



Food and Agriculture  
Organization of the  
United Nations



International  
Plant Protection  
Convention

## **REPORT**

# **International workshop on pest risk mitigation of sea containers and their cargoes and the facilitation of international trade - defining the way forward**

**Brisbane, Australia**

**17 July – 19 July 2023**

**IPPC Secretariat**

IPPC Secretariat. 2024. *Report of the international workshop on pest risk mitigation of sea containers and their cargoes and the facilitation of international trade - defining the way forward, 17 July – 19 July 2023*. Rome. FAO on behalf of the Secretariat of the International Plant Protection Convention.

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[1] **Background**

[2] In 2022, the International Workshop on Reducing the Introduction of Pests through the Sea Container Pathway was held on 19-20 September 2022 in London, UK. The 2022 workshop demonstrated the importance of having open dialogue and involvement of a variety of stakeholders discussing how to reduce pest contamination of sea containers and their cargoes.

[3] Participants at the London workshop recommended that a follow-up workshop be held in 2023. As such, the Commission on Phytosanitary Measures (CPM) Sea Containers Focus Group (Focus Group) organized a workshop to provide an opportunity to discuss the progress made by different stakeholders and by the IPPC community and industry as a key step toward the CPM taking decisions on long term IPPC guidance around sea container risk management in 2024.

[4] **International workshop on pest risk mitigation of sea containers and their cargoes and the facilitation of international trade – defining the way forward 2023**

[5] The 2023 international workshop was held in Brisbane, Australia from 17 to 19 July 2023 and was co-hosted by the IPPC Secretariat and the NPPO of Australia. The concept note, programme, participants list and all presentations provided during the workshop are available on the [IPPC's Sea Container Workshop webpage](#).

[6] Over 100 participants attended representing NPPOs, RPPOs, international organizations and industry stakeholders such as container owners, shipping lines, container manufacturers, freight forwarders, packers, port authorities, marine terminal operators, shippers, importers, and exporters.

[7] The workshop commenced with opening remarks from the Australian Chief Plant Protection Officer, Ms. Gabrielle Vivian-Smith, the Secretary of the Australian Department of Agriculture, Fisheries and Forestry (DAFF), Mr. Andrew Metcalf, and the Secretary of the International Plant Protection Convention, Mr. Osama El-Lissy. The opening also included a traditional Welcome to Country ceremony, The Chair of the Focus Group and newly appointed CPM Chair, Mr. Gregory Wolff, then provided an address to participants including the outline of the purpose and objectives of the workshop, including the revised CPM Recommendation 6 on Sea Containers (CPM Recommendation 6).

[8] **Day one** of the workshop provided participants with presentations regarding the plant health risks posed by the sea container pathway, estimating the implications of the plant health risks and snapshot sessions on pest risks associated with sea containers movements. The snapshot sessions provided information on examples of pest risks, an overview of the sea container surveys undertaken in Kenya and Uzbekistan, and an overview of animal health and food safety standards related to container cleanliness. Further to this, representatives of the International Maritime Organization (IMO), World Shipping Council (WSC), World Bank Group (WBG) and the Global Shippers Forum (GSF) provided presentations relating to supply chain complexities, shared responsibilities, and facilitation of international trade.

[9] **Presenters:**

- *Presentation by the SCFG Data and Risk subgroup on plant health risks related to containers and their cargoes, including their implications, and description of pest contamination.* Sina Waghorn (Ministry for Primary Industries, New Zealand), Rama Karri (Department of Agriculture, Fisheries and Forestry, Australia)
- *Introduction to the work of the CBD on Invasive Alien Species, and linkages to IPPC activities.* Marianela Araya Quesada (Convention Biological Diversity Secretariat)
- *Environmental perspectives on threats from non-indigenous hitchhiking and contaminating pests.* Leigh Greenwood (Forest Pest and Pathogen Program Director, North America Region, The Nature Conservancy)
- *Simulating damages from biosecurity risks on the sea container pathway.* Edith Arndt (Centre of Excellence for Biosecurity Risk Analysis (CEBRA) Australia)

- *IMOs efforts to minimize pest contamination.* Bingbing Song (International Maritime Organization)
- *Volumetrics and supply chain complexities.* Lars Kjaer (World Shipping Council)
- *Impact of regulations to trade.* Lars Kjaer (World Shipping Council) and Paul Zalai (Director, Global Shippers Forum (GSF))
- *CPM instruments (CPM Recommendations, ISPMs) - their purposes, benefits, and limitations.* Sophie Peterson (Department of Agriculture, Fisheries and Forestry, Australia)

[10] Table discussions saw participants partake in focused considerations of the revised CPM Recommendation 6, specifically sections pertaining to shared responsibilities, risks related to containers and risks influenced by the type of cargo.

[11] It was reiterated that the ultimate goal cannot be to achieve complete risk elimination, rather to have the most effective measures in place towards the significant reduction in and management of pest risks associated with the international movement of sea containers.

[12] Discussions throughout the day brought focus to the importance to consider logistics impacts and incentives whilst developing solutions. What can be done outside active logistics operations needs to be considered, including further consideration into the role of container depots and the factors which must be taken into account. It was also noted that in relation to incentives and penalties, the IPPC can provide recommendations, with the implementation of such aspects subject to individual governments and NPPOs.

[13] The desire for a harmonized approach was also noted, with all parties involved in trade desiring as much predictability as possible. It was also recognized that there is a need to avoid complicated approaches to maximize uptake and compliance. To further assist with understanding of guidance materials, it was advised that terminology used needs to consider terminology familiar to industry. It was noted that a want exists for guidance to include further clarity around what is expected, who is expected to be involved and the expected outcomes.

[14] Participants were further encouraged to continue to provide comments, to assist towards a feasible and practical approach after the active engagement during the first day of the workshop.

[15] **Day two** of the workshop provided participants with presentations regarding risk mitigation and potential solutions, container design modifications and innovations to minimize pest contamination, as well as information on developing a mathematical model to evaluate biosecurity inspection policies, a systems approach to reduce pest risks, and shipper's perspectives on some of the issues addressed in the revised Recommendation.

[16] **Presenters:**

- Presentation of CPM focus group's subgroup on regulatory and non-regulatory solutions. *Summary by Wendy Asbil (Canadian Food Inspection Agency)*
- Australia – Hitchhiker Management Program. *Sarah Bruce (Australian Government Department of Agriculture, Fisheries and Forestry)*
- The New Zealand Biosecurity System – the Sea Container Pathway. *Sina Waghorn (Ministry for Primary Industries, New Zealand)*
- Technologies: eDNA. *Geoff Grossel (Australian Government Department of Agriculture, Fisheries and Forestry)*
- Technologies: Cameras. *Michael Gately and James Simonian (Trellis Data)*
- *IPPC input to CTU code related work.* Lars Kjaer (World Shipping Council)
- SAFE FoS related to Sea Container Cleanliness. *Taeyeon Kim (World Customs Organization)*
- CTU code and CTU App. *Gub McNicoll (WiseTech Global)*

- Risks posed by the structural components of sea containers. *Rama Karri (Australian Government Department of Agriculture, Fisheries and Forestry)*
- Container design modifications – research and case study. *Samuel Lybery (Murdoch University)*
- Container Design Innovations for Pest Minimization. *Jinping Hu (China International Marine Containers)*
- New steel floor design. *Anurag Aggarwal (Hapag-Lloyd)*
- Developing a mathematical model to evaluate biosecurity inspection policies. *Christopher Baker (Centre of Excellence for Biosecurity Risk Analysis (CEBRA) Australia)*
- To comply or not to comply efficient and fair pest risk mitigation through clever incentive design. *Susie Hester (Centre of Excellence for Biosecurity Risk Analysis (CEBRA) Australia)*
- Systems approach to reduce pest risks. *Rieks Van Klinken (Commonwealth Scientific and Industrial Research Organisation (CSIRO))*
- Shippers' perspective on some of the issues addressed in the Recommendation. *Sal Milici (Chair, Container Cleanliness Working Group, Global Shippers Forum (GSF))*

[17] Table discussions saw participants further consider sections of the revised CPM Recommendation 6 pertaining to visual examinations, methods to remove contamination and container structure. The theme of discussions included consideration of incentives, the use of outcome-based approaches, technologies, and the importance of the use of a combination of measures (e.g., a general framework).

[18] It was highlighted that when considering potential solutions, incentives could be a factor. Suggestions included the recognition of good compliance history with the potential for expedited clearance times, assigning risk rankings, and/or possible reduced inspection frequency. Recognition of operators with established quality assurance systems should be further considered, with similar consideration given to systems offered to industry for the accreditation of staff to further assist with pest risk management activities.

[19] A common theme was the desire for outcome-based approaches and for recommended actions to emphasize the intended risk management result. An example of where this could be implemented was the focus within the revised CPM Recommendation 6 encouraging specifically the use of steel floored sea containers. It was suggested that the revised CPM Recommendation 6 instead refer more to the desired outcome (i.e., reduced pest risk) and, for example, advise that floors should be manufactured to eliminate gaps to significantly reduce associated risks, and under carriage structure improvements be considered.

[20] Advancing technologies were identified as an important aspect for the development of recommended pest risk management solutions. Notably identified were the advances in camera detection technology and machine learning, interior flooring materials and consideration of the use of sealants and pest resistant sea container coatings. As such, the ability to detect and reduce pest risks both on the external and internal of sea containers is continuing to evolve and this must be taken into account whilst recommended risk management practices mature.

[21] The 2022 London workshop was noted as a key point in raising awareness and promoting industry parties to further consider what can be done. Significant progress has been made since that time, with it being encouraged that the IPPC remain transparent and engaged with industry and consider widened industry representation relating to the development of solutions. It was highlighted that the revised CPM Recommendation 6 includes a reference to seeking continued input for effective measures and encourages new ideas from governments and industry. The consultation process on the revised CPM Recommendation 6 will involve all viewpoints and the Focus Group will be expressing the need for continuation of strong engagement with industry to CPM-18.

- [22] While acknowledging the significant work done and progress made since the 2022 workshop, it was noted that timely decisions are required as pest risk management of sea container may have a broader benefit than purely plant pests.
- [23] **Day three** of the workshop provided participants with the opportunity to take part in a field trip, facilitated by the Department of Agriculture, Fisheries and Forestry, Australia. Participants attended Qube Logistics and Patrick CargoLink facilities to observe the practical application of recommendations outlined in the revised CPM Recommendation 6, including container surveys, visual examinations, and risk management. Participants also observed the practical application of specific risk management activities such as container treatments, and a demonstration of containers with different structural components.
- [24] Additionally, a demonstration of advancing camera technology, delivered by Intelligent System Design, provided participants with an understanding of the technology's potential capabilities and application in advanced surveillance and inspection of sea containers. The handheld camera system combines visible and hyperspectral technology with a machine-learning detection algorithm. The prototype device enables 'real time' pest detection and is equipped with edge processing capability. The device uses two lens types: hyperspectral and Red-Green-Blue (RGB) light wavelength lenses. Combined with a machine learning algorithm, it is trained to detect the presence of an initial set of key pest taxa groups such as dermestids, snails, invasive ants and weed seeds. The device may be used for fast, real-time scanning within a range of intended use environments and settings, including cracks, crevices, and joints in sea containers. The Department of Agriculture, Fisheries and Forestry, Australia, in partnership with Intelligent System Design, is continuing trials of this technology.
- [25] Following the field trip and camera demonstrations, presentations were delivered regarding awareness raising, outreach and education, and capacity building, including information regarding the North American Sea Container Initiative (NASCI) and the awareness raising strategy developed by the Kenya Plant Health Inspectorate Service (KEPHIS).
- [26] **Presenters:**
- The North American Sea Container Initiative (NASCI). Wendy Asbil (Canadian Food Inspection Agency) and Wendy Beltz (U.S. Dept. of Agriculture, APHIS, Plant Protection and Quarantine)
  - Kenya's awareness raising strategy. Fredrick Makathima (Kenya Plant Health Inspectorate Service)
- [27] To conclude the focused discussions, participants were tasked to consider potential elements of a general framework. This session was specifically designed to gather feedback, ideas and opinions in relation the concept of a general framework, including considerations of developing technologies and the progress made and considerations presented by the Focus Group.
- [28] It was noted that when considering a general framework, the desired outcomes must be identified, namely strengthening offshore risk mitigation to address risks at the origin and minimizing the spread of pests. Through these discussions several key themes were highlighted, namely that any solutions developed must be practical, purposeful, flexible, future-proof and sustainable, whilst avoiding negative impacts to the sensitive sea container logistics systems.
- [29] The importance of consistent education, awareness raising, and communication was also highlighted as a significant consideration. The revised Recommendation 6 will include a focus on awareness raising and encourage the communication of pest risks to all parties involved in the operation of sea container logistics and encourage the promotion of and support in the application of IPPC guidance materials.
- [30] Discussions also further considered the element of data to inform and support components of a general framework and the further development of potential regulatory and non-regulatory options. The revised CPM Recommendation 6, whilst encouraging proposals for industry-, or government-led solutions to contribute to a reduction in pest risk, also encourages NPPOs to continue working with relevant parties

to gather information on pest presence and the risk of pest movement via the sea container pathway. This information is encouraged to be provided to the IPPC Secretariat to continue to inform the potential development of measures in the longer term, and shape guidance materials.

- [31] A strong focus was also on the use of advancing technologies, including consideration of upcoming advances in camera technology and machine learning. This again highlighted the need for a general framework to be flexible and adaptable to accommodate such advances.
- [32] Additionally, it was highlighted that consideration must be given to the ability and capacity of NPPOs to perform risk management functions, taking into consideration differing legislations and capacity, as legal basis for managing plant health risks through the sea containers pathway varies amongst different countries and NPPOs. The infrastructure, space and capacity of ports and container terminals to undertake inspections and risk management action also vary significantly. Therefore, having flexibility around the actions which can be taken to reach a specified outcome is desirable.
- [33] **Overall remarks**
- [34] The presentations, discussions, and concepts shared throughout the workshop, in addition to the wide representation of participants, again strongly emphasized the complexity of the pathway and the large number of parties involved and highlighted the progress made and furthered awareness and understanding of the importance of this global issue.
- [35] It was recognized by CPM 11, in 2016, that the international sea container pathway poses a risk for the spread of plant pests and such risks pose serious threats to global agricultural production and the natural environment. Therefore, rather than targeting specific pests, the concept of a general framework approach is to address the pathway as a whole. This implies that while some recommended actions might not be effective or necessary for a particular pest, they do contribute to overall risk reduction. It has been a recognition of the Focus Group that complete elimination of risks is not feasible and that a considerable, but realistic, level of risk reduction should be the objective.
- [36] The Focus Group will continue to further refine the revised Recommendation 6 to incorporate the aspects discussed and identified throughout the workshop. Including more focus on prevention, having more flexible language that is outcome based and take into account consistent terminology and terms also familiar to the shipping and container industry.
- [37] It was highlighted that significant to the concept of developing a general framework for the management of pest risks along the logistics chain is a clear understanding of the roles and responsibilities along the entire logistical chain. The discussions also reinforced the desire for clear and simple guidance to support responsible parties in decision making and implementation of measures.
- [38] This also reinforced that continued collaboration between the IPPC and multilateral bodies such as the Secretariat of the Convention on Biological Diversity, International Maritime Organization, World Customs Organization and World Organization for Animal Health is crucial to ensure consistent and complimentary guidance and to minimize the risk of the development of conflicting or duplicating measures. Continued communication with industry is also key to ensure the development of developing practical, feasible and economical solutions to move towards a general framework for reducing pest risks presented by the sea container pathway, while avoiding negative impacts to the sensitive container logistics systems.
- [39] It was noted that consideration should be given to the fact that whilst the revised Recommendation does not carry the same weight as a standard, there is the potential to update this guidance in the future based on experiences gained through the uptake of the revised Recommendation, if adopted by CPM-18. These experiences and the revised CPM Recommendation 6 itself may serve as a building block towards further informed guidance.
- [40] Further to the revised CPM Recommendation 6, the Focus Group will provide its final report to CPM-18 outlining the work completed by the Focus Group and provide further recommended actions to

strengthen and further the development of risk management options for minimizing pest risks associated with the sea container pathway.

- [41] Significant appreciation is expressed to the Australian NPPO and IPPC Secretariat for hosting the event, and to the NPPO and industry representatives for the active and respectful engagement, and significant expertise provided.