

NZ Plant Producers Inc. submission on Proposed measures to manage phytoplasmas in Greenlife Nursery Stock

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Introduction:

New Zealand Plant Producers Incorporated (NZPPI) represents businesses engaged in plant propagation and cultivation for various sectors and our members underpin our primary industries and our quality of life.

The plant production sector, also known as nursery production, has witnessed rapid growth due to demand in horticulture, wine, forestry, native plants, urban greenlife and gardening, which has been further bolstered by government policies encouraging sustainable production systems.

The plant production industry, estimated to be worth around \$500 million annually, is a regional success story, offering skilled jobs and career opportunities where they are needed most.

General Comments:

NZPPI appreciates the chance to provide feedback on the proposed measures to manage phytoplasmas in greenlife nursery stock. We support MPI's approach to differentiate import pathways based on management of risk, rather than treating all pathways as high risk.

Our submission underscores the importance of differentiated pathways according to supply chain risk management. In developing our submission, we have taken guidance from modern frameworks for risk analysis and approaches to risk management. This includes undertaking, internally, a high level review of the risk associated with Phytoplasmas in greenlife plant imports pathway using the Bowtie methodology. From this analysis we believe that the risk associated with phytoplasmas can be effectively managed through a systems-based risk management approach. See Appendix 1 pg 7

We are pleased to see elements of this approach in your proposal and we encourage you to continue to develop this approach. After decades of thinking that risk must be managed at the New Zealand border, we believe that we have lost the ability to trade freely in the modern world with safe, high-health, global plant breeding companies.

We value the work MPI has done in avoiding the temptingly simple but costly default to diagnostic testing in post-entry quarantine. A significant increase in onshore diagnostic testing prices has been signalled, so this is even more crucial to ensure continued industry resilience and growth.

The importance of greenlife

Greenlife plantings play a critical role in supporting the overall wellbeing of 5.2 million New Zealanders. They provide a range of benefits including green infrastructure, enhancing biodiversity and habitats, improving air and water quality, increasing urban canopy coverage, mitigating urban heat effects, and bolstering community and individual well-being. * see page 9 for references

In addition, the greenlife industry, including plant production, garden retail, landscaping and garden services make a significant contribution to New Zealand's regional economy, supporting businesses and 3500 to 4000 of skilled jobs in urban and regional areas.

We have heard from some parts of the primary industries that greenlife plants are ‘frivolous’ and that MPI should solely focus on economic factors when prioritising its activities. This approach ignores the significant benefits of greenlife to our country, supporting thriving communities. Awareness has grown exponentially this century of how shared and private green spaces enhance urban resilience and contribute to the socio-economic development of local communities.

As noted in the Sponge Cities report 2023: *“The model we adopt should enhance rather than reduce biodiversity in our cities, adopting a ‘nature-based solutions’ framework. Nature based solutions aim to address societal challenges such as climate change, threats to human health and food and water security. They also aim to reduce disaster risk, simultaneously providing both human well-being and biodiversity benefits.”* * see page 9 for reference

This highlights the necessity of balancing biosecurity concerns with the broader objectives of urban sustainability, biodiversity conservation, and community well-being. There must be a more nuanced understanding of and response to imports of greenlife plants.

Using existing offshore pathways

NZPPI would like to see greater use of existing high-health offshore schemes. Using such schemes offers transparency and builds a systems approach into offshore risk management. A systems approach includes production quality and health assurance, diagnostic testing, certification, audit and verification.

Submission:

NZPPI supports the range of measures proposed for ‘Low certainty’ pathways. The declaration options are flexible to allow for different combinations in the export country (i.e. freedom from specific phytoplasmas, or inspection/testing and verification of plant health and vector exclusion during the growing season). We think these barriers will reduce the risk of phytoplasmas entering New Zealand, and for those genera requiring a PEQ period there is a further opportunity for symptom observation prior to receiving biosecurity clearance.

If neither declaration can be provided by the exporting country, a proposed third option allows for plants to undergo symptom observation in post-entry quarantine for an extended quarantine period of 6 months.

In the 20 October 2022 analysis, MPI listed 71 Greenlife hosts of phytoplasmas under consideration for phytosanitary measures. Four of these genera were termed “red” hosts, as they would not show symptoms of infection (asymptomatic infection), or it is unknown whether they would show symptoms of infection. These genera were *Gentiana*, *Polygonum*, *Vitex* and *Aralia*.

The list of Greenlife hosts has been revised to 43 genera in the current proposal. The four “red”, asymptomatic hosts are no longer included in this list. Cross-referencing an earlier 2022 MPI Risk Analysis, all host genera being considered under the current proposal are expected to show symptoms if they are infected with phytoplasmas.

While the overall proposal for ‘High certainty’ pathways is workable, we believe that additional fine-tuning of this category can provide further opportunities to manage risk in global supply chains rather than on a case-by-case basis (see later).

NZPPI supports the removal of phytoplasmas and their measures for *Acrocomia*, *Hippeastrum*, *Zantedeschia*, as an updated risk analysis has determined these phytoplasmas pose negligible risk to New Zealand.

NZPPI supports removal of mandatory testing of phytoplasmas from ‘High certainty’ pathways in the *Rosa* schedule, removal of four phytoplasmas and addition of three new target phytoplasmas into the regulated pest list.

‘High certainty’ pathways:

‘High certainty’ pathways are categorised as those with a history of import of at least 300,000 units, from 20 consignments in the previous 10 years, and with no interception of phytoplasmas during this time. Many of these pathways are bulb genera, as these have a high unit volume import into New Zealand.

The proposal takes an evidence-based approach underpinned by Quancargo data, however there is an inherent assumption that pathways which have historically presented a low risk will always present a low risk.

With reference to the Bowtie risk framework (Appendix 1.), differentiating pathways based on an import volume threshold does not utilise any other supply pathway information about which “barriers” are in place to reduce the risk of phytoplasmas entering New Zealand.

We see an opportunity to manage risk at the global supply chain level, rather than on a case-by-case basis, differentiating ‘high health’ plant producers from other supplier pathways. Utilising existing high-health offshore schemes as a risk management measure offers transparency and builds a systems approach into offshore risk management. A systems approach includes production quality and health assurance, diagnostic testing, certification, audit and verification.

BKD Bulb Certification scheme

There is an existing precedent in the Nursery Stock IHS through recognition of BKD (the Bloembollenkeuringsdienst) Dutch Bulb Certification Scheme. BKD is the Flower Bulb Inspection Service that carries out import & export inspections of bulbs for both quality and quarantine defects on behalf of the NVWA (Netherlands Food and Consumer Product Safety Authority). Its statutory duties are by order of and under the supervision of the Dutch LNV Ministry (Ministry of Agriculture, Nature and Food Quality).

Many bulb genera have a BKD option in the Nursery Stock IHS schedule, for importation as Class 1 bulbs. BKD is a good option for managing the risk of specified phytoplasmas across all applicable genera under the Class 1 bulb scheme.

Naktuinbouw

Naktuinbouw is the Netherlands Inspection Service for Horticulture, and similarly to BKD, it operates on behalf of the Ministry of Agriculture, Nature and Food Quality (LNV) and is monitored by the Netherlands Food and Consumer Product Safety Authority (NVWA).

Naktuinbouw performs inspections, undertakes diagnostic testing, and monitors the quality of products, processes, and production chains in the supply of plants to global markets.

The Naktuinbouw Elite system sets stringent standards related to the quality and health of the propagating material.

“Registered companies operate a quality assurance system that safeguards the propagation process. This means that Naktuinbouw Elite certified material represents added value and certainty in every respect for both propagators and buyers”.

Selected lines undergo extensive diagnostic testing to verify disease-freedom, are held in secure, insect-proof facilities for initiation into tissue culture or maintained for cutting production. These systems are underpinned by traceability, and independently audited and verified according to Naktuinbouw procedures. Laboratory tests are often required to establish if all the criteria have been complied with.

While administered in the Netherlands, plant breeders/producers in other European countries (and beyond) also use this service for Elite production of tissue culture and cutting material for export.

Naktuinbouw Elite certified producers in other countries

- Innova Plants, Germany
- Elsner Pac, Germany
- Dummen Orange, Spain and the Netherlands
- Vitroflora, Poland
- Danziger, Israel (certified to the Israel Plant Protection and Inspection Service, which is recognised and declared as equivalent by Naktuinbouw).

NZPPI would like to see the 'High certainty' approach extended to include host plants produced under the BKD, Naktuinbouw Elite programme, and other internationally recognised equivalent schemes.

Phytosanitary declarations

Importers have mixed success obtaining pest free places of production phytosanitary declarations from exporting countries. It depends on whether the individual country has developed sufficient procedures, and perhaps how frequently they are asked to undertake export inspections of plant material.

ISPM 10 (Requirements for the establishment of pest free places of production or pest free production sites) sets out a general approach for exporting NPPO's to establish and maintain pest freedom, as well as procedures to verify this has been attained / maintained and ensure traceability and phytosanitary security of the consignment.

In the Netherlands, BKD and Naktuinbouw have well-established systems in place to meet these requirements. Other countries which export less frequently might benefit from additional guidance from MPI in terms of expectations for appropriate vector control and growing season observation. This guidance could be provided via the WTO notification round.

Thank you for reviewing our submission and comments on the proposed changes. We are happy to discuss further any of the points raised.

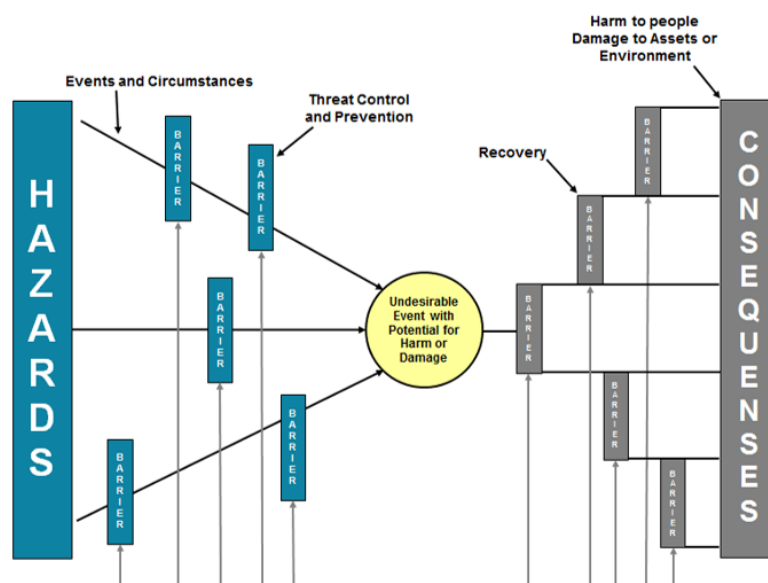
Kind regards,

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Appendix 1. Bowtie pathway risk analysis

NZPPI has engaged the expertise of Dr Chris Peace, Risk Management expert and senior lecturer at Victoria University, Wellington to help us to better understand and explore the Bowtie risk analysis framework to analyse the risk presented by phytoplasmas. This has enabled us to better understand the nature of risk and the opportunities we have within our industry. This is not to tell MPI how to assess risk, but it is useful for our industry to understand the nature of risk in the imports pathway.

Bowtie risk analysis tightens up risk assessment (Chris Peace)



The Bowtie technique is a structured approach to identifying the causes (hazards) that could result in an unwanted event (the incursion of a regulated phytoplasma outside quarantine) and how this could ultimately lead to adverse impacts (consequences).

The flow of causation is interrupted by “barriers”, which are systems, structures, operations, or measures in place to prevent an incursion of a regulated phytoplasma, or to mitigate a potential consequence.

Barrier analysis can help us to understand their effectiveness in reducing the overall risk. e.g. what are the barriers and controls operating offshore, and onshore, and how effective are they at mitigating risk?

The model also helps us communicate how risk is managed in the plant production supply chain in a simple and intelligible way.

The Event

The “undesirable event” we are aiming to minimize is the incursion of a regulated phytoplasma outside quarantine (i.e. after border clearance has been given). The event could occur if:

- a) Phytoplasma infected material is imported, goes undetected and is given biosecurity clearance.
- b) Infected vectors enter NZ via aerial spread.
- c) Infected vectors/plant materials are imported (unauthorised) e.g. on a yacht, or
- d) Illegal importation of phytoplasma infected plant material occurs.

Right of “bang” (the event)

The following barriers could mitigate the consequences of a phytoplasma incursion:

- Monitoring at plant nurseries detect low-health (phytoplasma infected) plant material.
- Regional or local monitoring detects a phytoplasma infection quickly.
- MPI Biosecurity Officers prevent illegal activity.
- MPI surveillance sites near ports of entry detect an incursion early.

Consequences

There may be a range of consequences ranging from zero to major, according to whether:

- a) Zero: Response plans at a nursery detect phytoplasma infection and prevent further propagation and distribution (e.g. Plant Pass).
- b) Minor: Phytoplasma infected material is shipped and distributed to retailers, home gardens or a localised area (Traceability systems paramount in nursery supply chains)
 - a. Some home gardeners may further propagate and distribute phytoplasma infected plant material.
- c) Minor to Major: where a competent vector is present, this could lead to a regional outbreak, involving multiple or single plant species, a multi-region outbreak due to a vector, or a multi-region, multi-species phytoplasma outbreak due to vector(s) and plant species.
- d) Eradication may not be feasible without early detection.

Left of “bang” (controls to mitigate the event)

We identified 4 main supply chains for phytoplasma host materials:

- a) Importation of host material from countries free from phytoplasmas.
- b) Importation of host material from countries where phytoplasmas are present.
- c) Importation of tissue culture from countries free from phytoplasmas.
- d) Importation of tissue culture from countries where phytoplasmas are present.

We considered the range of barriers which could reduce the risk for different supply chains.

The following barriers may further reduce the risk:

- Country freedom (pest free area) from phytoplasmas.
- Pest free place of production / production site, free from phytoplasmas.
- Appropriate vector control and visual inspection during plant production offshore.

- Use of offshore high-health schemes which take a systems approach to managing plant health, e.g. BKD Dutch bulb certification scheme, Naktuinbouw certification scheme, or other equivalent international schemes.
- Tissue culture production from parent plants inspected during production.
- Tissue culture production from parent plants tested for phytoplasmas.
- Appropriate vector control and visual inspection, onshore (in PEQ, or during plant production).

Conclusion:

MPI have proposed a range of measures to manage the risk of phytoplasmas in imported plant material, which includes many of the barriers identified in our Bowtie risk analysis.

References:

1. Sponge Cities: Can they help us survive more intense rainfall?

https://helenclark.foundation/app/uploads/2023/09/CS2023_2314_HCF-Report-Sponge-Cities_FINAL.pdf

2. The Auckland Urban Ngahere Strategy recognises that by investing in green spaces and supporting home gardens, Auckland can not only address environmental concerns but also foster social cohesion and provide recreational areas that improve residents' mental and physical health.

<https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/topic-based-plans-strategies/environmental-plans-strategies/Pages/urban-ngahere-forest-strategy.aspx>

3. Gardening and horticultural therapy (HT) is widely recognised internationally as a multicomponent approach that has a positive impact on a broad range of health and well-being outcomes.

<https://systematicreviewsjournal.biomedcentral.com/articles/10.1186/s13643-024-02457-9>