Food and Agriculture Organization of the United Nations

International Plant Protection Convention

Department for Environment Food & Rural Affairs

The IPPC's role in facilitating safe trade

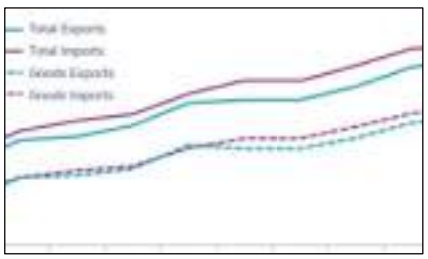
G. Wolff, Canadian Food Inspection Agency

London, 21 - 23 September 2022

International Plant Health Conference

Principles

- Combined objectives of plant protection and facilitating trade may initially seem to be contradictory – in fact they are complementary, with respect to safe trade
- Various International Standards for Phytosanitary Measures cover the movement of most plants and plant products in international trade
- Basic policy test: costs of any policy must not outweigh its benefits
  - Policies and standards are most successful when there is support for, or acceptance of, them among stakeholders, or at least minimal resistance
  - Ensuring that the facilitation of safe trade is part of standard-setting is therefore critical
- Managed risk is unifying principle
- Predictability in a dynamic environment supports economic activity
  - Standards can provide this predictability and a level of stability
  - Businesses can plan and act with more certainty and reduced commercial risks
- Plant protection remains a fundamental objective of any given IPPC standard



Framework within which IPPC guidance operates

Rules-based approaches for international trade relating to plant health include:

- World Trade Organization Agreement on the Application of Sanitary and Phytosanitary ("SPS Agreement")
- The WTO Trade Facilitation Agreement
- International Plant Protection Convention (IPPC), New Revised Text – 1997
  - Similar to SPS Agreement on technical justification and minimizing unnecessary impediments
  - Provisions (obligations) for National Plant Protection Organizations
- International Standards for Phytosanitary Measures (ISPMs)
- Individual contracting party legislation regarding import and exports

Back to principles:

- In the IPPC context, developing standards for the movement of plants and plant products can be considered as "discipline" rather than "restrictions"
- As well as preventing the spread of pests, standard-setting may also be viewed as "multilateral regulatory cooperation" and "equivalency"

THE IPPC'S ROLE IN FACILITATING SAFE TRADE

Convention, standards, intent, implementation

- IPPC convention text (New Revised Text – 1997)
  - Consistent with SPS Agreement
    - Recognises that phytosanitary measures should not be applied in a way that unnecessarily restricts trade
    - In establishing import requirements, certain obligations to minimize interference with international trade and not to unnecessarily impede international trade
    - Includes article on resolving trade disputes
    - And article on supplementary agreements that may promote the Convention, which also highlights the need to avoid unnecessary restrictions to trade

- Facilitating Safe Trade 2019 – 2021 Action Plan
- IPPC Strategic Framework 2020-2030
  - Includes strategic objective to facilitate safe trade, development and economic growth
  - Numerous aspects of the eight development agenda themes support facilitation of safe trade

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Two examples of current IPPC work with significant trade linkages

- **Development of Commodity Standards**

- **Sea Containers pathway**

THE IPPC'S ROLE IN FACILITATING SAFE TRADE

Development of Commodity Standards

- Began with a "safe trade-facilitation focus"
  - Expert group approach then worked on ensuring that plant protection is not compromised while maintaining the trade-facilitation focus
- The standard is based on support importing and exporting countries engaging on new market access
- Facilitates important background risk management through:
  - Identification of commonly regulated pests
  - Identification of commonly used, effective, measures for clearly defined plant-based commodities moving in international trade
- Overall objective is to provide for prompt and easier identification of effective measures that will allow for decisions and implementation of import requirements in reasonable time frames

Sea Containers pathway

- Work began with a plant protection focus
  - Potential impacts on logistics and, therefore, trade very quickly became clear
  - The need to focus on facilitating safe trade facilitation is readily apparent
- Complex, challenging scenario (even more so than was wood packaging)
  - Covid-related supply chain impacts provided stark examples of what negative effects could be like if we get related IPPC guidance wrong
  - A real test of balancing measures against impacts
- IPPC sparing no effort in trying to avoid negative impacts while reducing risks to plant health
  - Sea Containers Task Force
  - International Workshop on Sea Containers
  - CPM Focus Group on Sea Containers
  - IPPC Secretariat engagement with other international organizations
  - Through all of these channels: close engagement with industry to understand challenges, complexity and sensitivity of logistics operations

THE IPPC'S ROLE IN FACILITATING SAFE TRADE

Next steps

- The **IPPC Strategic Framework** is intended to extend to cover the remainder of the decade
- Facilitating Safe Trade is one of its key strategic objectives
- CPM Mission: protect global plant resources and facilitate safe trade
- Goals include: countries having the capacity to . . . minimize the impacts of pests on food security, trade, economic growth, and the environment
- Recognition that use of effective measures, by reducing the frequency of plant pests moving in trade, will facilitate (safe) trade
- Examples of desired outcomes and plans presented
- Adaptability in its implementation . . .

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Thank you

G. Wolff
Director, Plant Export Division, Canadian Food Inspection Agency

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Facilitating Safe Trade and Economic Development

Leveraging on ICT for safe trade and economic development
Kenya experience

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Presentation Outline

- Introduction
- IPPC ePhyto Solution
- Country Experience – Kenya
- Benefits of IPPC ePhyto solution
- Challenges - implementing electronic certification (ePhyto)

Introduction

- We all know importance of safeguarding our agriculture, forests and environment from invasive species
- Application of ISPMs provides harmonized approach on implementation of global plant health systems
- ISPM 12 provides the framework for NPPOs to communicate the phytosanitary status of a consignment in secure, authentic and verifiable manner

Apple snail – invasive species

Plant health laboratory

ePhyto Solution

Phytosanitary certificate requirements (ISPMs 7, 12 & 23)

- Authenticity - verifiable origin and sender
- Integrity – No interference or alteration after issuing
- Non repudiation - the legitimacy of data cannot be denied,
- Its challenging to achieve the above with paper certificates *(Bryant Christie Inc. Report 2014)*

Inspection

Certificate Processing National System

Certificate

Certificate transport

Importing NPO Inspection

ePhyto Solution

Non-repudiation

Authenticity – verifiable origin

Integrity – not changed

Inspection

Certificate Processing National System GeNS

ePhyto Certificate (XML)

Pdf Certificate

ePhyto Hub

Importing NPO Inspection

IPPC ePhyto Solution

- ePhtyo - The electronic version of a phytosanitary certificate (ISPM 12 Appendix 1)
- IPPC ePhyto Hub & GeNS were open in 2018 and 2019 respectively
- August 2022 – a total of 111 (60%) of 184 CP connections to the Hub
- 70 countries are doing live exchange
- Over 2.5 million ePhyto exchanged
- 9 African countries doing live exchange, while 7 are testing

https://www.ephytoexchange.org/landing/hub/index.html

Country Experience – Kenya

- Initiated electronic certification in 2011
- In 2014 – bilateral exchange with Netherlands
- 2018 – connected to IPPC ePhyto HUB for sending
- Over 950,000 certificates issued
- Improved efficiency in trade facilitation, enhanced phytosanitary certification

ephyto exchange through IPPC ePhyto Hub

Benefits of IPPC ePhyto solution

- Low risks of forgery, alteration
- Elimination physical document transmission intermediaries
- Reduced physical movement to collect certificates
- Digital storage – hence reduced risk of losing the certificate
- Easier authentication and verification
- Global harmonization
- Countries without national systems can use GeNS for ephyto exchange
- System integration and interoperability

Challenges - implementing electronic certification (ePhyto)

- Application of digital technology for information management
- ICT and Phytosanitary information integration knowledge gaps
- Systems integration for data exchange – Combining information and business processes, border control agencies
- Legal framework
- Infrastructure – Computers , software, servers internet

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Comments /Questions? Thank you

Josiah Syanda
Deputy Director, Phytosanitary Services – KEPHIS
IPPC ESG /African Region

PROTECTING PLANTS PROTECTING LIFE

European Commission

TRACES NT and IPPC e-Phyto Hub
facilitating safe trade and economic development

International Plant Health Conference
London, 21-23 September 2022

Dr Hélène KLEIN
helene.klein@ec.europa.eu
Head of Sector TRACES-IMSOC
DG SANTE - Unit G3 - *Official Controls*
European representative of the IPPC ephyto Steering Group
IPPC ePhyto Solution single contact point for the EU

Outline

TRACES and plant health

- what is TRACES
- when plants were introduced

TRACES and IPPC ePhyto Hub

- electronic phytosanitary certificates in EU legislation
- key Hub ePhyto features for TRACES
- state of play of data exchanges
- facilitating Safe Trade and Economic Development

TRACES NT and plant health

- what is TRACES
- when plants were introduced

What's TRACES

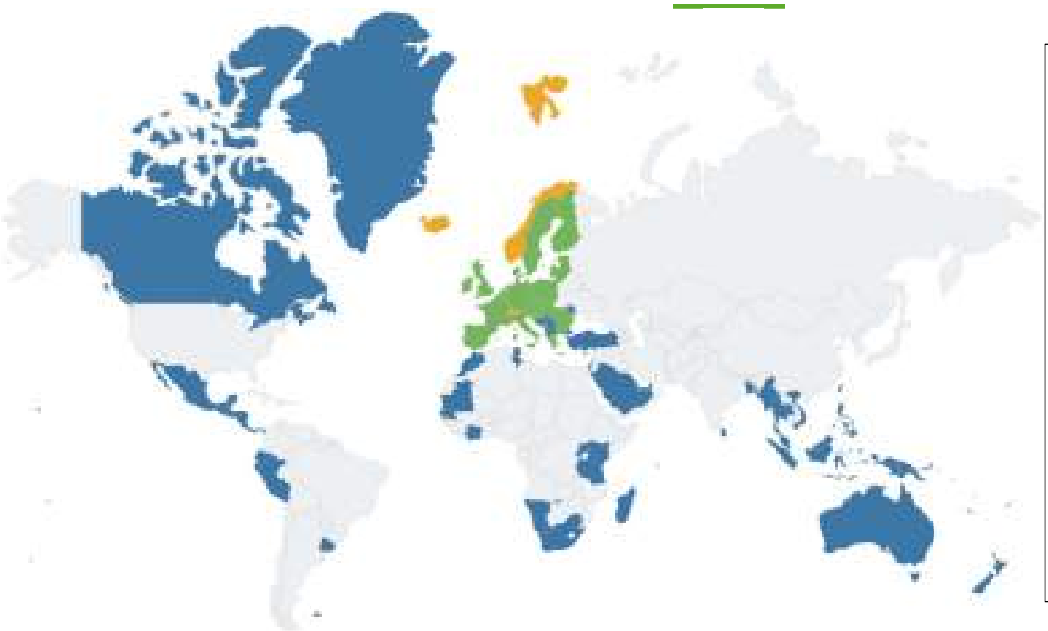
SPS certification

- EU imports of live animals, animal products, food and feed of non-animal origin and **plants**
- intra-EU trade in live animals and certain animal products
- EU exports of live animals, certain animal products and **plants**

Border clearance

live animals
animal products
food and feed of non-animal origin
plants

TRACES worldwide presence (2021)

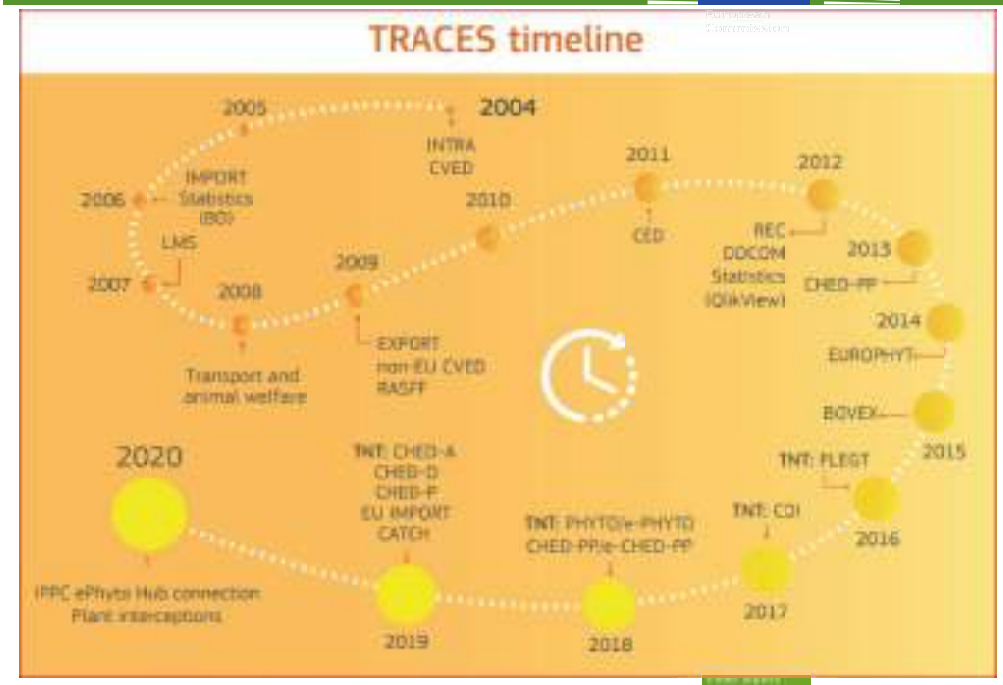


92 countries and overseas territories:

- 27 EU countries (+ NI)
- 64 non-EU countries

87177 users
2/3 operators
1/3 authorities

4.1 million documents
58,5% CHEDs (44% CHED-PP)
7.7% IPPC ephytos (EU and non-EU)
0,72% phytos (EU and non-EU)



2013: first entry document for plants in TRACES Classic (voluntary basis)

2018: migration of plant documents to TRACES-NT (voluntary basis)

14/12/2019: entry documents mandatory

2020: TRACES-NT connection to Hub

TRACES and IPPC ePhyto Hub

- electronic phytosanitary certificates in EU legislation
- key Hub ephyto features for TRACES
- state of play of data exchanges
- facilitating safe trade and economic development

electronic phytosanitary certificates in EU legislation

- IMSOC and eIDAS Regulations (EU standards for e-signature and e-seal)

To the EU

- In TRACES
  - Electronic signature of certifying officer
  - Advanced or qualified electronic seal of the issuing authority
- in exchange with TRACES (through the Hub)
  - Advanced or qualified electronic seal of the issuing authority (eIDAS compliant or equivalent – digital certificate issued by a TSP outside "EU trusted list")

From the EU

- In TRACES (and submitted through Hub)
  - Electronic signature of certifying officer;
  - Advanced or qualified electronic seal of the issuing authority;
- in Member States' systems in exchange with TRACES (and submitted through Hub)
  - Electronic signature of certifying officer;
  - Transmitted to TRACES at the time of signature and transmission sealed by advanced or qualified electronic seal of the issuing authority.

Key Hub ephyto features for TRACES

- **Channel delegation: Single Window systems can handle sending/receiving ePhytos on behalf of countries they manage.**
  - *Countries can send ePhytos to any Member States through the HUB, and the message will be pulled by Traces and delivered to the intended Member State.*
  - *Any Member States can send ePhytos to countries from or through Traces, and the message will be pushed by Traces through the HUB and delivered to the intended importing country.*
- **Channel forwarding: a country is able to specify multiple recipients on the ePhyto envelope while sending it to the destination country.**
- **Implementation of electronic signature in GeNS**

State of play of data exchanges: IPPC ePhyto to the EU (CH+NI)

- TRACES is connected to Hub via a single connection since May 2020 for all MSs and NI (for CH since April 2022)
- > 735 000 (e)phytos since connection;
- > 39 000 (e)phytos in August 2022 (>1/3 of Hub monthly exchanges);
- Up to more than 2000 (e)phytos per day;
- **23** third countries sending data in Production (**16** in paperless mode)
- **7** third countries testing data transmission

State of play of data exchanges: phytos to the EU

e-Phytos replacing paper phytos		Paper phytos required
produced inside TRACES-NT	**data transmitted through Hub**	**data transmitted through Hub**
Guadeloupe	Argentina	Dominican Republic
Guyane	Cameroon	Kenya
Martinique	Chile	Mexico
Mayotte	Colombia	Nepal
la Réunion Island	Costa Rica	Samoa
Tunisia	Guatemala	Panama
UK(GB)	Fiji	Madagascar
	Israel	
	Jamaica	
	Morocco	
	New Zealand	
	Senegal	
	South Africa	
	Sri Lanka	
	Uganda	

State of play of data exchanges: phytos from the EU

- **PHYTOS for Export "produced inside TRACES"**
  - Progressively used so far by FR, CY, HU, MT, DK, IT, PT, CZ, (PL) since early Feb.2021;
  - **Member States equipped for digitally signing phytos for export:**
    FR, CY, HU, MT, DK, IT, PT (AT, EE, FI, LV, LT, LU, PL, SE, SI)
  - countries receiving/accepting EU **e**phytos through Hub: US, Argentina, Costa Rica, Chile, Morocco, Mexico
  - countries testing data pulling: Australia, Uzbekistan, Republic of Korea, UK(GB), New Zealand
- **PHYTOS for Export "submitted to TRACES"**
  - Spain in production since early Dec. 2021
    - >2500 ephytos so far, up to 350 per month, destined to US, Chile, Costa Rica and Argentina
  - Testing ongoing for Belgium, Ireland and Germany.
  - Member States in charge of procuring their own e-seal services and of testing transmission

Facilitating safe trade and economic development: key challenges

- **Acknowledging that the ePhyto Solution does not guarantee countries' phytosanitary compliance**
- **Achieving paperless mode:**
  - Countries' ability to digitally sign xml for phytos to the EU (national systems and geNS)
  - Acceptance of EU ephytos for export
    - ✓ "Technical" acceptance: pending Hub connection, TRACES online verification of certificates or interim solution (e-signed pdf from EU exporter to non-EU importer) - development of a national interface to process certification data (including signed data)
    - ✓ "Legal" constraints
    - ✓ State of play: paperless achieved with some trade partners - Interim solution with GB - Member States' bilateral contacts replaced by COM coordination

Thank you

sante-traces@ec.europa.eu

https://webgate.ec.europa.eu/tracesnt/index

https://ec.europa.eu/food/animals/traces_en#electronic-certification

Tel.: +32 2 297 63 50

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OIRSA

Facilitating safe trade and economic development in the region

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PROTECTING PLANTS PROTECTING LIFE

We are working in:

- **Standards harmonization/homologation**.
  - Manuals for homologated quarantine treatments.
  - Diagnostic Protocols.
  - PRA elaborations, for the homologation of import requirements.
  - Kaphra Beetle.
    - Giant African Snail.
    - Foc R4T
    - Weed seeds in imported grains in Central American.

➢ This is the problem:

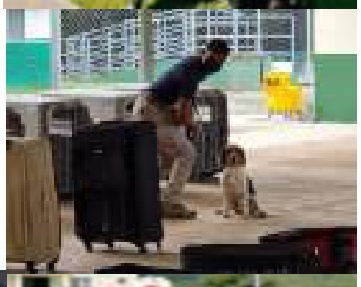
Long waiting times for a pest diagnosis
High costs

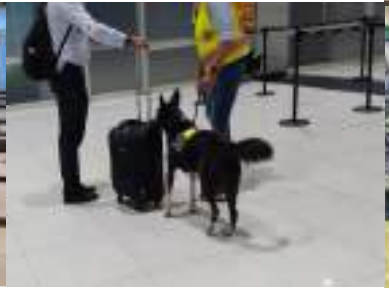
We are working on:

- **Strengthening of the diagnostic capacity in the borders**.
  - Technician training in specific areas such as entomology.
  - Construction of small diagnostic laboratories at borders
  - A digital diagnostic system at distance has been implemented:
    - Faster diagnosis
    - Waiting time reductions
    - Transaction costs reductions

We are working on:

- **Strengthening the capacity to inspect cargo and luggage. (Dog Brigades)**
  - Implementing canine brigades in the region
  - All OIRSA countries have canine brigades





We are working on:

- **Quarantine treatments Certification**

AFAS
Australian fumigation accreditation scheme

The Australian Fumigation Accreditation Scheme (AFAS) is a bilateral arrangement between the Australian Department of Agriculture, Water and the Environment (the department) and your country's biosecurity regulatory agency. AFAS manages the high biosecurity risk posed by ineffective methyl bromide (MB) fumigations

USDA Animal and Plant Health Inspection Service
Treatment Manual

Success Story:

"Commercial Integration between Honduras and Guatemala"

UNIÓN ADUANERA GUATEMALA HONDURAS
Dos países, un territorio

- OIRSA, facilitator of the SPS working group.
  - Definition of requirements for shipments.
  - Official Pest List.
  - Border's Inspection Procedures.
  - Electronic certification.
  - Remote digital diagnostics.

Success Story results:

- Border integrated
- Technical teams integrated
- One-stop foreign trade office (window)
- Electronic certificate emission

Trade between Guatemala and Honduras, current reality:

Currently, trade in agricultural products between both countries flows rapidly, waiting times at borders has been reduced as well as transaction costs.

Inspections done at borders are minimum and solely based on risk.

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Thank you!! Gracias!!

Raúl Antonio Rodas Suazo
Quarantine Services Regional Director, OIRSA
rrodas@oirsa.org

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Facilitating SAFE TRADE and ECONOMIC DEVELOPMENT

The fruit and vegetable industry in the midst of the polycrisis

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Introduction

Key points for today's presentation :

- The sector to date & state of global fruit and vegetable trade 2022 – Key challenges
- Trade facilitation:
  - SPS protocols and it's impact on EU and global fruit and vegetable trade
  - Learnings from ePhyto
  - Planning tools for a sustainable fresh produce industry
  - Benefits of digital control systems

FACILITATING SAFE TRADE AND ECONOMIC DEVELOPMENT

Who we are – Key facts

Freshfel Mission to ensure a robust and sustainable sector

*Freshfel Europe ensures a **diverse and sustainable** European fruit and vegetable sector. The Association also secures a **robust and positive EU regulatory environment for fresh produce and is highly active across all aspects of the whole supply chain**.*

Freshfel Europe's mission is to:

- Improve the efficiency and competitiveness of the sector
- Facilitate international trade of fresh produce
- Assist members to comply with the highest safety, environmental and CSR standards
- Secure a favourable environment to promote the benefits of fresh produce and share best practices
- Position the sector towards the latest research and innovation findings
- Stimulate the consumption of fresh fruit and vegetables

Key figures EU fresh produce sector

Production and economic impact:
- 68 mio. T of production
- 38 mio. T consumed locally
- 5 mio. jobs
- 200 bio € turnover

Intra-EU Trade:
29.2 mio. T / 32.8 bio €

Export:
7.1 mio. T/ 8.65 bio. €
145 destinations

Import:
14.5 mio. T/ 15.4 billion €
130 partners

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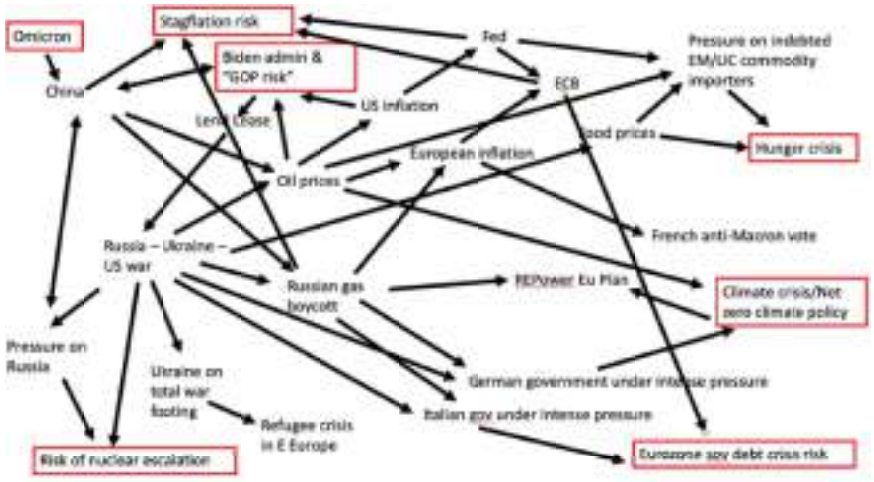
The complexity of polycrisis overwhelms a volatile sector



*Source: Twitter, Philippe Heimberger @heimbergecon Economist, Vienna Institute for International Economic Studies

- Brexit
- Post(?)-Covid supply chains
- China: Covid policies, Taiwan
- War in Ukraine
- EU Green Deal, F2F, Sustainability
- Climate emergency

Cost hikes and supply chain disruptions

Perishability vs. Transit times

Logistics

A highly fragmented sector with more than 200 origins and 200 destinations

SPS / Food-plant safety

Sustainability

Controls but digit push

Protocols remain a barrier for continued growth and development

Impact of an open plant import system at EU-level vs. Closed plant import systems with need to negotiate bilateral agreements – a discriminatory measure

Decisions have to be taken months ahead of the campaign and not according to market conditions

Protcols compliance lead to increase of export costs by 0.12-0.14€/kg

Competiveness linked to difference between open and closed system => some business tating impossible due to cost for small volume

Non-existing protocols prevent „free“ trade and economic development

Create tensions amongst EU partners with regard to speed and content of the conditions

Division of competences: Ressources at NPPO level Facilitations from FTA / IPPC/ WTO

FACILITATING SAFE TRADE AND ECONOMIC DEVELOPMENT

Opportunity: Deep reflection about the SPS export protocol system

FTA

EU Level: Stronger focus on comprehensive SPS chapters in FTA's

EU & MS

Increased exchange and coordination between EU and member states and among EUexporters

MULTILATERAL

Step up discussions at multilateral bodies such as the IPPC, including a stronger emphasis on scientific evidence

CONSUMPTION

Covid-19 & Consumption levels: reflections are needed to allow trade facilitation steps

Limiting the need for SPS protocols overall?

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The ePhyto experience – A role model for trade facilitation

Industry Advisory Group

- Freshfel
- Cooperation with the Global Alliance for Trade Faciliation
- Global advocacy for the system including onboarding support in the EU and key countries

- Easy-in-time transmission
- Covid-19 trade facilitation – but return to „normal“
- Simplicy

- EU to impose additional „electronic signature“ hurdle – cost implications up to 70.000 € annually
- Slow progress in some key trading partners
- Implementation at operational control level
- Bilateral systems

Industry Uptake

- Case studies uptake difficult to find matches
- Key problem: to create awareness in the sector
- Slow implementation at NPPO level
- System remains abstract

FACILITATING SAFE TRADE AND ECONOMIC DEVELOPMENT

Opportunity: Planning tools to support a sustainable industry – data analytics

Key hurdle: no real usage of customs data „real time“ data or micro-fragmentation driven by providers

Opportunity: Real-time port / customs data (public)
Transparency of global trade flows for better planning and commercial decisions - better distribution of global trade flows – better planning of controls and clearance operations – Benefit for the entire supply chain

REAL-TIME ACCESS

- Eurostat/Trademap: maximum of 3 months
- Retroactive data collection – 1 week back
- We need real time view what comes in and out

DATA & ANALYTICS

- Automated business decisions
- Predictive machine learning
- Data analytics for everyone in the chain – business decisions based on regional monitoring

- Vessel performance tracking
- Advanced planning for shipping inlcuding delays and transit times

RELEVANT FOR ALL PARTS OF THE CHAIN

- Harvest and production
- Coldstorage and facility management
- To-port-logistics
- Inspections and controls

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Opportunity: Public access to control data for better sector performance

Key hurdles: To monitor timely upcoming SPS challenges and to act selfresponsibly

Opportunity: Digital control systems allow better data analytics – Conventional and organic controls
For better sector self-management and improved - Rational of controls and emergency measures

Example: EU IMSOC system

- Expectations: Official Control Legislation 2017/625:
  - Move towards better data analytics
  - More efficient controls
  - CHED, RASFF, Phyto
- IMSOC = administration but not management tool

Proportionality – SPS / MRL / residue non-compliances

- Ports of entry of non-compliance
- Products
- Size of non-compliant consignment
- Findings
- Trader

Trader-based vs. Country based

- New perspective on treshholds for country vs. single trader responsiblity
- Less impact for developing countries with dependance on trade and exports

Technical approach

- Creates transparency and predictability for policy making and the planning security / self-responsiblity for the sector

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Thank you

Philippe Binard
General Delegate Freshfel

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Changing Trade Patterns for Plants and Plant Products

Technology Solutions - ePhyto

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FAO/IPCC Technology Solutions - ePhyto

An innovative project called the **ePhyto Solution** of the International Plant Protection Convention (IPPC)

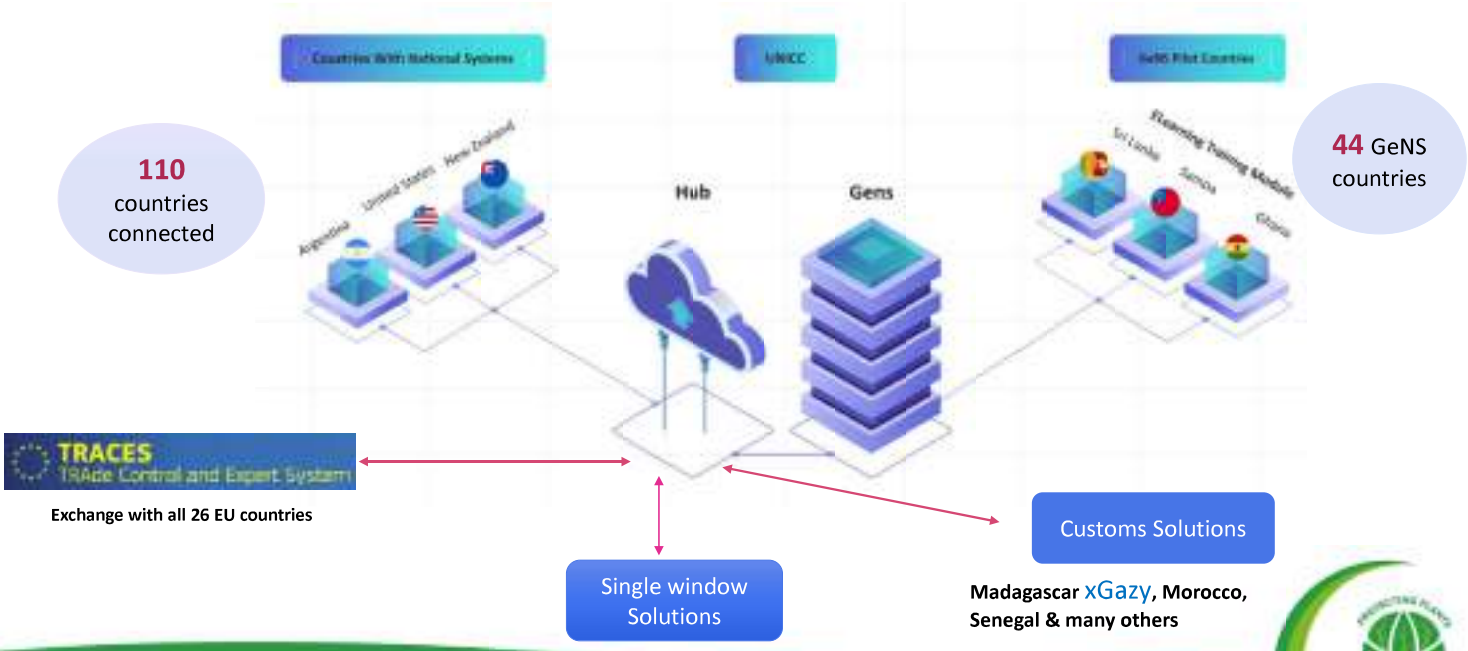
The ePhyto Solution aims to modernize the phytosanitary certification process and hold tremendous potential for trade facilitation.

Globally harmonized approach for electronic phytosanitary certification (ePhyto) in accordance with an adopted International Standard for Phytosanitary Measures (ISPM) 12 Phytosanitary Certificates

*The ePhyto Project received a trade facilitation innovation award at the UNESCAP Asia-Pacific Trade Facilitation Forum (New Delhi, India) in **September 2019**.*

ePhyto Solutions

Avg. of 13,000 certificates per month exchanged through the HUB



ePhyto Solutions - Features

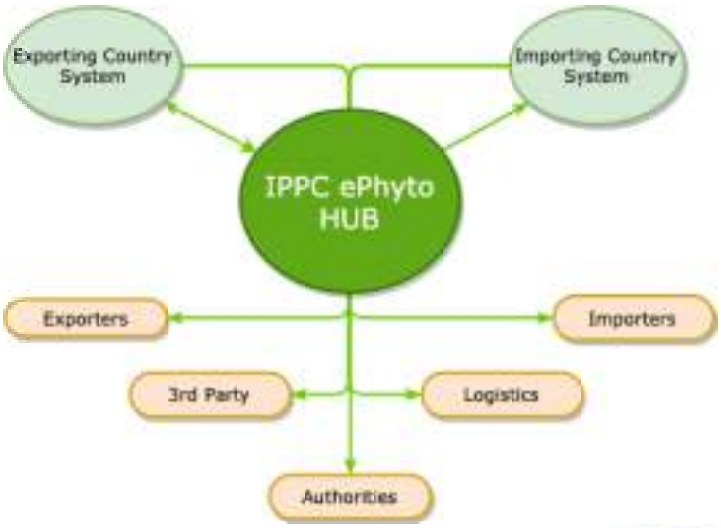
- Validation Tool - Defined structure/codes/terms for the XML messages
- Data compliant in the UN/CEFACT format as per ISPM12 Appendix 1
- Digital Signature and eSeal support available in GeNS and already implemented for exchanges with EU.
- Exchange protocol is Simple Object Access Protocol (SOAP) over HTTPS
- QR code for certificates, Search facility, Copy certificates and data export
- Automatic exchange with countries already participating
- Everyone uses the same standards and rules. Simple configuration / workflows / reports / dashboards
- The systems are secured, monitored, supported and will be available 24/7
- Multi-language support

ePhyto Solutions – Channel forwarding

A country will be able to specify multiple recipients on the ephyto envelope while sending it to the destination country.

Exporter ABC is sending rice from USA to Argentina and needs to inform the shipping company XYZ at the time the ePhyto is issued.

The sender will add the forwarding channel codes on the envelope header of the ePhyto.



ePhyto Solutions - Benefits

- National efficiencies
- **Reduction in trade costs/time**
- Improved security
- Simplification of information flow between traders and government
- Options for data transfer and sharing
- Expedited clearance of commodities
- Better evaluation of risks
- Ability to address certification problems in advance of commodity arrival
- Resource planning prior to commodity arrival

- **Industry participation -** Industry representatives via the ePhyto Industry Advisory Group (IAG) are working to provide expertise regarding the commercial implications of the ePhyto Solution through the use of case studies.
- Case studies completed or are currently underway for mapping efficiencies and savings https://www.ephytoexchange.org/landing/caseStories.html

ePhyto Solutions - Roadmap

- Connecting to other systems (ASEAN Single window system, customs systems etc.)
- Collaboration with eTIR looking for the integration of the ePhyto in their system and TIR documents
- GeNS - Arabic interface
- GeNS - eBilling feature to allow NPPO bill for the certification services and confirm payments
- HUB Industry Channel registration to allow self-registration of global platforms (i.e., logistics, blockchain etc.)
- Modernization and improved collaboration tools including community discussions
- Exchange of other certificates

UNICC – Context

UNICC has been responsible for the development, hosting, supporting and administering the ePhyto solutions for the IPPC.

UNICC is the core shared service provider for the United Nations system, providing agile, cost-effective, UN-audit compliant high value digital business solutions. UNICC is highly competitive with today's technology marketplace, often building synergies with industry partners as well as with its Clients and Partner Organizations.

Creating Value

- Experience and expertise for UN organizations
- United Nations Immunities and Privileges
- UN mandate for shared services, efficiently, cost-effectively
- Superior operations and agile project management
- Partner Organizations have a say in UNICC strategy and direction
- Strategic partnerships with global organizations with shared agendas.

London, 21 – 23 September 2022 | International Plant Health Conference

UNICC – Standards, Certifications & Best practices

UNICC Operations

UNICC staff are trained in many industry certifications, qualifications and best practices.

1. **ISO/IEC 27001** — ISO 27001:2013 information security certification
2. **ISAE 3402** — ISAE 3402 audit standard
3. **COBIT 5** — COBIT 5 governance standard
4. **PRINCE 2** — PRINCE2 project management certification
5. **ITIL V3** — ITIL service management framework
6. **ISO/IEC 20000** — ISO 20000:2018 service management system certification
7. **ISO/IEC 22301** — ISO 22301:2019 Business Continuity Management certification

ePhyto - Resources

Fact sheets, guides, PowerPoints, meeting reports, harmonization codes etc..

https://www.ephytoexchange.org

https://www.ippc.int/en/ephyto/

Food and Agriculture Organization of the United Nations

International Plant Protection Convention

Department for Environment Food & Rural Affairs

London, 21 – 23 September 2022

International Plant Health Conference

Thank you

Venkat V.
Application Delivery – United Nations International Computing Center (UNICC)

Food and Agriculture Organization of the United Nations

International Plant Protection Convention

Department for Environment Food & Rural Affairs

Norihide Hinomoto
Professor
Laboratory of Ecological Information
Graduate School of Agriculture,
Kyoto University, Japan

京都大学 KYOTO UNIVERSITY

MOONSHOT

Zero Pest Damage: Potential future alternatives to chemical control

London, 21 – 23 September 2022

International Plant Health Conference

Scope

National Program "Moonshot R&D" GOAL 5
– Creation of the industry that enables sustainable global food supply by exploiting unused biological resources by 2050.

Chemical pesticides sometimes become trade barriers due to differences in regulations by countries.

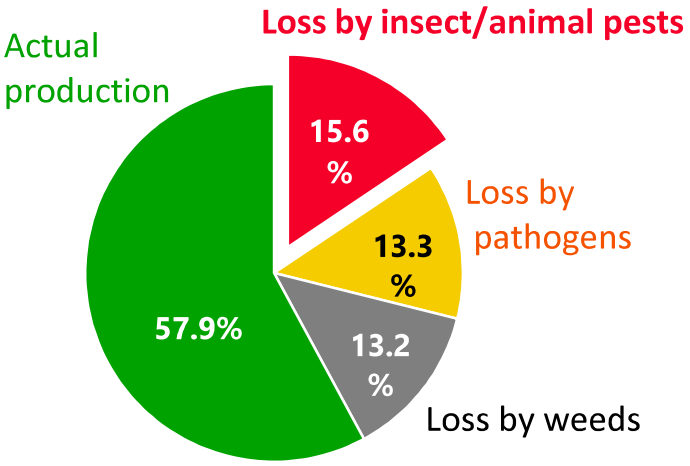
The purpose of our project is to build a new pest management system with substantially less chemical pesticide use.

Project member institutes

- Kyoto University
- NARO (National Agriculture and Food Research Organization)
- Tohoku University
- Osaka University
- Tokyo University of Agriculture and Technology
- Setsunan University
- Jikei University
- Tokyo University of Agriculture

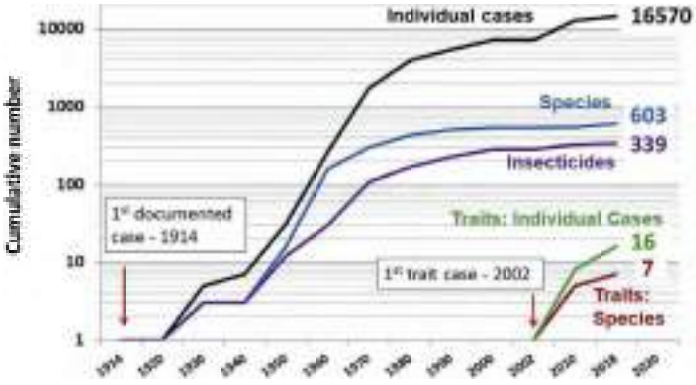
Background

Pest damage causes crop loss



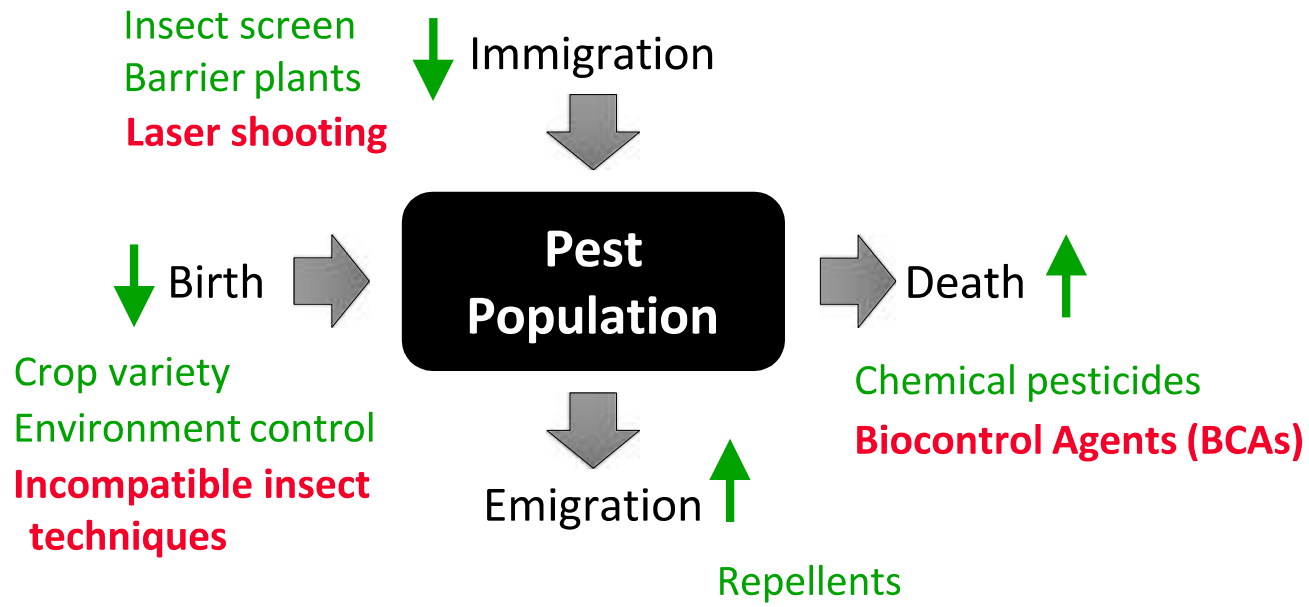
After Sharma et al. (2017) , Oerke et al. (1994)

Insecticide resistance



Sparks et al. (2020)

Scope – IPM tools



Approach – 3 steps to reduce insect pests

Wide area: migratory pests

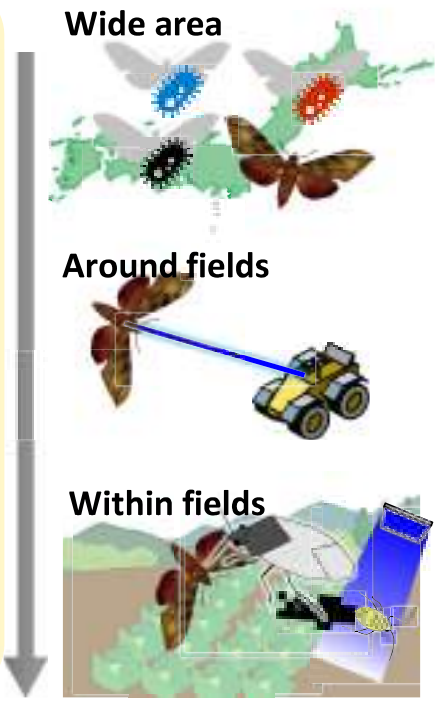
- Density reduction with symbionts (incompatible insect technique)

Around fields: flying pests

- Laser beam shooting

In fields: minute pests

- Surface irradiation of lasers & biological control agents (BCAs) enhanced



Success and Challenges

	Symbionts	Laser shooting	BCAs
Initial outcomes	**Artificial culture** of insect-symbionts in living host insects	**Successful prediction** of flying path of insects with AI	New **genome editing method** and RNA interference (RNAi) systems on BCAs
Challenges	- Culture system **without living host insects** - **Incompatible insect techniques** by symbionts	- Capturing **irregular flying patterns** of insects - Concerns over **safety and reliability**	**- Genome information-based breeding** and **elucidation of BCAs' function**

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Laser beam shooting technique

Stereo camera
1024x768 pixel, 55 FPS

Spodoptera litura (Adult moth)
15-30 mm length
0.5-1.0m/s flying speed

Prediction of flight position

Single moth

8 moths

- Processing an image takes 0.03 sec (2 frames), and this time lag must be compensated.
- The prediction method provides flight position 2 steps ahead.

Laser beam shooting technique: simulation

Success and Challenges

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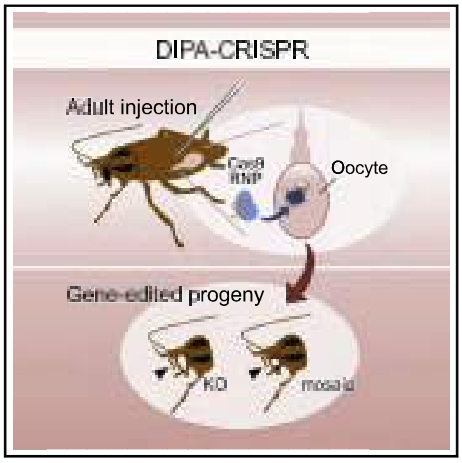
Genome editing on Biocontrol Agents

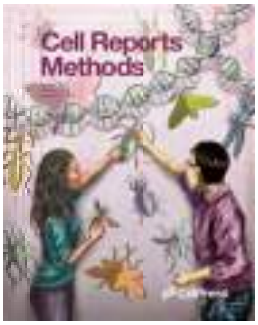
Cell Reports Methods

Report

DIPA-CRISPR is a simple and accessible method for insect gene editing

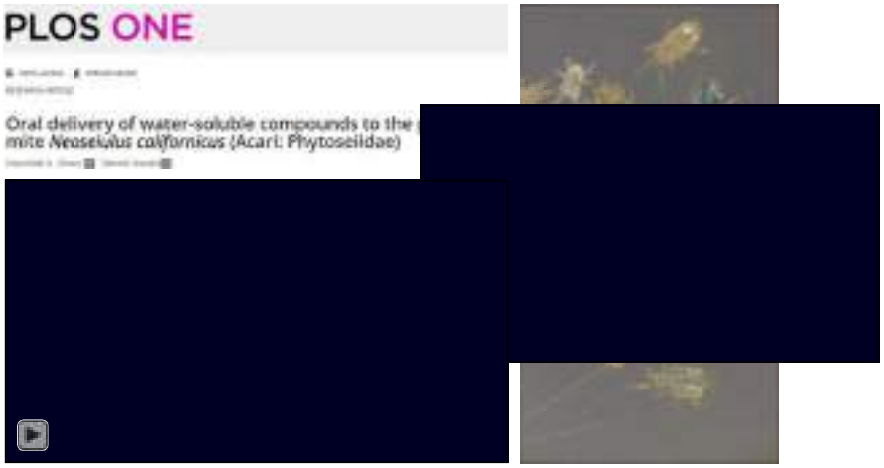
Graphical abstract





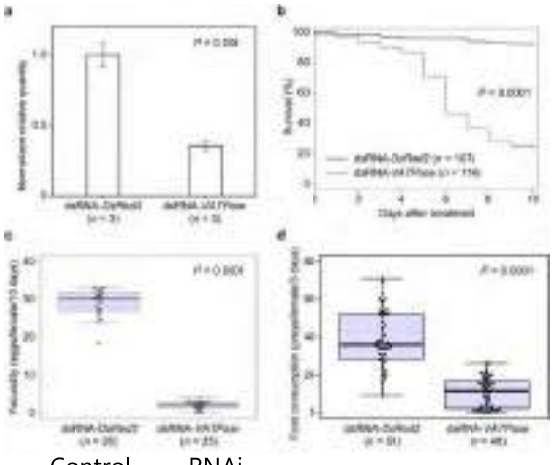
Shirai et al. (2022) Cell Rep Methods

RNAi on BCAs



(Ghazy and Suzuki 2019)

Control RNAi



Control RNAi

(Ghazy and Suzuki 2022)

New Biocontrol agents

Genome editing

RNAi

→ Stronger, bigger eaters'

Analysis and control of their behaviour

Orius strigicollis

Nesidiocoris tenuis

Propylea japonica

Neoseiulus californicus

By 2050, insect pests can be controlled without chemicals

Reducing the use of chemical pesticides
contributes to world trade!

Thank you for your kind attention

Norihide HINOMOTO, Ph.D. (Kyoto University) E-mail: hinomoto.norihide.8m@kyoto-u.ac.jp

Food and Agriculture Organization of the United Nations

International Plant Protection Convention

Department for Environment Food & Rural Affairs

Changing Trade Patterns for Plants and Plant Products through Electronic Phytosanitary Certificates

Dr. Ceren Erdogan, Deputy Director GIZ

London, 21 – 23 September 2022

International Plant Health Conference

PROTECTING PLANTS PROTECTING LIFE

Changing Trade Patterns for Plants and Plant Products through Electronic Phytosanitary Certificates

Dr. Ceren Erdogan, Deputy Director GIZ

International Plant Health Conference | 23 September 2022 | London, United Kingdom

GLOBAL ALLIANCE FOR TRADE FACILITATION
WHO WE ARE

HOST ORGANISATIONS

IN COOPERATION WITH

SUPPORTED BY

PRIVATE SECTOR PARTNERS INCLUDING

APPROACH
THE IMPORTANCE OF PARTNERSHIPS

Local Private Sector
Businesses, SMEs, Chambers of Commerce

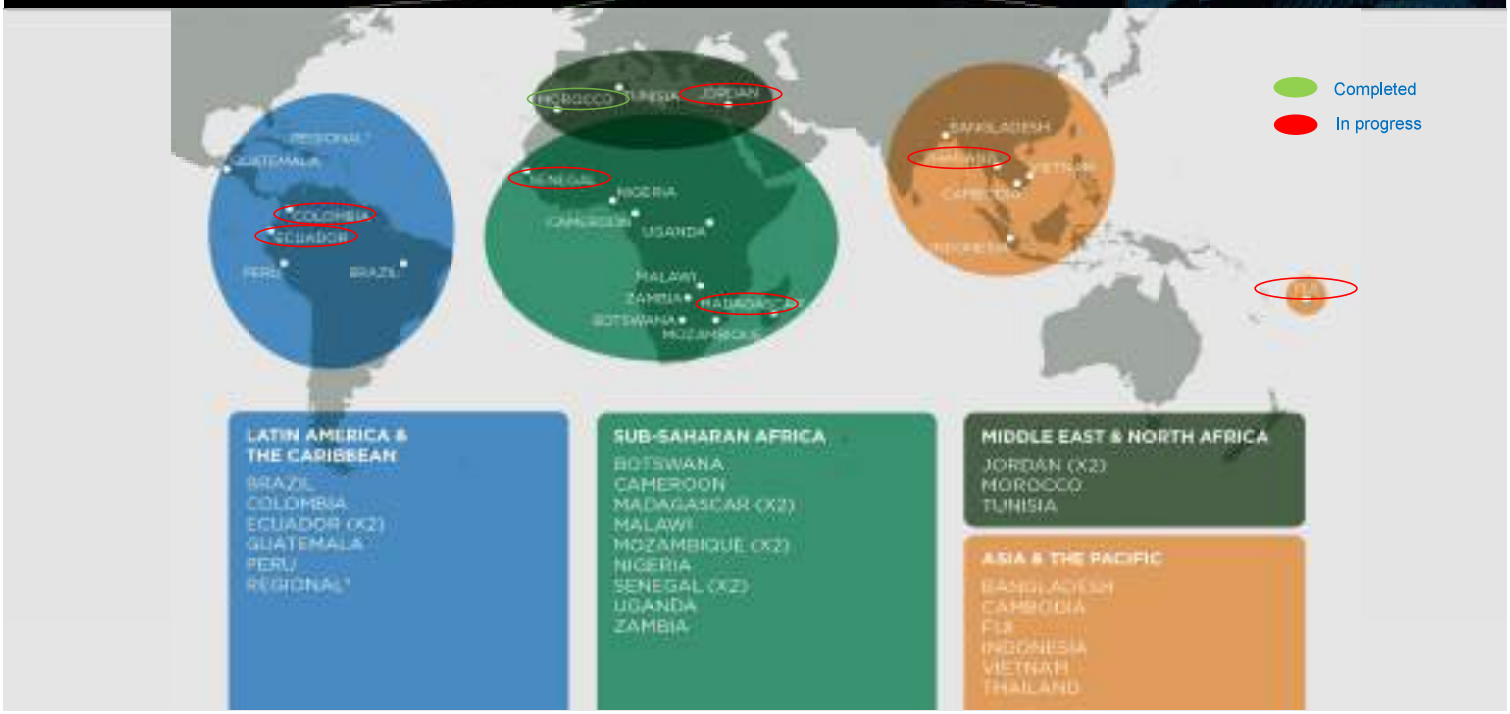
Government
Ministries, Customs, other border agencies

Project

The Alliance
Public-private expertise, technical assistance, best practices

Private Sector (Global)
Resources, expertise in moving goods around the world, best practices

GLOBAL ALLIANCE FOR TRADE FACILITATION
OUR PRESENCE



GLOBAL ALLIANCE FOR TRADE FACILITATION
DELIVERING EPHYTO PROJECTS

A pragmatic approach to the technical implementation, focusing on capacity uptake and sustainability

- Provide key services and expertise to achieve trade facilitation objectives
- Design tailor-made approaches for each country, involving local and international private sector partners

Three main areas of support:

Hub Technical support to align with the IPPC Hub requirements	**National Technical support** to adapt the IT environment in country and connect national systems to the Hub	**Sustainability and Change Management** to ensure a smooth transition from paper-based to a digital system
• High level support • Technical guidelines • Specific IT requirements • Testing • Others	• BPA & legal support • National environment IT audit • Gap Assessment • IT developments • Country technical capacity uptake and training	• NPPO officers & staff training • Importers and exporters training • Piloting of the system with partner countries • Global communications plans and campaigns
IPPC & UNICC	**Global Alliance for Trade Facilitation**	

JORDAN ePhyto
Projected time and cost reductions

SAVING PER CERTIFICATE: 3 h

SAVING PER CERTIFICATE US$ 14.56 BY FILING ONLINE

ANNUAL SAVINGS: US$ 728,106

ECUADOR ePhyto
Projected Time and Cost Reductions

Average number of phytosanitary certificates issued per year

35% bananas 122,500

SAVING PER CERTIFICATE: 5h 30 min

SAVING PER CERTIFICATE US$ 14.40 BY FILING ONLINE

ANNUAL SAVINGS: US$ 1,764,000

55% flowers 192,500

SAVING PER CERTIFICATE: 5h 24min

SAVING PER CERTIFICATE US$ 19.70 BY FILING ONLINE

ANNUAL SAVINGS: US$ 3,794,175

Predictability of operations and risk mitigation

IMPACTS OBSERVED ON AGRI-TRADE OPERATIONS FOLLOWING EPHYTO IMPLEMENTATION

Safety	• Traceability and trusted information • Reduced risks of errors due to Human intervention
Speed	• Faster/Simpler administrative processes for the request and obtaining of PCs • Streamlined information exchange between control authorities and traders
Visibility	• Real time information on the process for NPPOs and traders, on both import and export sides • Strategic trade data and analysis possibilities for NPPOs and Ministries of Agriculture
Predictability	• Enhanced operational predictability for public and private actors (e.g: Inspection resources scheduling and management, planning of transport and logistics operations, …)
Reactivity	• Enhanced reaction capacity to tackle errors and unexpected modifications of shipments' information (Case of Replacement Certificates)

Minimizing the exposure to Risk and Uncertainty

Enhanced planning & execution of trade and transit operations, resulting in:

- Reliable trade ➔ Enhanced export service quality & Client satisfaction
- Less cost & delays ➔ Reduction of Losses (e.g.: Products shelf live, spoilage, demurrage…)
- Streamlined processes ➔ Better opportunities for SMEs
- Traceable operations ➔ Enhanced trust between public and private actors
- Optimized public resources ➔ Cost effective services and governance of Control operations

GLOBAL ALLIANCE FOR TRADE FACILITATION

FOR MORE INFORMATION

Dr. Ceren Erodgan | ceren.Erdogan@giz.de

Christopher Smith | christopher.smith@giz.de

www.tradefacilitation.org

@GATFnews

@Global Alliance for Trade Facilitation

REVEAM

USE OF ELECTRONIC COLD-PASTEURIZTION™ (ECP™) AS A MEANS OF REDUCING MOVEMENT & DEVELOPMENT OF PLANT PESTS AND PATHOGENS

CHIP STARNS

CO-FOUNDER & EXECUTIVE VICE PRESIDENT

REVEAM

CHANGING TRADE PATTENS FOR PLANTS AND PLANT PRODUCTS

DEFEAT HUNGER

1 in 9 people in the world can't get enough to eat—that's more than 800 million suffering from hunger.

Yet each year, an estimated one third of all food produced – equivalent to 1.3 billion tonnes worth around $1 trillion – is lost or wasted

IMPROVE NUTRITION

In 2017, some 3.9 million deaths worldwide were attributable to not eating enough fruit and vegetables.

Produce imports are important for supplying the nutrition needs of countries that do not produce enough fruit and vegetables domestically.

FOOD SECURITY

FAO estimates that annually between 20 to 40 percent of global crop production are lost to pests.

Each year, plant diseases cost the global economy around $220 billion, and invasive insects around US$70 billion.

REVEAM

INADEQUATE ALTERNATIVE SOLUTIONS

Inferior treatment methods such as chemical fumigation and hot water treatment adversely impact food quality and cause vast quantities of safe food to spoil, creating billions of dollars in economic loss

METHYL BROMIDE

Highly toxic, ozone-depleting gas that can require premature harvesting and cause spotting. The process induces heat and breaks the cold-chain.

HOT WATER BATH

Hot Water Bath can adversely impact taste, damage appearance & potentially serve as a breeding ground for other pathogens, while breaking the cold chain.

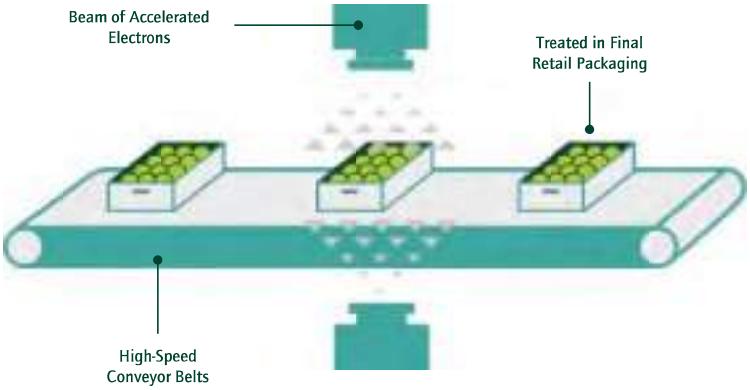
TOXIC CHEMICALS

Eliminating the need for toxic chemicals and reducing the amount of food waste sent to landfills can help ease the impact of climate change.

REVEAM

ELECTRONIC COLD-PASTEURIZATION (ECP™) SOLUTION

ECP™ technology delivers a gentle shower of ionizing electrons that sterilize insects, eliminate mold, bacteria and kill pathogens and parasites that cause food-borne illnesses and spoilage. Cases of fresh produce pass through the electron beam (E-beam) in milliseconds on a high-speed conveyor.



REVEAM

BENEFITS OF ECP™ TECHNOLOGY

ECP™ enables new export markets, by eliminating the risk of early-stage insects and pathogens that create trade barriers.

Sterilizes unwanted pests such as fruit flies, moths, weevils, mites, worms, maggots, and other borers

Breaks down microorganisms, reducing the presence of foodborne pathogens such as E. coli, Salmonella, and Listeria

Eliminates parasites like Cyclospora, and significantly reduces risk of foodborne illness from nationwide outbreaks

Reduces bacteria, fungi, and molds, and delays the spoilage process, thus helping food commodities last longer and extending their expiration dates

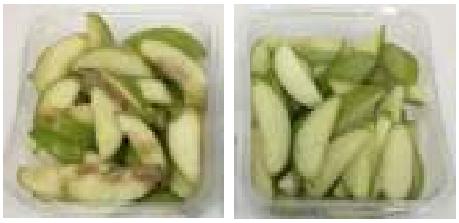
Maintains the cold chain by not generating heat, improving produce quality and taste as the product can remain in preferred temperatures

ECP™ enables significant shelf-life extension, helping to reduce food waste and loss

Blueberries

Control | 63 Days | ECP™

Apples



Control | 14 Days | ECP™

Cilantro

Control | 14 Days | ECP™

Figs

Control | 12 Days | ECP™

Strawberries

Control | 14 Days | ECP™

Fresh-Cut

Control | 27 Days | ECP™

ECP™ enables the ability to stop the spread of plant pathogens and diseases such as Anthracnose on papayas

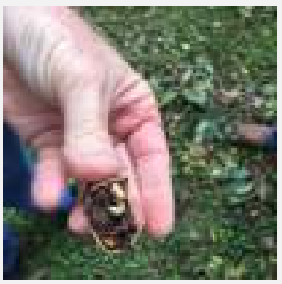
CONTROL	BEFORE	AFTER
Anthracnose spreads rapidly across the fruit without treatment, devasting truckloads of product.		

ECP™ TREATMENT	BEFORE	AFTER
The spread of Anthracnose is neutralized using ECP™, enabling better quality and reducing waste.		

USDA TASC GRANT: PECAN WEEVIL

TECHNICAL ASSISTANCE FOR SPECIALTY CROPS

- Finalizing international study with USDA for treating invasive Pecan Weevil using ECP™ and opening export market to Mexico



USDA STUDY: PEACHES

USDA PEACH STUDY

- Funded by the USDA and state of Texas "Emerging Technology Fund", partnered with Texas A&M University and the National Center for Electron Beam Research Center at TAMU to conduct a study on peaches titled *"Effect of Irradiation on Shelf-life and Quality of Fresh Whole Peaches."*

DEPARTMENT OF HORTICULTURE: UNIVERSITY OF GEORGIA

- Internationally published study for treating blueberries with ECP™ for increased U.S. export in conjunction with University of Georgia
- Titled *"Effect of Electronic Cold-Pasteurization™ (ECP™) on Fruit Quality & Postharvest Diseases during Blueberry Storage" (2018)*

A SAFE, COMPREHENSIVE POST-HARVEST SOLUTION

- Product treated in less then a second
- Chemical-free, heat-free process
- No harm to taste, color, odor or texture
- USDA-approved & FDA-approved
- Supported by the FAO, WHO, IAEA among many others
- Product treated in final packaging
- Faster-to-market processes

USDA FDA FAO World Health Organization IAEA

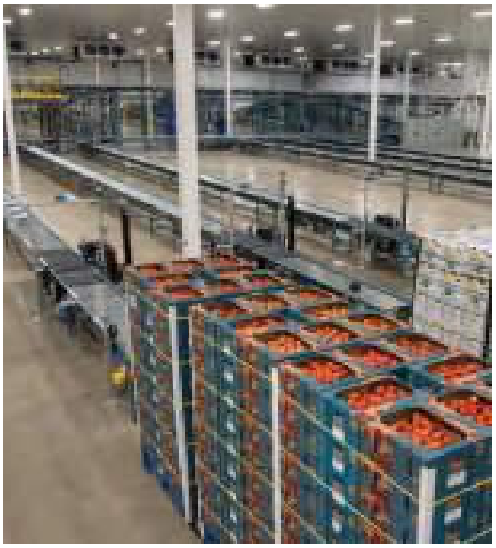
ECP™ technology in action at our McAllen, Texas USA treatment facility

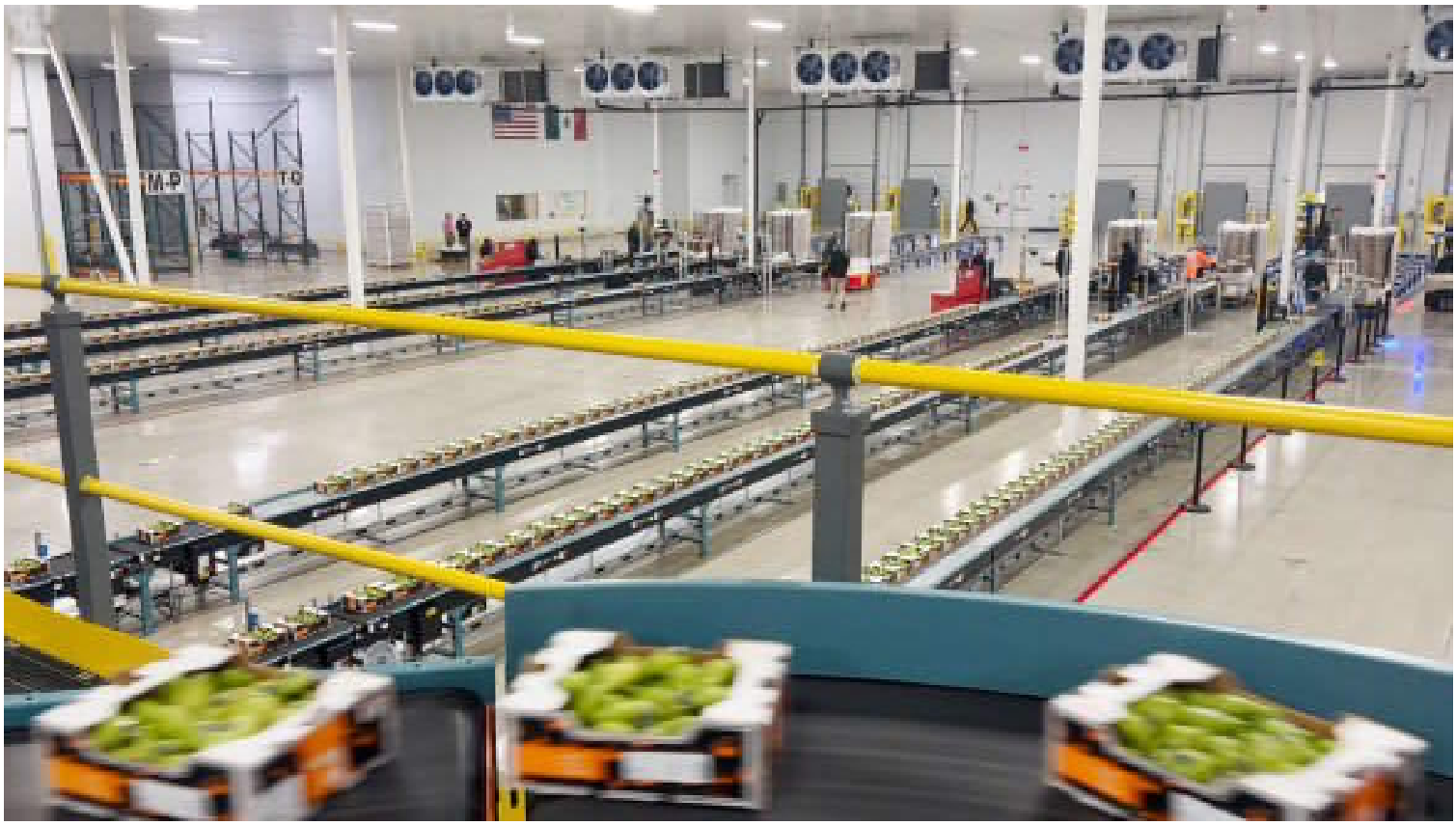
The Rio Grande Valley Electronic Cold-Pasteurization™ (ECP™) Center in McAllen, Texas USA

- State-of-the-art E-beam center
- 100,000 sq. ft. climate-controlled facility
- 175+ direct jobs created, 600+ indirect jobs created

ISO International Organization for Standardization

ASTM INTERNATIONAL





Reveam aims to support the UN Sustainable Development Goals by not only addressing persistent food insecurity issues, but also by looking towards the future to see where other applications of ECP™ can reduce harm and improve outcomes across the globe.

REVEAM

THANK YOU

REVEAM.COM

CHIP STARNS

Co-Founder and Executive Vice President

Reveam, Inc.

cstarns@reveam.com

4940 Peachtree Industrial Blvd,
Suite 340
Norcross, Georgia USA 30071

Transparency and Reliable Trade Relations;

Korea's experience with fire blight outbeak

London, 21 - 23 September 2022

International Plant Health Conference

Transparency and reliable trade relations; Korea's experience with fire blight outbreak

Fire blight (*Erwinia amylovora*): a prohibited regulated pest in Korea and import of the relevant parts of host plants in distributed areas are prohibited

- National contingency plan

- National survey for the prohibited pest to maintin PFA (**ISPM 11 Pest risk analysis for quarantine pests, ISPM 4 Requirements for the establishment of pest freedom areas, ISPM 6 Surveillance**)

In 2015 fire blight was detected in a pear field and confirmed by molecular diagnosis (**ISPM 27 Diagnostic protocol for regulated pest**)

Apple and Pear are major fruits in Korea

Production: Apple > Citrus > Peaches > Grape > Pear
Export: Pear > Grape > Citrus > Apple > Peaches

	Production Area(ha)	Production(M/T)	Export(M/T)
Apple	37,534	656,848	1,366
Pear	11,679	215,564	20,756

CLICK ON *SLIDE MASTER* TO EDIT PPT TITLE

Transparency and reliable trade relations; Korea's experience with fire blight outbreak

National committe with relevant agnecies and experts met and press released for public awareness and reporting

- Implementation of eradication program (**ISPM 9 Guidelines for pest eradication programmes**)

Pest reporting to IPP and relevant importing countries (**ISPM 17 Pest reporting**): annually updated

National wide specific survey conducted (**ISPM 6 Surveillance**);

Official control for eradication and national suvey continued up to now but fire blight spread in the middle part of Korea

Transparency and reliable trade relations; Korea's experience with fire blight outbreak

Trade continued in the outbreak year

- non-quarantine pest
- Pest free area in southern part of Korea are recognized by national survey and official control
- in codition of PFA or Pest free production site

CLICK ON *SLIDE MASTER* TO EDIT PPT TITLE

Transparency and reliable trade relations; Korea's experience with fire blight outbreak

Lessons

- Importance of early detection
- Transparent domestic communication
- Cooperation and coordination bewteen relevant agencies and industries
- Prevention; most effective and economic
- Transparency for reliable and sustainable trade

London, 21 – 23 September 2022 | International Plant Health Conference

Food and Agriculture Organization of the United Nations

International Plant Protection Convention

Department for Environment Food & Rural Affairs

London, 21 – 23 September 2022

International Plant Health Conference

Thank you!

Name
Position

Food and Agriculture Organization of the United Nations

International Plant Protection Convention

Department for Environment Food & Rural Affairs

INTENDED USE IN PLANT PROTECTION EXPERIENCES IN MEXICO

London, 21 – 23 September 2022

International Plant Health Conference

Outline

1. GLOBAL TRADE CHALLENGES FOR PLANT HEALTH
2. MEXICO - SIGNATORY OF THE INTERNATIONAL PLANT PROTECTION CONVENTION (IPPC)
3. MEXICO IN GLOBAL TRADE
4. RISK ASSESSMENT FOR MEXICO ASSOCIATED WITH THE TRADE OF AGRICULTURAL PRODUCTS
5. WHAT SHOULD WE KNOW ABOUT INTENDED USE?
6. IMPACT OF DIVERSION FROM INTENDED USE
7. CASE 1: IMPORTATION OF FRESH TABLE STOCK POTATOES INTENDED FOR CONSUMPTION
8. CASE 2: EXPORT OF FRESH AVOCADO FRUIT FOR CONSUMPTION
9. LESSONS LEARNED
10. CONCLUSIONS

INTENDED USE IN PLANT PROTECTION EXPERIENCES IN MEXICO

1. GLOBAL TRADE CHALLENGES FOR PLANT HEALTH

The export or import of plant products and by-products in global trade brings with it:

1. Increased commodities traded among countries
2. Diversification of species
3. Increased phytosanitary risk of pest spread
4. Challenge of establishing or adopting a regulatory framework that guarantees fair and safe trade between the parties, with the priority of mitigating the risk of the entry of quarantine pests.
5. Compliance with the obligations contracted between business partners, based on international standards or the regulations of each country.

2. MEXICO - SIGNATORY OF THE INTERNATIONAL PLANT PROTECTION CONVENTION (IPPC)

- **Mexico** is signatory since January 1st, 1**995**, and has the following obligations:

1. IPPC Official Contact Point
2. Official pest reporting
3. Description of the NPPO
4. Phytosanitary Restrictions/Legislation
5. Points on entry
6. List of regulated pests
7. Emergency actions

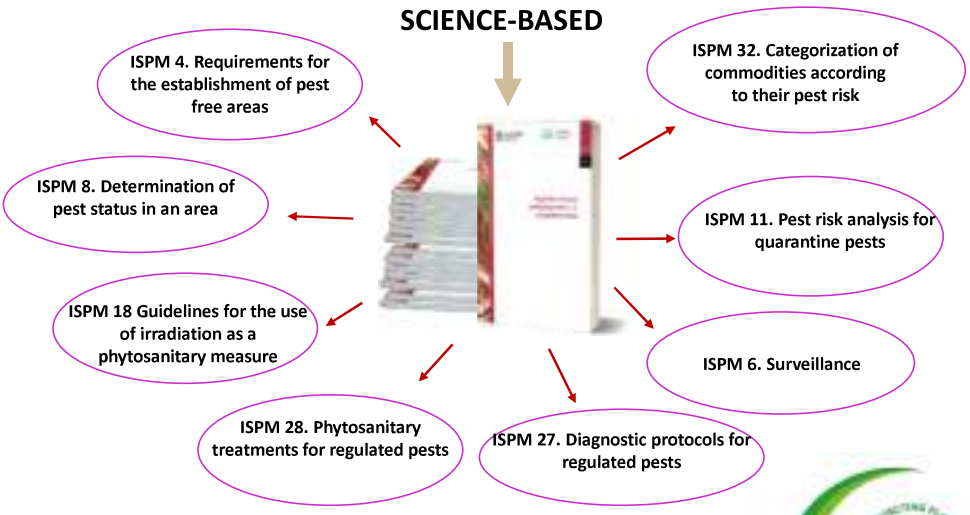
INTENDED USE IN PLANT PROTECTION EXPERIENCES IN MEXICO

3. MEXICO IN GLOBAL TRADE

- **14 Free Trade Agreements with 50 countries which represent a potential market of 1.3 billion people.**

Exports
- **Avocados**
- Berries
- Tomatoes
- Bell peppers
- Broccoli
- Cucumbers
- Onions

Imports
- Corn
- Sorghum
- Rice
- Beans
- Wheat
- Barley
- Apples
- **Potatoes**



4. RISK ASSESSMENT FOR MEXICO ASSOCIATED WITH TRADE IN AGRICULTURAL PRODUCTS

Assessment was carried out through evaluation (pest risk analysis), based on International Standards for Phytosanitary Measures of the IPPC, considering the following aspects.

IMPORTANT ASPECTS

1. Type of product (grain, plants for planting, fresh fruit).
2. Country of origin as well as provenance of the product.
3. Intended use.
4. Phytosanitary measures applied by other countries for the same import route.

The level of risk from a pest depends on the organism, the associated commodity, and the intended use.

INTENDED USE IN PLANT PROTECTION EXPERIENCES IN MEXICO

5. WHAT WE NEED TO KNOW ABOUT THE INTENDED USE?

1. **Know and understand that it is a key provision of ISPM 32*.**
2. **Some intended uses of a commodity are associated with a higher probability of a regulated pest becoming more established than others.**
3. **Each product has appropriate phytosanitary measures, even when the risk (pest) is the same, depending on the declared intended use.**
4. **Sometimes, certifications requested in bilateral trade go beyond the necessary authorizations, creating additional and stricter measures, which are not easy to comply with.**

*** ISPM 32.- Categorization of commodities according to their pest risk** https://www.fao.org/3/cb2571en/cb2571en.pdf

6. IMPACT OF DIVERSION FROM INTENDED USE

Definition: When regulated articles are used for purposes other than those originally declared after importation*.

Pest risk analysis, based on intended use, examples:

<u>Case 1</u>: Fresh table stock potatoes intended for consumption or processing (import)

<u>Case 2</u>: Fresh avocados for consumption (export)

Some considerations during risk evaluation:

1. Are the identified pests associated with the import route?
2. Is the scientific evidence compelling?
3. How are the same goods moved in international trade?
4. Are there viable phytosanitary measures to mitigate the pests risk?
5. Are the phytosanitary measures fair and reasonable?
6. Diversion from indented use is the responsibility of the importing country.

*IPPC. 2016. Diversion From Intended Use: Consideration of the extent of the issue
https://www.ippc.int/static/media/uploads/ippc-irss_diversion_from_intended_use.pdf

INTENDED USE IN PLANT PROTECTION EXPERIENCES IN MEXICO

7. CASE 1: IMPORTATION OF FRESH TABLE STOCK POTATOES INTENDED FOR CONSUMPTION

Implementation of phytosanitary measures by Mexico for imported fresh table stock potatoes intended for consumption and/or industry

1. The intended use of the product for consumption and/or industry was one of the determining characteristics for the identification of quarantine pests.
2. Study was carried out with qualitative methodology based on international regulations/standards.
3. Through the evaluation of scientific evidence, the pest risks associated with the importation of the product were determined.
4. The phytosanitary measures currently in force are based on the level of risk identified.
5. Mitigation of pest risk associated with the diversion of intended use must be addressed from a national scenario that includes the entire production chain to consumers, through the raising of awareness/outreach, even during the implementation of regulations, if applicable.

Important references

- ISPM 5
- ISPM 6
- ISPM 8
- ISPM 11
- ISPM 27
- ISPM 32
- Diversion From Intended Use: Consideration of the extent of the issue

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8. CASE 2: EXPORT OF FRESH AVOCADO FRUIT FOR CONSUMPTION

Implementation of phytosanitary measures for the export of fresh fruit of Mexican avocado due to the presence of Avocado sunblotch viroid.

With the risk assessments carried out:

- The same level of risk was determined for propagative material and fresh avocado fruits for consumption due to the presence of sunblotch.
- The measures did not consider the intended use, so a review of the measure was requested.

Important references

- ISPM 5
- ISPM 6
- ISPM 8
- ISPM 11
- ISPM 27
- ISPM 32
- Diversion From Intended Use: Consideration of the extent of the issue

INTENDED USE IN PLANT PROTECTION EXPERIENCES IN MEXICO

9. LESSONS LEARNED

It is important to have IPPC International Standards for Phytosanitary Measures (ISPMs) as guidelines for establishing phytosanitary measures.

a) Science-based phytosanitary measures are a sovereign right of each country.

b) Application of the concept of "diversion from intended use" is not straightforward and can lead to over-regulation of trade in products.

c) Mitigation of risks associated with "diversion from intended use" is the responsibility of the importing country.

d) Trade of plant products should be considered through risk management with a minimum impact, considering the intended use of these products.

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10. CONCLUSIONS

- Risk assessments are dynamic evaluations, which allow for justifying the most appropriate phytosanitary measures according to the products and the intended use.
- Diversion from intended use is the responsibility of the importing country.
- Phytosanitary measures established by Mexico for plant products are adequate with respect to the associated phytosanitary risks and the intended use.
- Following a risk-based approach and in accordance with the guidance of ISPM 32 is critical, in that the measures applied should be proportional to the pest risk identified according to their intended use.
- Trade benefits are surely enhanced when the parties (importer-exporter) adhere to international regulations and to the obligations they have acquired.

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THANK YOU!

Name: Dr Clemente De Jesus Garcia-Avila
Position: Coordinador, Phytosanitary Specialist Group of the National Phytosanitary Reference Center of the General Directorate of Plant Health, Mexico

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Plant Healthy Certification Scheme

Risk awareness – the foundation for plant pest prevention

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PROTECTING PLANTS PROTECTING LIFE

Alistair Yeomans – MICFor & MCIHort





Most common pathway for notifiable plant pests to be introduced to a new area is by the movement of live plants Plant Diseases and Biosecurity, Beales et al. 2019

- Establishing the Plant Healthy Certification Scheme with the Plant Health Alliance

Collaboration and Assurance

- Industry assurance schemes – private-public, national, regional, and Central
- Obligations and operationalisation, capacity, and knowledge exchange.
- Strengthening Pest Outbreak Alert and Response systems
- Forward challenges and innovation for the future

Collaboration and Assurance

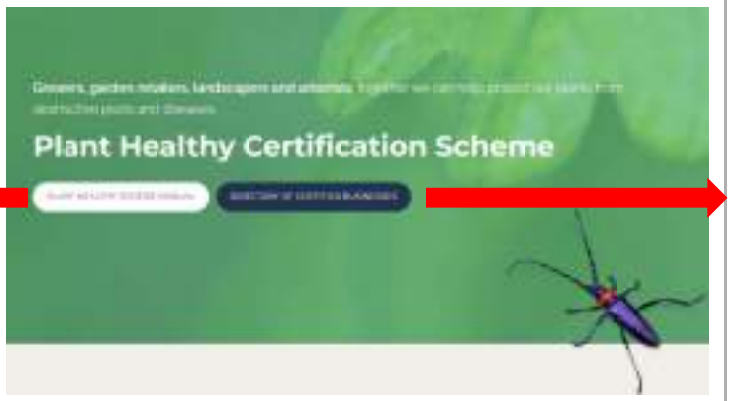
- Industry assurance schemes
- knowledge exchange
- Alert and Response systems
- innovation for the future

Collaboration and Assurance

Industry assurance schemes

planthealthly.org.uk

Industry assurance schemes



planthealthly.org.uk

knowledge exchange

ALOP for a site and operations

knowledge exchange

knowledge required for professional operators to issue plant passports:

Article 89 1. (a) of regulation 2016/2031 on protective measures against pests of plants.

Possess the knowledge to carry out the examinations of notifiable pests that could affect the plants, plant products and other objects concerned, and the signs of the presence of those pests, the symptoms caused by them, and the means to prevent the presence and spread of those pests.

knowledge exchange

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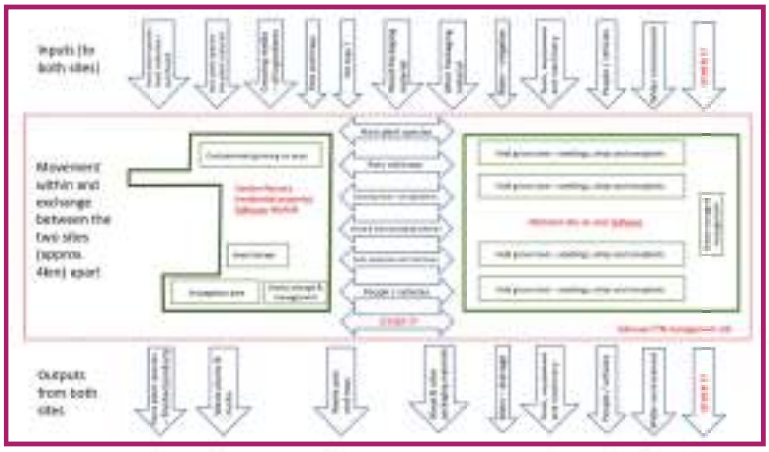
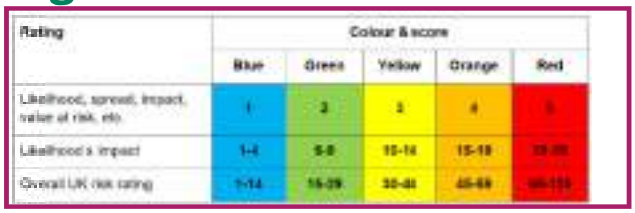
knowledge exchange

Possess the knowledge of notifiable pests and the signs of those pests to prevent the presence and spread of those pests.

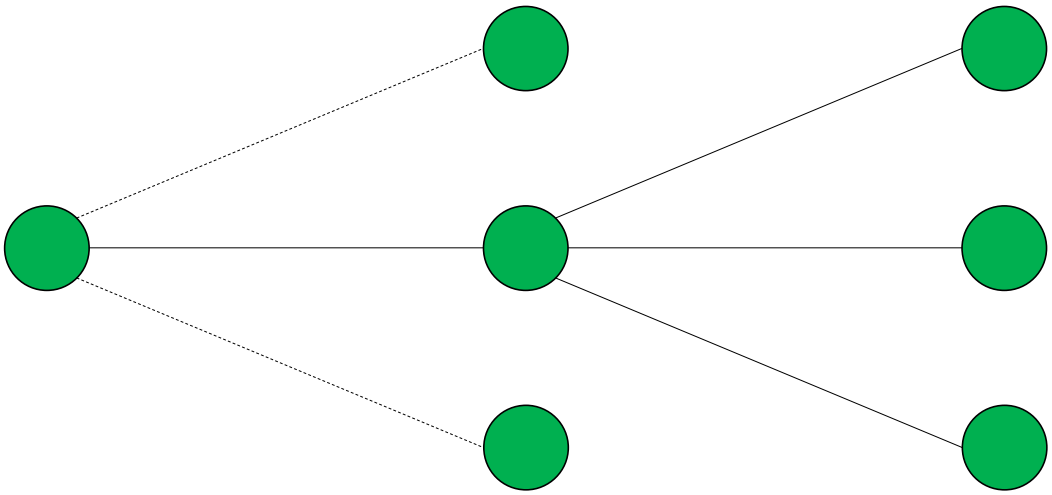
knowledge exchange





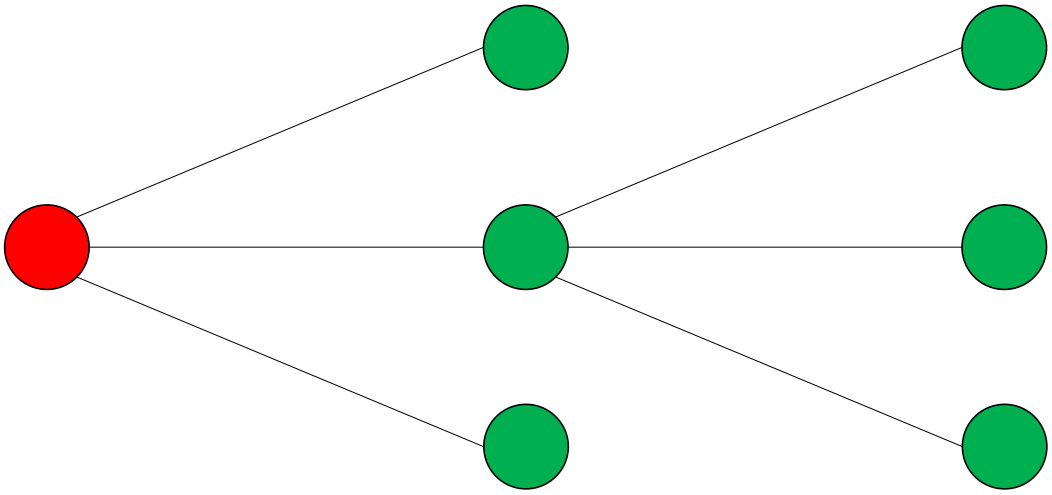
Cross referencing plants and materials handled / managed with notifiable pests on UK Plant Health Risk Register

Alert response systems



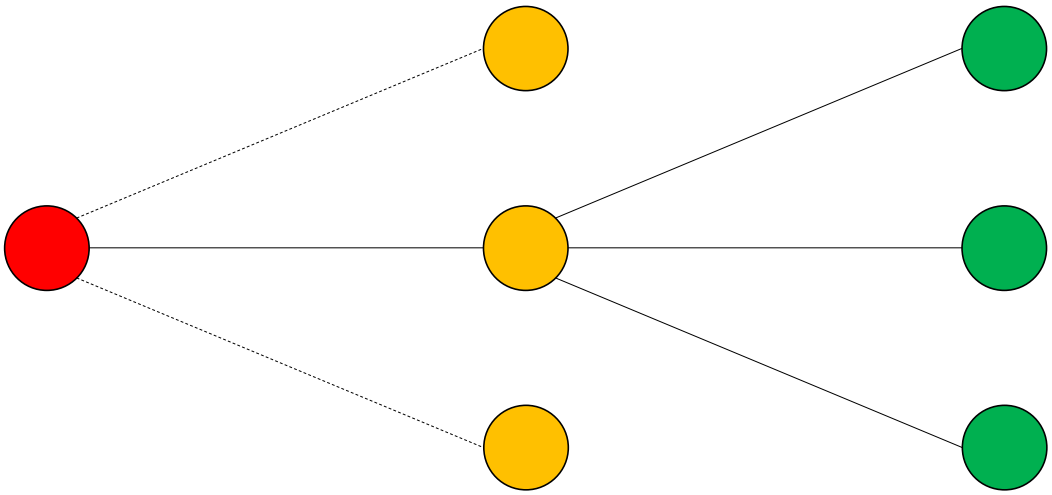
Supply Chain Management (5.1) and Traceability (7.2)

Alert response systems



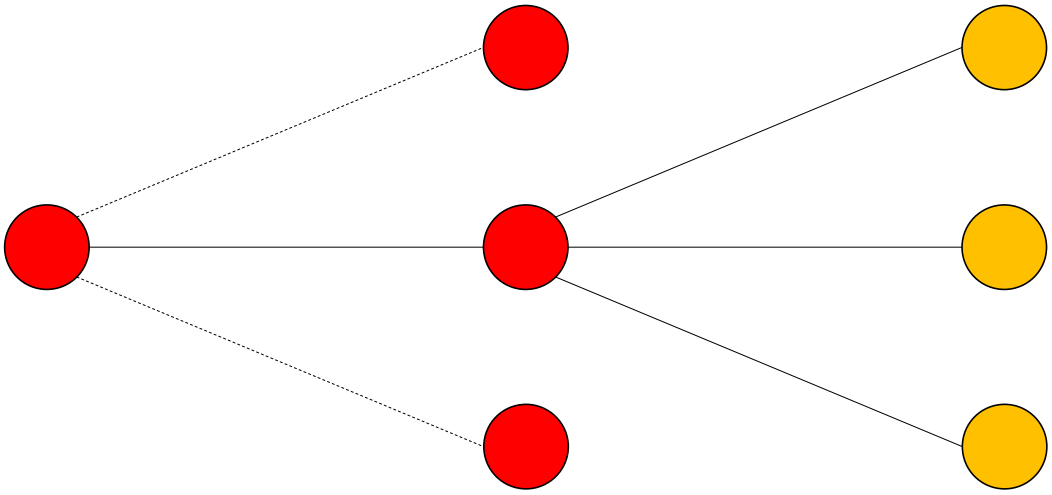
Outbreak and spread

Alert response systems



Outbreak and spread

Alert response systems



Outbreak and spread

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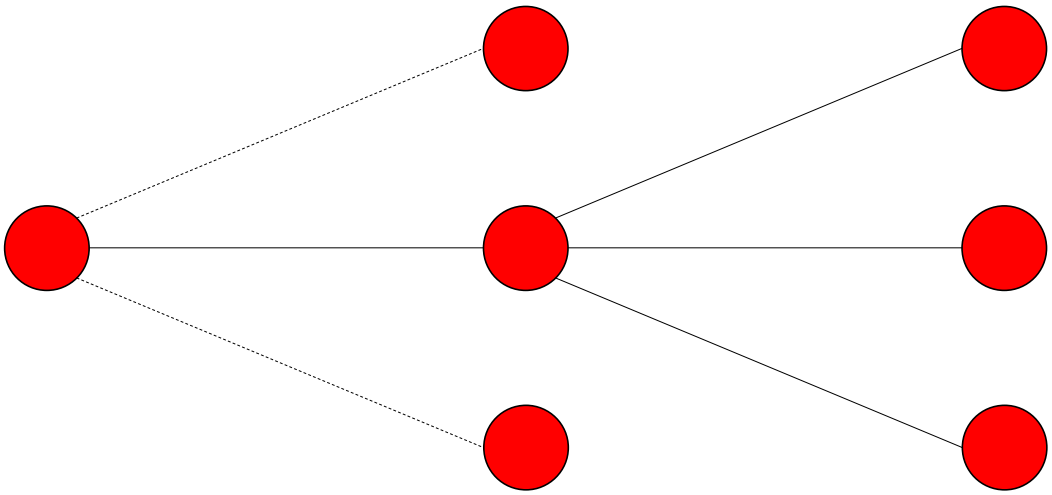
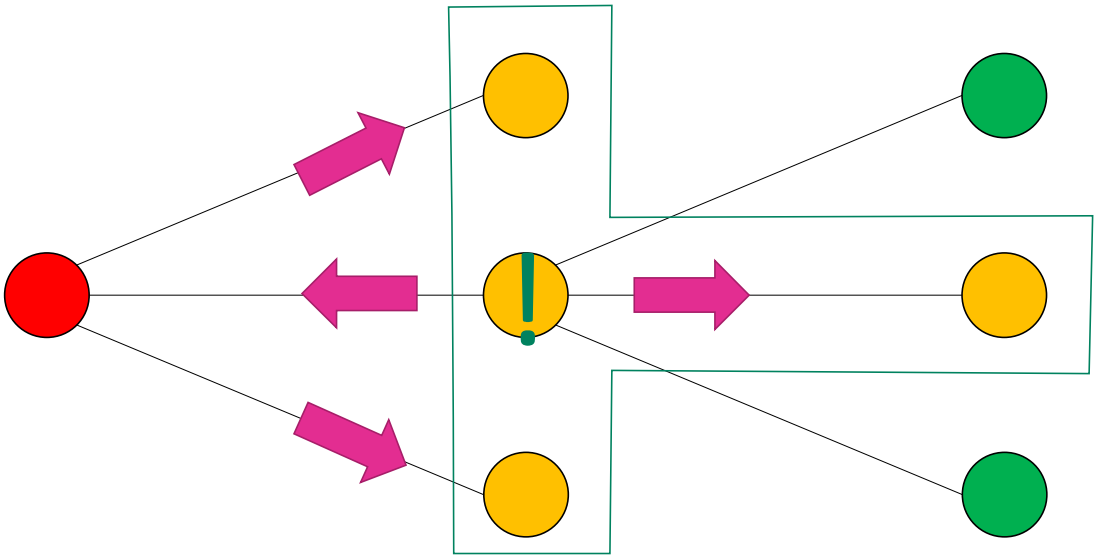
Alert response systems



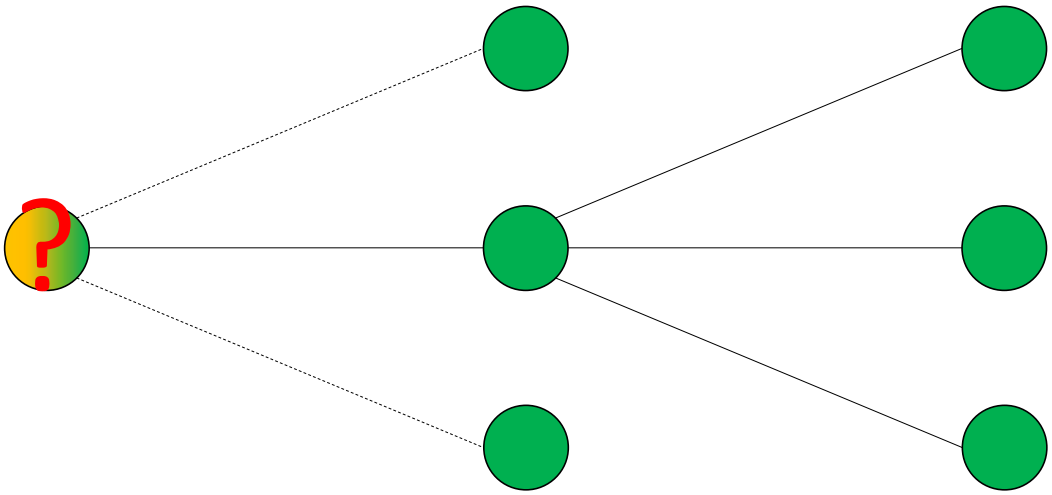
Outbreak and spread

Alert response systems



Interception – containment – avoided outbreak

Alert response systems



Vigilance & speed is critical - PHMS assess monitoring systems & response speed

Innovation for the future?

A call for help! A user-friendly system that can inform professional operators who handle live plant material of the risks to their site and the wider environment – software linked to live information?

Collaboration and Assurance

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Thank you

Alistair Yeomans
Director of Plant Healthy Limited

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Commodity based International Standards for Phytosanitary Measures

Collaboration, transparency and harmonisation

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International Standards for Phytosanitary Measures (ISPMs)

- Adopted under the International Plant Protection Convention (IPPC)
- The only international phytosanitary standards recognised by the WTO-SPS agreement
- One purpose is to harmonise phytosanitary measures used in trade
- 46 ISPMs have so far been adopted, plus
  - 31 Diagnostic Protocols (as annexes to ISPM 27)
  - 44 Phytosanitary Treatment (as annex to ISPM 28)

Credit: IPPC Explanatory document for ISPM 15

Credit: IPPC Explanatory document for ISPM 15

International Standards for Phytosanitary Measures (ISPMs)

ISPMs can be roughly grouped into four categories

Reference Standards	Conceptual Standards	Specific Standards	Commodity Specific Standards
ISPM 5 Glossary of Phytosanitary Terms	ISPM 2 Framework for pest risk analysis	ISPM 8 Determination of pest status in an area	New concept for 2022

Commodity Specific ISPMs

- New approach to standard setting
- ISPM 46 is the over-arching standard under which will be commodity specific annexes
- Annexes will be narrow in scope and clearly describe what is covered, e.g.
  - Fresh mango fruit for consumption
- Will include lists of
  - Pests known to be associated with the commodity
  - Measures which have been shown to effectively mitigate the risk posed by those pests

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Benefits of Commodity Standards

- Facilitation of safe trade
- Expedite market access negotiation
- Provide new opportunities for trade
- Enhance phytosanitary security
- Promotion of the concept of equivalence
- Improve transparency between trading partners

Credit: https://agroecology.ucsc.edu/resources/publications/grower-guides/pdf-downloads/cut-flowers.pdf

Benefits of Commodity Standards

- Support harmonisation of phytosanitary measures
- Provide support and assistance to developing countries e.g.
  - To set a minimum/baseline level of phytosanitary protection
  - Support market access requests
- Optimise use of resources
- Identification of gaps in available and effective measures
- Contribute to UN SDG 2030

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What Happens Next

- First annex will be Fresh Mango Fruit for Consumption
- Based on APPPC Regional Standard: International Movement Of Fresh Mango
- Drafting begins January 2023
- Annex adopted: April 2025?
- NPPOs and RPPOs to submit proposals for further annexes

Credit: FAO/ Vyacheslav Oseledko

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Thank-you for your attention

Samuel Bishop
Head of International Plant Health Policy, Defra

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Overview of the WCO tools on E-commerce

E-commerce and trade: a global perspective

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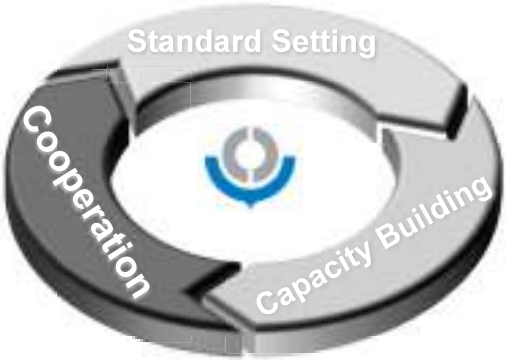
The WCO

- Independent intergovernmental organization exclusively focused on Customs matters
- Established in 1952 as the Customs Co-operation Council
- 184 Member Customs administrations
- Mission - The WCO develops international standards, fosters cooperation and builds capacity to facilitate legitimate trade, to secure a fair revenue collection and to protect society, providing leadership, guidance and support to Customs administrations

Key functions of the WCO

- Conventions (HS, RKC, etc.)
- FoS, G\uidelines, Compendia, Study Reports
- WCO Data Model

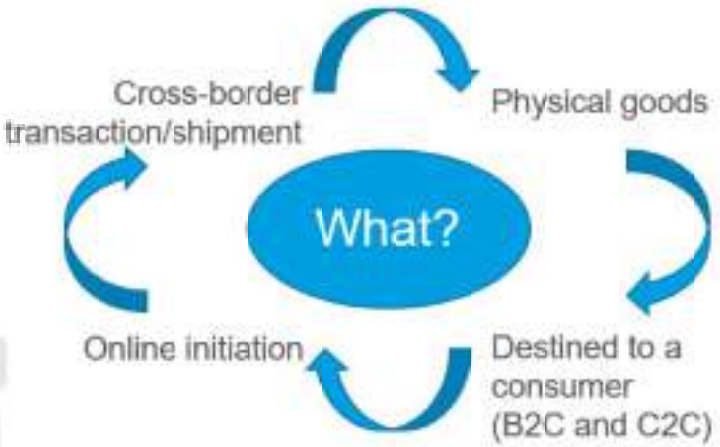


- Other IOs, private sector

- Network of accredited experts from Customs Administrations
- Donor engagement

Overview of the WCO tools on E-commerce

Cross-Border E-Commerce – the WCO Perspective



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WCO Discussions on cross-border e-commerce

- Multi-stakeholder
- Cross- cutting issues
  - Facilitation & control
  - Revenue collection
- Collaborative solutions
  - Develop framework / recommendations / guidelines

→ **E-Commerce Package**

- Collection and dissemination of Members' practices and initiatives

Overview of the WCO tools on E-commerce

WCO E-Commerce Package

http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/frameworks-of-standards/ecommerce.aspx

Framework of Standards on Cross-Border E-Commerce (June 2018)

+

Tools supporting the implementation of the E-Commerce FoS

- Technical Specifications and related documents (June 2019 & Dec 2020)
  - Definitions
  - E-commerce Business Models
  - E-commerce Flow Charts
  - Reference Datasets for E-Commerce
  - Revenue Collection Approaches
  - E-Commerce Stakeholders
  - Implementation Strategy, Action Plan and Capacity Building Mechanism
- Resolution on the Guiding Principles for Cross-Border E-Commerce (December 2017)
- Resolution on the Framework of Standards on Cross-Border E-Commerce (June 2018)
- WCO Study Report on E-Commerce (March 2017)
- Compendium of Case Studies on E-Commerce
- KPIs for the E-Commerce FoS implementation
- Secretariat Notes

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Other WCO tools supporting E-Commerce

- ❑ **Immediate Release Guidelines**
- ❑ SAFE Package
- ❑ WCO Data Model
- ❑ Data Analysis Practitioner's Handbook
- ❑ Risk Management Compendium*
  *Access to Volume II is restricted to Members only
- ❑ Single Window Compendium
- ❑ WCO UPU Postal Customs Guide
- ❑ Joint WCO-UPU Guidelines on the exchange of electronic advance data between Post and Customs
- ❑ Guidelines on Customs - Tax Cooperation

Overview of the WCO tools on E-commerce

WCO and Cross-Border E-Commerce

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8 Principles of the E-Commerce FoS

1. Advance Electronic Data and Risk Management
2. Facilitation and Simplification
3. Fair and Efficient Revenue Collection
4. Safety and Security
5. Partnerships
6. Public Awareness, Outreach and Capacity Building
7. Measurement and Analysis
8. Leveraging Transformative Technologies

Overview of the WCO tools on E-commerce

E-Commerce FoS : 16 Standards

- **Advance Electronic Data and Risk Management**
  - Standard 1: Legal Framework for AED
  - Standard 2: Use of International Standards for
  - Standard 3: Quality of Data
  - Standard 4: Risk Management
  - Standard 5: Use of Non-Intrusive Inspection Technologies and Data Analytics
- **Facilitation and Simplification of Procedures**
  - Standard 6: Simplified Clearance Procedures
- **Safety and Security**
  - Standard 10: Prevention of Fraud and Illicit Trade
  - Standard 11: Inter-Agency Cooperation and Information Sharing
  - Standard 16: Explore Technological Developments and Innovation
- **Fair and Efficient Revenue Collection**
  - Standard 8: Models of Revenue Collection and offer electronic payment options
  - Standard 9: De Minimis
- **Partnership**
  - Standard 7: : AEO
  - Standard 11: Public-Private Partnerships
  - Standard 13: International Cooperation
  - Standard 14: Communication, Public Awareness and Outreach
- **Measurement and analysis**
  - Standard 15: Mechanism of Measurement

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Advance Electronic Data and Risk Management

Advance Electronic Data (AED) and RM

- Standard 1: Legal Framework for AED
- Standard 2: Use of International Standards for AED
- Standard 3: Data Quality
- Standard 4: Risk Management
- Standard 5: Use of Non-Intrusive Inspection Technologies and Data Analytics

Supporting tools:

- ✓ Technical Specifications
- ✓ Reference Datasets for Cross-Border E-Commerce
- ✓ E-Commerce Compendium
- ✓ KPIs
- ✓ WCO Data Model
- ✓ Joint WCO-UPU Guidelines on the exchange of electronic advance data between Post and Customs
- ✓ Tools on Data Analytics
- ✓ Risk Management Compendium, etc.

Issues for Advance Electronic Data

- Timing (pre-loading, pre arrival, at importation)
- Data elements (transaction data, payment data, logistic data)
- Mandatory submission vs Voluntary data

Best practices:

- ✓ US – Section 321 and Entry Type 86 data pilots

Overview of the WCO tools on E-commerce

Safety, Security and Use of Technology

Safety, security and use of technology

- Standard 10: Prevention of Fraud and Illicit Trade
- Standard 11: Inter-Agency Cooperation and Information Sharing
- Standard 5: Use of NII Technologies and Data Analytics
- Standard 16: Explore Technological Developments and Innovation

Supporting tools:

- ✓ Technical Specifications
- ✓ E-Commerce Compendium
- ✓ KPIs
- ✓ SAFE Framework of Standards
- ✓ Single Window Compendium
- ✓ WCO TEG-NII, Technology Conference, Workshops on DT, etc.

Issues for Safety and Security

- Cargo inspection with Non-Intrusive Inspection Equipment
- Link between Scanned Image and AED
- Use of AI, Blockchain
- Customs to Customs cooperation
- Use of information in websites

Best practices:

- ✓ Canada – AI
- ✓ China - AI
- ✓ Japan - AI and NQR
- ✓ Korea - AI, blockchain, DA

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Facilitation and Simplification and Partnerships

Facilitation and simplification
- Standard 6: Simplified Clearance Procedures
- Standard 7: AEO

Partnership
Standard 12: Public-Private Partnerships
Standard 13: International Cooperation

Supporting tools:
- ✓ Technical Specifications
- ✓ E-Commerce Stakeholders – Roles and Responsibilities
- ✓ E-Commerce Compendium
- ✓ KPIs
- ✓ Secretariat Note on expanding the concept of AEO to cross-border e-commerce
- ✓ Immediate Release Guidelines
- ✓ SAFE Package, etc.

Partnership
- Applying the AEO concept
- Information from the private sector on illegal activities (IPR, etc.)

Best practices:
- ✓ China
- ✓ EU
- ✓ US

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Thank you

Brendan C. O'HEARN

Deputy Director
Compliance and Facilitation Directorate
brendan.ohearn@wcoomd.org

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Digitization in Global Trade

Role of the Express Delivery Industry

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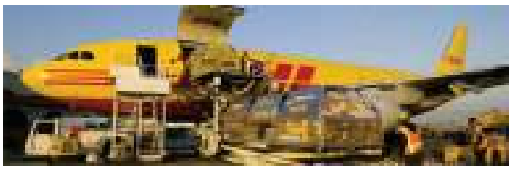
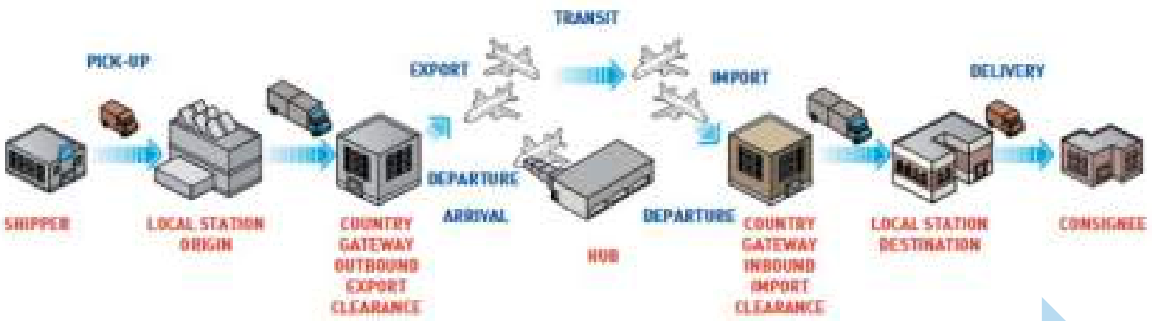
The Global Express Association



Technology Drives the Express Delivery Chain



The express industry utilizes sophisticated networks to collapse the time and distance between places thereby globally connecting business. Shipments ***from*** anywhere, ***to*** anywhere can be delivered within 24-72 hrs

Source: Global Express Association

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Express Delivery Companies and Compliance

- The goal of express delivery companies is to be regarded by Customs as compliant and trustworthy carriers.
- GEA Members cooperate with Customs to combat customs fraud generally.
- Effective enforcement requires a risk-based and threat-managed approach, as well as cooperation and information-sharing between stakeholders, including Customs and express carriers.
- Customs are the competent border authority to enforce Customs laws, conduct risk assessments and seize illegal items.

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Express Delivery Companies Take Action:

Advance electronic shipment information: Express delivery companies transmit electronic information in advance of arrival of shipments to enable Customs to perform risk assessment and target shipments for further examination.

Track and Trace systems allow packages identified by Customs as suspicious to be removed from traffic flows and provided to Customs officers for further examination.

Facilities: Express delivery companies provide border officers at express delivery hubs with adequate facilities and equipment to enable them to identify and examine suspect shipments efficiently.

Information on shippers and consignees: Express delivery companies provide Customs administrations with available relevant information that may legally be disclosed on shippers and consignees of shipments identified as containing offending goods.

Close accounts of customers publicly identified by Customs as repeat offenders.

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E-Phyto Experience by the Express Industry

- **Advantages**
  - E-phyto a good digitization initiative
  - Saving time and cost in certificate handling; also in cases where certificate gets lost
  - Reduced document fraud
- **Disadvantages**
  - E-phyto data only shared with governments, not with carriers; carriers still handle paper doc with QR code
  - Lack of integration with national systems
    - Duplication of data entry; manual
    - Area of mistakes

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Conclusion

- Digitization needs to cover end-to-end processes; integration of e-phyto with national systems
- Collect the right data from the right source at the right time
- Shift focus from destination to departure
- Give carriers/FF/brokers access to the electronic data of the ephyto certificate
- Consider a more efficient process for updating the details of an ePhyto certificate if there was an error made by origin or if business needs required a larger/smaller shipment, etc.
- Apply a risk-based and threat-managed approach; move away from 100% inspection
- Consider trusted trader programs such as AEO for better compliance and risk management

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Thank You!

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Dietmar Jost
Customs and Security Advisor, Global Express Association (GEA)

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Emerging Pathways

Importance of Industry Engagement:

North American Sea Container Initiative Experience

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Pathways

Sea Containers and Cargo Pathway





What is the problem? **Contamination**

Cargo

Plants and plant products



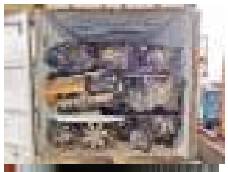
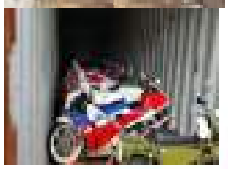


Not plants or plant products

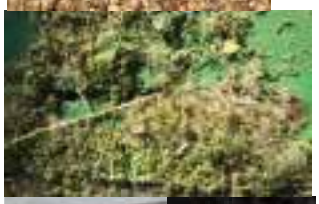
- E.g. pipes, tile, vehicles, steel slabs, fasteners, glass, furniture, car parts, stone)





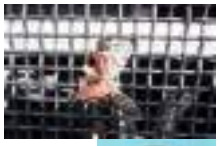
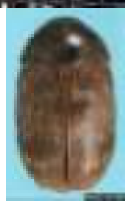




Sea Containers and Cargo Contamination


Examples of pests or contaminants found include

molluscs: snails and slugs
insects: egg masses (e.g. *Lymantria* spp.), khapra beetle, weevils, leafhoppers, pupal cases
seeds: weeds, crops
plant debris: harbour pests
pathogens: e.g. fungi
soil: soil-borne pathogens, nematodes, weed seeds, eggs
other: straw, spiders, earthworms, bird nests, bird droppings


Sea Containers and Cargo Contamination

Contamination can occur for many reasons such as

- origin, season, pest biology
- conditions at packing, staging, storage or handling areas (e.g. soil-based yard, pest hosts, vegetation)
- lights that attract insects (e.g. moths)
- environmental factors (e.g. wind, rain)
- packaging (e.g. non-compliant wood), transient pests, previous cargo
- container type and maintenance





NORTH AMERICAN
Sea Container
INITIATIVE

Voluntary Canada-United States-Mexico government-industry initiative



Industry = parties involved in the supply chain in North America and beyond

- packers
- shippers
- exporters
- container manufacturers
- export terminals
- shipping lines
- container depot
- carriers (rail, truck)
- import terminals
- transhipment terminals
- container owners and lessors
- importers
- warehouse operators
- unpackers

Based on IPPC infographic http://www.fao.org/documents/card/en/c/ca7670en

North American Sea Container Initiative

Objectives for engaging industry include

- Understanding **logistics of container movement**
- Understanding challenges and opportunities for **identifying** and **reducing** pest risks in the sea container supply chain
- Conducting **outreach and education**

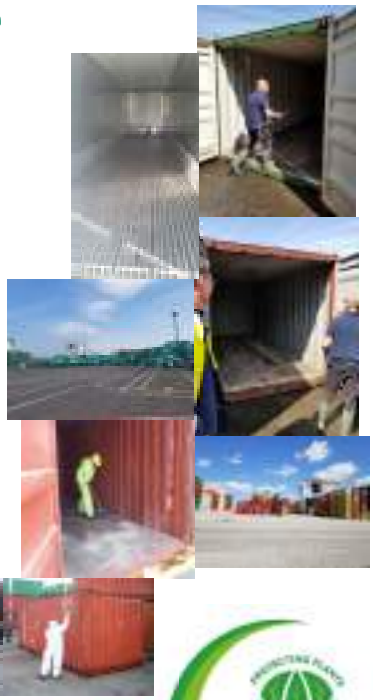
https://nappo.org/english/north-american-sea-container-initiative

North American Sea Container Initiative

What We Are Doing

Webinars and meetings with industry to learn about

- Existing practices
- Phytosanitary risks in/on containers/cargo
- Issues encountered or anticipated regarding phytosanitary checks and cleaning
- Suggested measures to take or influence to mitigate plant health risks depending on role



North American Sea Container Initiative

What we have learned

- Complex systems
- Industry active and willing to contribute to solution
- Who does or can do what
- Outcomes based solution
- Consider suite of measures

Using what we have learned

- Consider all points along supply chain
- Determine what actions are practical, feasible and effective

What will this mean?

Maintain, develop, enhance and enforce programs and requirements that are

- Practical
- Sustainable
- Effective and economical
- Based on best information available at the time
- Continually reviewed and adjusted as appropriate

Working together = minimize risk to agriculture, forestry and natural plant resources while maintaining trade, where feasible

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International Plant Protection Convention

Department for Environment Food & Rural Affairs

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Thank You.

Questions, Comments, Discussion?

Wendy Asbil
National Manager, Invasive Alien Species and Domestic Programs, Plant Protection Division, Canadian Food Inspection Agency

Food and Agriculture Organization of the United Nations

International Plant Protection Convention

Department for Environment Food & Rural Affairs

The Good Phytosanitary Practices Program

Confindustria Ceramica, the Italian Ceramic Manufacturers Association

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Premise

From the World Trade Organization web site – "Overview":

- The World Trade Organization — the WTO — is the international organization whose primary purpose is to **open trade for the benefit of all**

- The **opening** of national markets **to international trade**, with justifiable exceptions or with adequate flexibilities, will **encourage and contribute to sustainable development**, **raise people's welfare**, **reduce poverty**, **and foster peace and stability**

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The Italian ceramic tile industry

- **Italian ceramic tiles** thanks to their recognized leadership in **quality**, **design**, **technical and aesthetic innovation, environmental sustainability**, have always received the greatest **appreciation all over the world**

- **Italy is also leader in ceramic technology** and the Italian ceramic companies are the first to benefit from technological developments

- Due to these characteristics, the Italian ceramic industry is the **reference point in the sector**, while accounting for 3% of world production

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The Italian ceramic tile industry: some figures (2021)

- **131 manufacturing companies**
- **222 manufacturing plants**
- **Yearly production: over 400 million square meters (over 4,300 m. square feet)**
- **Export: around 350 million square meters (over 3,700 m. square feet)**

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Confindustria Ceramica

- **Confindustria Ceramica** is the Italian Association of Ceramics
- Our **mission** is to represent, support, inform, provide services and liaise the Italian companies of the following sectors:
- **Ceramic tiles**
- **Bricks**
- **Refractories**
- **Sanitaryware**
- **Tableware**
- **Technical ceramics**

CONFINDUSTRIA CERAMICA
The Italian Association of Ceramics

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Some remarks

- **The world economy depends on the efficient and uninterrupted movement of trade**, a large part of which is facilitated by the **efficient movement of sea containers**
- On the other hand, the movement of goods from one country to another entails in itself the **risk of moving invasive species alien** to the ecosystems of the countries of destination
- **International trade**, essential for the economy and consumers, **cannot be stopped**, but the related **phytosanitary risks can be mitigated**

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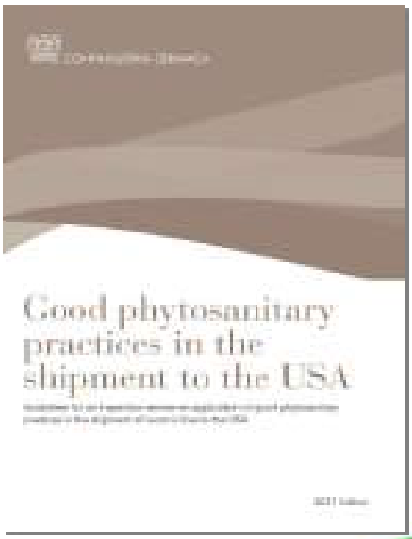
The Good Phytosanitary Practices Program (GPP)

- The GPP is a **specific prevention program**, based on ad hoc **Guidelines**, developed in cooperation with **phytosanitary and quality systems experts** and supported by **CTDA** (U.S. Ceramic Tile Distributors Association)
- For the development of the GPP we involved mainly the **Emilia-Romagna Region PPS**, but also **entomologists of the University of Modena and Reggio Emilia**, other experts and a third party **Certification body**: **Certiquality**



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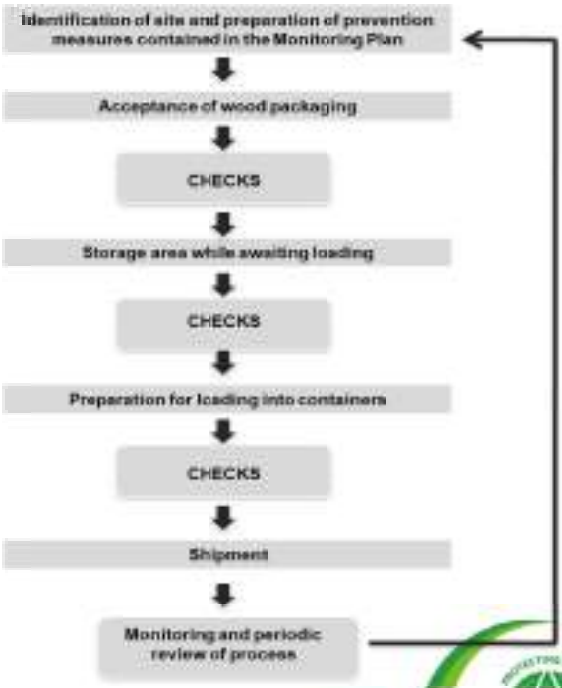
The Good Phytosanitary Practices Program (GPP)

- Companies can join the GPP program on a **voluntary basis**.
- Participating companies must develop their own **monitoring plan**, taking into consideration the various process stages
- The proper application of the Guidelines is verified by an independent, accredited and specialized **quality certification body**, which conducts **audits** at participating companies.
- Participating companies must promptly **report** any phytosanitary issue found at shipping site upon arrival in the U.S. to **Confindustria Ceramica** and to the **Italian Plant Protection Organization**



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GPP: main actions

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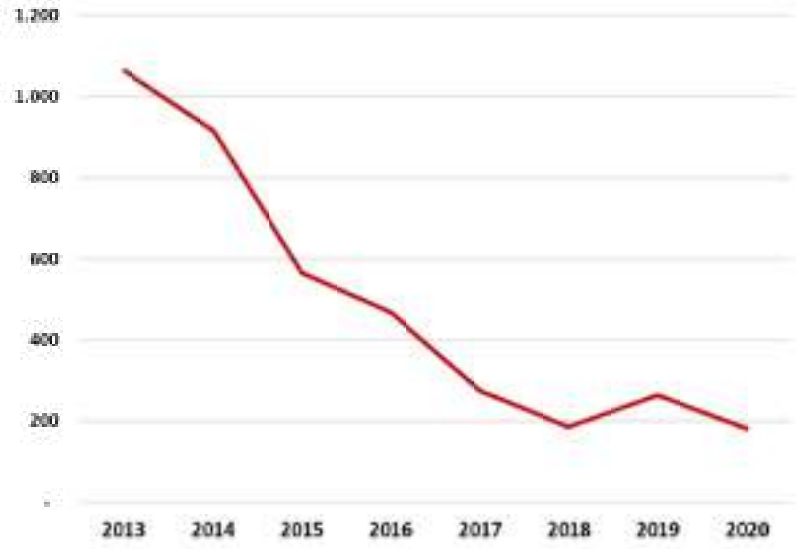
GPP: treated containers



Year	2013	2020	% change
Treated container	1.064	181	-83%

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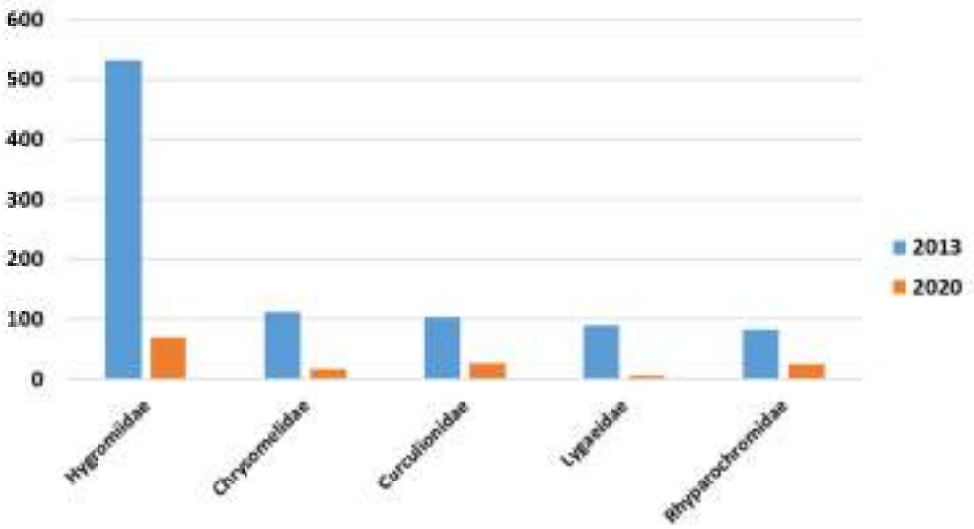
GPP: pests



Pest	% change, year 2013/2020
Hygromiidae	-87%
Chrysomelidae	-85%
Curculionidae	-75%
Lygaeidae	-93%
Rhyparochromidae	-70%

GPP: main results and achievements

- **140 Italian brands qualified**
- **Reduction** of treated containers **by 83%** from 2013 to 2020
- **Education** and **information** shared among all the participant companies and beyond
- Preventive actions carried out at **company and sectoral level**
- **Cooperation** among the ceramic companies
- **Confindustria Ceramica** as reference point and coordinator of the initiative

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GPP: items for improvement

- **Cooperation** among companies in the supply chain, institutions and stakeholders
- **Empowering each of supply chain actors**, based on their role
- Prompt **exchange of information** on existing/emerging problems
- **Endorsement** of the program **by authorities**
- **Reward policies** that foster participation

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Conclusions

- The **Italian ceramic industry** with great **efforts and costs** has developed and brought to success the **Good Phytosanitary Practices** (GPP) Program

- The **GPP** represents a new way to **safeguard** both the **ecosystem** and **international trade** and its model can be extended to ceramic companies around the world and to other sectors

- In order to **further enhance the GPP** and its results, encouraging the implementation of sectorial **phytosanitary prevention programs by other countries/sectors**, the introduction of **rewarding policies** for participants **is strongly advisable**

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Thank you

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Enrico Lupi
Confindustria Ceramica