Includes ..
  - Viable seeds, imported for laboratory testing or for destructive analysis.
- Does not apply to..
  - Grain (for consumption) or vegetative plant parts

ISPM 38 - **components**

- Introduction
- Background
- Requirements
  - Pest risk analysis
  - Phytosanitary measures
    - Systems approaches
  - Equivalence
  - Specific requirements
    - Testing
  - Phytosanitary certification
  - Record keeping
- Appendices - 3



ISPM 38 - **important features**

- **Definitions** for seed-borne and seed transmitted pests; examples of each
- **PRA** to establish **seed as a pathway**
- **Purpose of import**
- Recognizes **role of production practices** in the reduction of risk
- **Supports the use of systems approaches (SA)** to reduce the risk of international movement of seeds
  - SA - a pest risk management option that integrates different measures, at least two of which act independently, with cumulative effect; ISPM 14

ISPM 38 – **definitions**

- **Seed-borne pest** - A pest carried *externally or internally* that *may or may not* be transmitted to plants growing from these seeds and cause their infestation

category	includes	example
1a	seed-transmitted pests that **directly infest the host plant** growing from the seed	*TMV* - seeds of tomato
1b	non-seed transmitted pests that are **transferred to environment and then infest a host plant** under natural conditions	*Fusarium oxysporum* f.sp. *lycopersici* - seeds of tomato
1c	pests carried by seed that **do not transfer to host plant** under natural conditions	Rice yellow mottle virus - rice seeds

- **Contaminating pests** – category 2 - non-seed borne but found *as contaminants* in a seed lot; including seeds of plants (weed seeds) as pests – *Cyperus iria* in seed lots of *Oryza sativa*

ISPM 38 – **PRA and seed as pathway**

- Ability of pest to **transfer to host and cause infestation** – pests that warrant regulation
- Categories 1a, 1b and 2 should be assessed for establishment, spread and economic impacts
- Transmission under **natural conditions**
- Likelihood of pest groups carried/introduced by seeds – Appendix 2

ISPM 38 – **purpose of import**

- May **impact probability of establishment** of quarantine pests
- Seeds for lab. testing/destructive analysis vs. planting under restricted conditions vs. field planting

ISPM 38 - **important features**

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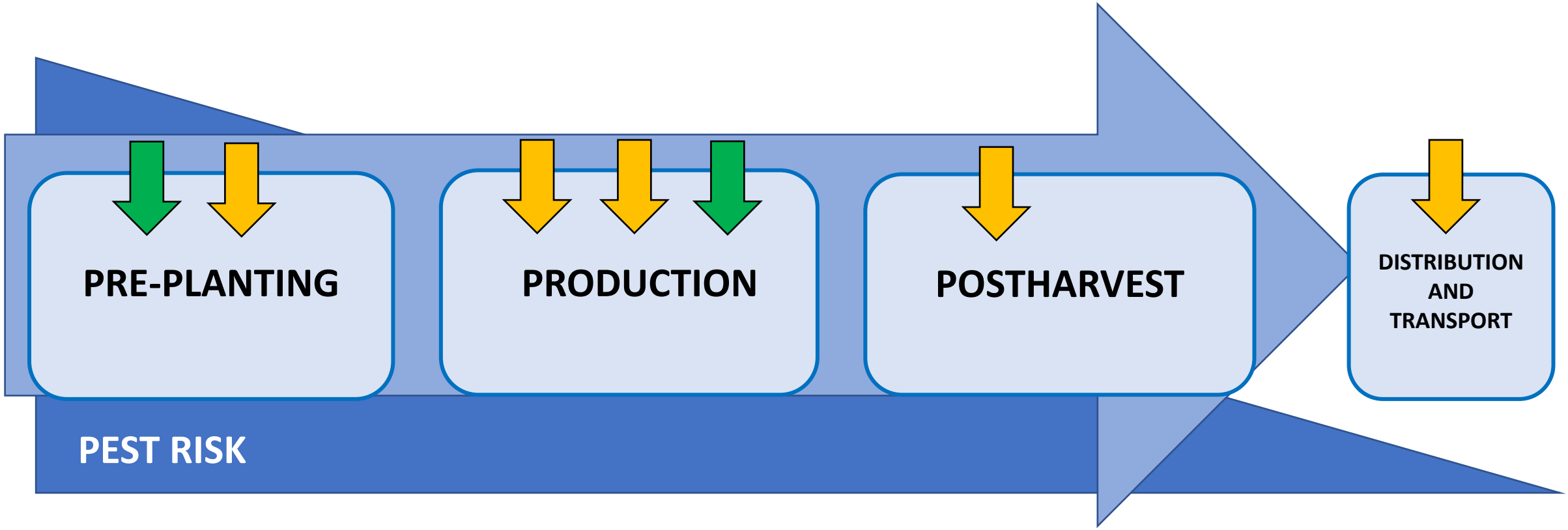
ISPM 38 – **production practices**

- “Certain practices used in seed production **may** alone or in combination be sufficient to meet phytosanitary import requirements.”
- “Many pest management practices to reduce pest risk throughout the seed production process, from planting to harvesting, **may** be integrated in a systems approach.”

MITIGATION - BEST PRACTICE

- Tested/certified seed
- Resistant or less susceptible cultivars
- Crop rotation
- Sanitation, sanitation, sanitation!
- Accredited testing facilities
- Validated testing protocols
- Seed treatments
- Pest-proof packaging
- Documentation
- Worker training

Systems Approach in a generic seed production chain



example independent measures – using certified materials and thinning
example dependent measures – inspection and treat if pest found

ISPM 38 - **implementation**

- 2017 – ISPM 38 – update and next steps – ISF, Thailand
- 2018 – ISPM 38 – outreach activity – ISF, Egypt
- 2018 - International Clean Seed Pathway Workshop – ISPM 38 and systems approaches – DAWR, Australia
- 2018 – COSAVE workshop – emphasis on systems approaches for seed
- Seed societies – *Seed Association of the Americas;* Governments – *USDA-APHIS-PPQ;* Government/Industry – *SENASICA/AMSAC*

ISPM 38 - **implementation**

- 2019 – NAPPO America's focused workshop
- https://www.nappo.org/english/Workshops-and-Symposia/2019-workshop-implementation-ispm-38
  - 13 countries – ARG, BOL, BRA, CAN CR, ES, GUA, HON, JAM, MEX, NIC, PER, USA
  - 4 regional plant protection organizations – COSAVE, CAN, OIRSA, NAPPO
  - International Seed Federation
  - 6 regional/national seed associations – SAA, CSTA, ASTA, AMSAC, ECUASEM, APISEMILLAS
  - 7 seed industry-related companies
  - academia

ISPM 38 – **2019 NAPPO workshop**

"Complete and successful implementation of ISPM 38 means that … seed is moved between countries

- With managed risk
- With technically justified and predictable phytosanitary requirements, and
- Without undue phytosanitary restrictions and delays"

ISPM 38 - **Annex**

Design and use of systems approaches for phytosanitary certification of seed

- Alternative to existing “consignment-by-consignment” phytosanitary certification of seeds moving in trade
- Applicable to any/all seeds moving internationally
- Standardized framework of requirements
- Would ..
  - incorporate industry practices that contribute to reduction in pest risk
  - incorporate quality systems for audit/verification procedures
  - result in a globally harmonized system for seeds moving in trade
  - need multilateral recognition/acceptance

ISPM 38 - **Annex**

Design and use of systems approaches for phytosanitary certification of seed

- Submitted in 2018 by NAPPO – w/international support
- High priority
- One consultation – summer 2020
- Specification (No. 70) is now approved
- Steward selected
- Call for experts is open – deadline May 31
- EDG meeting – early October

ISPM 38 - **Annex**

Design and use of systems approaches for phytosanitary certification of seed

EDG tasks

1. Consider existing standards
2. Review phytosanitary import requirements
3. Review management systems for seeds
4. Seed production practices and pest risk
5. General requirements for a SA
6. Industry – audits/verifications
7. System for multilateral recognition
8. Criteria and requirements for the SA
9. Annex implementation

Design and use of systems approaches for phytosanitary certification of seed

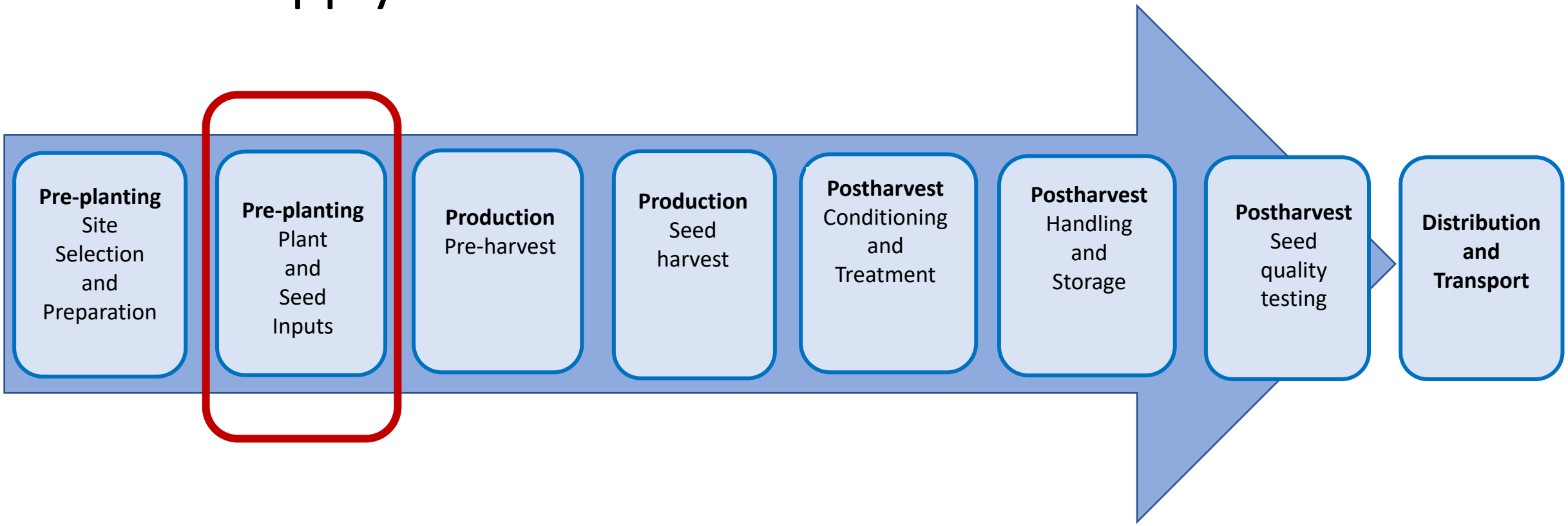
Key to successful global harmonization and multilateral acceptance … two paths

1. Completion, adoption & implementation of Annex	2. real-world experiences – demonstrate that the approach can work – builds trust
	USA – Reg. Framework for Seed Health - ReFreSH
	AUS Global integrated system of seed production
	ISF (AUS, CHI, NED, USA)
	ARG small lots of seed
	BRA small lots of seed
	CHI small lost of seed

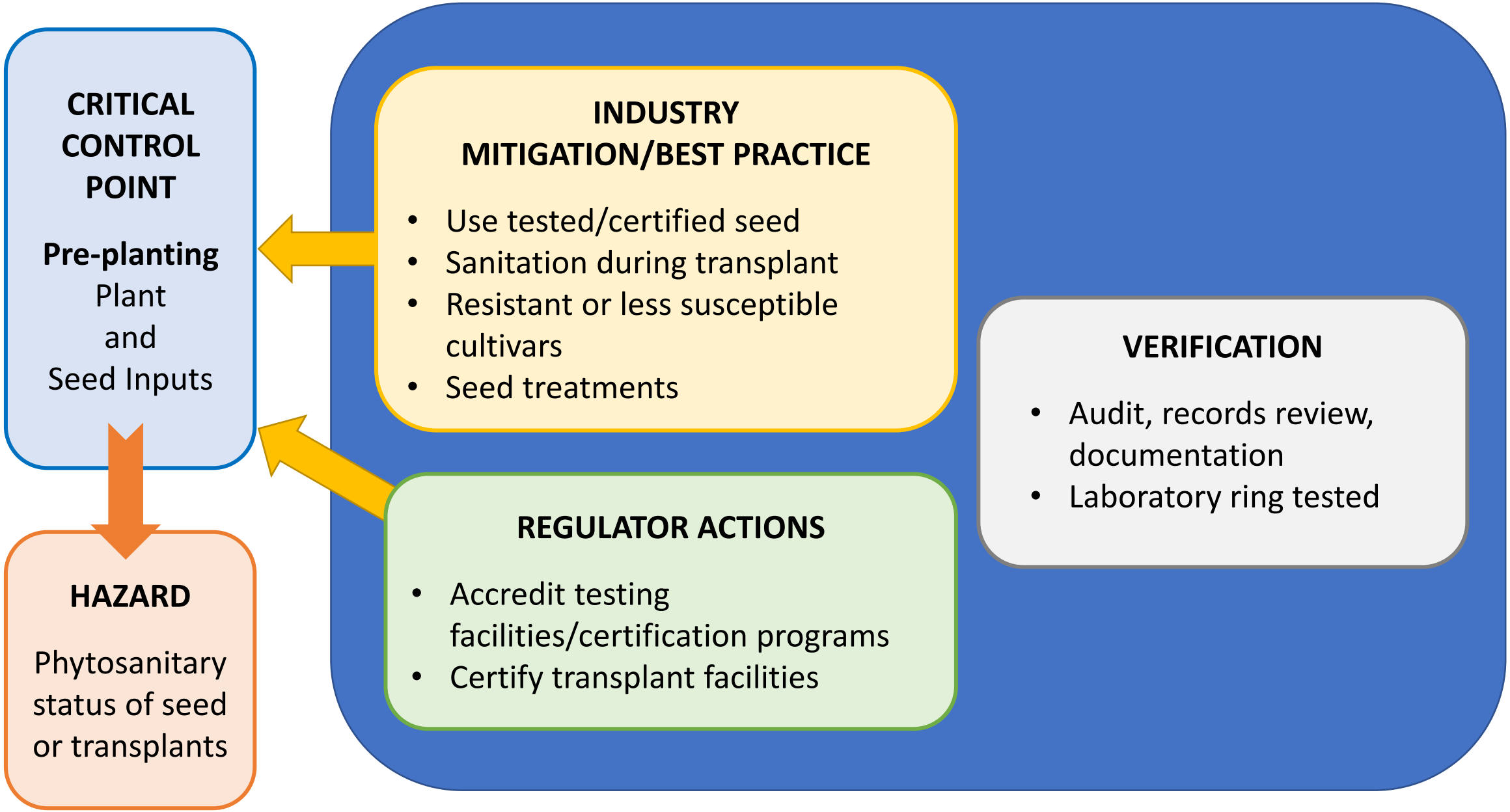
Regulatory Framework for Seed Health - ReFreSH

- Moves away from current system of phytosanitary certification
- Based on accreditation of a systems approach for the seed supply chain
- Jointly developed by government and industry
- *Standard*
  - lays out essential elements of the SA;
  - roles and responsibilities of NPPO officials and seed company participants
- *Manual*
  - Seed health management plan - point-by-point description of how to meet requirements of ReFreSH standard
  - Defining the critical control points
  - Guide for accreditation audits
  - Staff and their roles, description of facility
  - All procedures – reporting, maintaining compliance, change management, etc.
- *Pilots*

Critical Control Points* identified for a seed supply chain



Critical control point* – a step in a process or chain where preventative measure can be applied to prevent, reduce or eliminate a **hazard


CRITICAL CONTROL POINT
Pre-planting
Plant
and
Seed Inputs
HAZARD
Phytosanitary status of seed or transplants
INDUSTRY MITIGATION/BEST PRACTICE
• Use tested/certified seed
• Sanitation during transplant
• Resistant or less susceptible cultivars
• Seed treatments
REGULATOR ACTIONS
• Accredit testing facilities/certification programs
• Certify transplant facilities
VERIFICATION
• Audit, records review, documentation
• Laboratory ring tested

Small lots of seed moving between CHI an USA – 2020/21

Concluding remarks

- Fundamental paradigm shift – an uphill battle
- But … there is light at the end of the tunnel!
  - Drafting of ISPM 38 Annex to start soon
  - Commitment by countries to jointly manage pest risk in the international movement of seed
  - International momentum behind adoption of systems approaches
  - Broad interest among trading partners in developing pilots

MANY THANKS FOR YOUR ATTENTION!

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