Australian Government
Department of Agriculture and Water Resources

Required components of a systems approach for producing *Zantedeschia* tubers (Calla lily) for export to Australia – August 2016

Dormant tubers meeting all the components of the systems approach will not require growth in a post entry quarantine facility in Australia.

The final policy for *Zantedeschia* dormant tubers is available on the department's website at:

http://www.agriculture.gov.au/biosecurity/risk-analysis/plant/zantedschia-dormant-tubers/report

Biosecurity risk is managed in many steps along the import pathway. The following diagram provides an overview of the systems approach for the export of *Zantedeschia* tubers to Australia from any exporting country. A number of practices undertaken prior to planting, during crop production and post-harvest, contribute to mitigating pest and disease risks. The pre-export phytosanitary inspection and treatment all reduce the risks even further. The on-arrival verification inspection is the final step prior to release of the consignment, providing assurance of the import pathway.

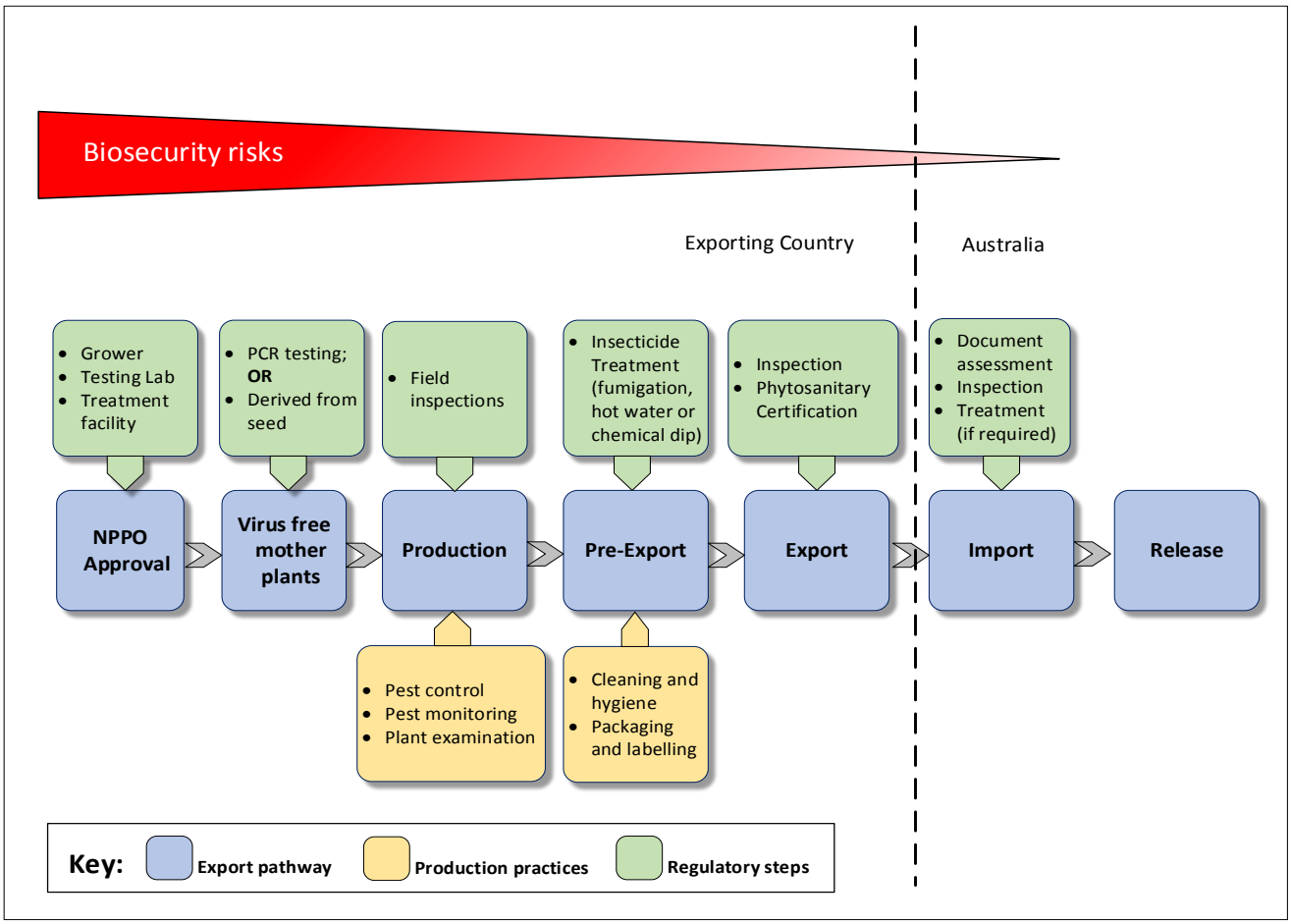

Table 1. The following table provides a summary of the key components of the systems approach for an exporting NPPO as outlined in the final policy for *Zantedeschia* dormant tubers.

Components of the systems approach	**Effect of the measure**
Exporting National Plant Protection Organisation (NPPO) oversight and approval of: • growers/nurseries; • testing laboratories; • treatment facilities; Records for registration, testing or treatment may be requested by the Department of Agriculture and Water Resources for audit purposes.	Provides assurance that the requirements of the systems approach are understood by the participants and are being monitored and met.
Dormant tubers for export are derived from mother plants: • Grown from true seed*; **OR** • Tested using PCR and found free from viruses of concern to Australia (see table 1). *Mother plants derived from true seed do not require pathogen testing.	Reduces the risk of introducing viruses of quarantine concern into the production chain.
At least two field inspections of the crop during the growing season should be undertaken, with at least one inspection at flowering time. NPPO or exporting NPPO authorised officer inspections to monitor for symptoms of fungal, bacterial and viral pathogens as well as thrips. Exporting NPPO to maintain records of crop inspections. Records may be requested by the Department of Agriculture and Water Resources for audit purposes.	Regular monitoring allows inspectors to detect infected plants or signs of pest infestation and will reduce the introduction of pests of quarantine concern to Australia into the supply chain.
Registered growers must have a pest control program approved by the exporting NPPO that includes sanitation, surveillance and control measures (including chemical treatments) against pests, pathogens and their vectors. Registered propagation nurseries to keep records of control measures. Records may be requested by the Department of Agriculture and Water Resources for audit purposes.	A pest control program will reduce the risk of introducing pests of quarantine concern to Australia into the supply chain.
Mandatory off-shore or on-shore treatment (methyl bromide fumigation or hot water treatment or insecticidal dip) Registered treatment facilities to keep records for all lots. Records may be requested by the Department of Agriculture and Water Resources for audit purposes.	These treatments will ensure that only pest-free dormant tubers are planted in Australia.

Components of the systems approach	Effect of the measure
Cleaning of tubers to remove soil and other trash prior to export.	Cleaning tubers will reduce the risk of introducing weed seeds and other soil-borne pests into Australia.
Packaging and labelling. Consignments must be labelled with plant species name along with identification numbers of the exporting NPPO registerd export propagation nursery and treatment facility (if applicable).	Details of propagation nursery, treatment facility and packing house for the purposes of trace back.
Pre-export phytosanitary inspection by NPPO of dormant tubers.	Inspections will ensure that only pest-free dormant tubers are supplied to Australia.
Phytosanitary certification by NPPO including a description of consignment, pre-export treatments and additional declarations as listed on BICON and/or import permit.	Provides assurance that the requirements of the systems approach are met.

Table 2: Quarantine pests[1] for Zantedeschia dormant tubers from all sources (August 2016)

Pest type	Common name
DIPTERA (flies)	
Eumerus strigatus	Lesser bulb fly
HEMIPTERA (Mealybugs)	
Pseudococcus maritimus	Grape mealybug
BACTERIA	
Pseudomonas veronii	Bacterial soft rot
FUNGI	
Phytophthora meadii	Rubber secondary leaf fall
Phytophthora richardiae	Tuber rot of Calla lily
VIRUSES	
Calla lily chlorotic spot virus (CCSV)	Calla lily chlorotic spot
Impatiens necrotic spot virus (INSV)	Necrotic spot
Konjac mosaic virus (KoMV)	Konjac mosaic
Lisianthus necrosis virus (LNV)	Lisianthus necrosis
Watermelon silver mottle virus (WSMoV)	Watermelon silver mottle disease

[1] Uncategorised pests

If an organism is detected on Zantedeschia dormant tubers prior to export or on-arrival in Australia that has not been categorised, it will require assessment by the department to determine its quarantine status and if phytosanitary action is required. The detection of any pests of quarantine concern not already identified in the analysis may result in remedial action and/or temporary suspension of trade while a review is conducted to ensure that existing measures continue to provide the appropriate level of protection for Australia.