Australian Government Department of Agriculture, Fisheries and Forestry

Field trip handbook

Wednesday 19 July 2023 Brisbane, Queensland Australia

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



Work health and safety

The following work health and safety induction must be completed before you get on the bus for the field visit.

Please follow these steps:

- 1. Scan the QR code or visit: <u>https://go.rapidglobal.com/access/searching</u>
- 2. Complete the online work health and safety induction.
 - select 'Wendy Vidgen' for 'Who you are visiting'
 - type 'Not applicable' when asked to provide your home address, vehicle registration and drivers licence number.
- 3. Show screenshot of completed induction to DAFF staff before **Wednesday 19 July** so you can be ticked off the list.

Important information:

- Personal protective equipment required for field visit: enclosed shoes.
- Safety vest will be provided.
- Bring your own water and any other supplies needed.





Overview

The field trip is an opportunity to observe practical application of specific container risk management activities such as container surveys and treatments and demonstration of containers with different structural components. Participants will also see the practical application of recommendations outlined in the draft CPM Recommendation (R-O6) developed by the International Plant Protection Convention (IPPC). This may inform feedback on the draft CPM recommendation (R-O6).

Draft CPM Recommendation on minimising pest risk associated with sea container pathway:

- Reducing the risk of contamination of sea containers and their cargoes.
- Visual examination for contamination of sea containers and their cargoes.
- Methods to remove contamination.
- Container structure.
- Input for effective measures and best practices.
- Raising awareness.
- Collaboration with world organisation for animal health.

Highlights

Practical application of container risk management

Observe specific container risk management activities in a practical setting.

You will see how:

- container surveys are conducted
- visual inspections are undertaken
- contamination data is recorded
- risks are managed.

Understanding containers with varying structural components

Explore and examine containers that feature different structural components. Get an insight into the strengths and weaknesses of different container types from a plant pest risk perspective and the potential benefits of improvements to container structural components.

Demonstration of new innovative handheld camera technology

Watch our demonstration of hand-held camera technology to understand its potential capabilities and application in advanced surveillance and inspection of sea containers.

Thank you to our contributors:

- Qube logistics
- Patrick/Cargolink
- Murdoch University, Harry Butler Institute
- Intelligent System Design

Schedule

Important

- The external field site locations are within the Port of Brisbane. For safety, you must strictly adhere to all instructions when on site.
- No refreshments will be provided, please bring your own water and other supplies.
- Bathrooms are very limited at the external field site locations.

Group A: Kangaroos (purple), Koalas (green), Kookaburras (yellow)

Time	Highlights	Participant information
7:50am	Meet at bus: wait at the Sofitel lobby – bus will be in a reserved spot in driveway. Depart Sofitel **8am sharp**	 You must have completed the site induction and provided evidence of completion prior to leaving Sofitel. Closed shoes must be worn. Safety vests will be provided. Do not leave anything on bus.
8:35 – 8:45am	 Arrive at field site main location. Transfer to assigned group minibus. Visit 3 demonstration sites (20 mins per site): Container inspections and contamination removal methods Container treatment Container designs. Transfer into big bus for departure. 	 You have a designated 'group' minibus (Kangaroo, Koala, Kookaburra). The minibus will operate as a hop on-hop off service and rotate you across the 3 site areas for the demonstrations. Please be prompt returning to the minibus after each demonstration. Personal items can be left inside minibus while visiting sites.
10:30am	Return to Sofitel	
10:45 – 11:45am	Handheld camera detection device presentation and demonstration	Please be on time to the designated location.
	Location: Sofitel Ballroom 3	

Time	Highlights	Participant information
8:15 – 9:15am	Handheld camera detection device presentation and demonstration	Please be on time to the designated location.
	Location: Sofitel Ballroom 3	
9:20am	Meet at bus: wait at the Sofitel lobby – bus will be in a reserved spot in driveway.	 You must have completed the site induction and provided evidence of completion prior to leaving Sofitel. Closed shoes must be worn. Safety vests will be provided.
	Depart Sofitel **9:30am sharp**	
		- Do not leave anything on bus.
10:00 – 10:15 am	Arrive at field site main location. Transfer to assigned group minibus.	 You have a designated 'group' minibus (Kangaroo, Koala, Kookaburra).
	Visit 3 demonstration sites (20 mins per site): - Container inspections and contamination	 The minibus will operate as a hop on-hop off service and rotate you across the 3 site areas for the demonstrations.
	 Container treatment 	 Please be prompt returning to the minibus after each demonstration.
	- Container designs. Transfer into big bus for departure.	 Personal items can be left inside minibus while visiting sites.
12pm	Return to Sofitel	

Group B: Kangaroos (pink), Koalas (blue), Kookaburras (red)



Demonstrations

Container inspections and contamination removal methods

DAFF coordinators: Joel Freeman and Joanne Parsons Location: Qube Logistics Pty Ltd. (Bingera Drive approved arrangement 1.1 site) Project partner: Qube Logistics Pty Ltd



Showcases draft Commission on Phytosanitary Measures (CPM) recommendations (CPM- RO6):

- Visual examination for contamination of sea containers and their cargoes.
- Methods to remove contamination.

References:

- IPPC Sea Containers Surveys Guidelines for National Plant Protection Organizations (NPPOs): <u>https://www.ippc.int/en/publications/87069/</u>
- CAL (Country Action List) Countries and effective measures webpage: https://www.agriculture.gov.au/biosecurity-trade/import/arrival/pests/cal
- DAFF Approved arrangements (1.1 and rural tailgate): <u>https://www.agriculture.gov.au/biosecurity-trade/import/arrival/arrangements/requirements#class-1</u>

Container treatment

DAFF coordinator: Sarah Bruce Location: Qube Logistics Pty Ltd. (Port Drive – approved arrangement 4.7 site) Project Partners: N/A

Showcases draft Commission on Phytosanitary Measures (CPM) recommendations (CPM- R06)

Methods to remove contamination.

Qube Indoor Fumigation Chamber (4.7 sub class)

Initial construction of chamber (built in 2019):

- Dimensions were 18m in length, 5.6m in width and 3.2m in height to accommodate 40ft containers side by side.
- Containers run on 32.5-ton rated trolleys on a concrete surface.
- Steel frame, black tarp and one exhaust fan (as per to biosecurity specifications).

The rationale behind the steel construction (as opposed to wood) is to prevent the absorption of methyl bromide as observed with wooden structures. The tarp was to alleviate any leakage.

Due to rising demand, today's chamber:

- Over double the initial size: 36.5m in length, 5.6m in width and 3.2m in height.
- Tarp upgraded to white for easy identification and assessment of pests post fumigation.
- Floor upgraded to allow for a railway system for ease of entrance.
- Internal fans upgraded and two high powered exhaust fans fitted to expedite the residual chemical post fumigation.

In both constructions, all biosecurity and workplace health and safety legislation were implemented, such as external separation distances, foot traps, ventilation and lighting.



Following an unpack, Qube physically hands the chamber over to an approved contractor for fumigation and may not enter the chamber until checked and deemed safe by the fumigator.

References:

- DAFF Approved Arrangements (4.7): <u>https://www.agriculture.gov.au/biosecurity-trade/import/arrival/arrangements/requirements#class-4</u>
- DAFF seasonal BMSB (Brown Marmorated Stink Bug) treatment measures: https://www.agriculture.gov.au/biosecurity-trade/import/before/brown-marmorated-stink-bugs
- DAFF Treatments page: <u>https://www.agriculture.gov.au/biosecurity-trade/import/arrival/treatments</u>
- High Priority Pests: <u>https://www.agriculture.gov.au/biosecurity-trade/pests-diseases-weeds/plant</u>

Container designs

DAFF coordinator: Cindy Pretty Location: Patrick Cargolink Container Yard Project Partners: Murdoch University, Harry Butler Institute

Showcases draft CPM recommendations

Container structure.

Objectives:

- See visual comparison of different internal floor types.
- View underside of modified sea container with enclosed V-shaped crossbeams.

References:

- Murdoch University, Harry Butler Institute website: <u>www.murdoch.edu.au/research/hbi</u>
- Refer to recommendation on container structure: www.ippc.int/en/core-activities/governance/cpm/current-consultations-for-cpm-recommendations

Handheld camera detection device

DAFF coordinator: Judy Bellati Location: Sofitel Ballroom 3 Project Partner: Intelligent System Design

- 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.
- Specific-use case models initially developed for the prototype includes the external and internal surfaces of sea containers.

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 will be used for the fast, real-time scanning within a range of intended use environments and settings, including the cracks, crevices and joints in sea containers.

Trials are already underway with promising results.

References

ISD website: <u>https://isd.ai/</u>

