SUBMISSION ON

Amendments to the Import Health Standard for fresh lychee, (*Litchi chinensis*) from Taiwan

24 February 2023

To: The Ministry for Primary Industries
Name of Submitter: Horticulture New Zealand

Contact for Service:

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Ahumāra Kai Aotearoa

Overview

Submission structure

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Our submission

Horticulture New Zealand thanks the Ministry for Primary Industries (MPI) for the opportunity to submit on the proposed amendments to the fresh lychee import health standard.

The horticulture sector welcomes any opportunity to continue to engage with MPI and to discuss this submission.

This submission is being made by Horticulture New Zealand and is supported by the following organisations:

- Citrus New Zealand
- New Zealand Apple & Pears Incorporated
- New Zealand Asparagus Council
- Strawberry Growers New Zealand
- Tomatoes New Zealand
- Vegetables New Zealand Incorporated

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HortNZ's Role

Background to HortNZ

Horticulture New Zealand (HortNZ) advocates for and represents the interests of approximately 5,500 commercial fruit and vegetable growers in New Zealand. These growers supply fresh and processed fruit and vegetables to domestic consumers, as well as exporting crops to discerning consumers overseas. The horticulture industry is valued at $7b with $4.6b in exports annually.

The national and regional economic benefits associated with horticultural production are important. The industry employs more than 40,000 people and provides critical regional development opportunities in Northland, Auckland, Bay of Plenty, Waikato, Hawke's Bay, Gisborne, Manawatu, Marlborough, Nelson, Canterbury and Central Otago. The rural economy supports local communities and primary production defines much of the rural landscape.

HortNZ's purpose is to create an enduring environment where growers thrive. This is done through enabling, promoting and advocating for growers in New Zealand.

Submission

Introduction

1. HortNZ notes that the fruit flies *Bactrocera dorsalis* (Oriental fruit fly) and *Zeugodacus cucurbitae* (melon fly) are high risk pest organisms that are widespread in Taiwan. These fruit flies could potentially enter New Zealand on fresh lychee if the pathway is not adequately managed.
2. MPI's Import Risk Assessment (MPI 2007) concluded that the likelihood of entry of these two flies is very high, it is highly likely that both species could establish in New Zealand, and this would have significant impacts on New Zealand's horticultural sector and economy.
3. *Bactrocera dorsalis* is an invasive and destructive fruit fly species. It has been recorded from 478 different kinds of fruit and vegetables (USDA, 2016) including many of horticultural significance e.g., apple, avocado, beans, citrus, cucumber, peach, pear, pineapple, pumpkin, and tomato (CABI, 2020; USDA, 2016). Its currently distributed over 64 countries with introductions to new areas linked to international tourism and trade (CABI, 2020).
4. Fruit damage and disease typically occurs through oviposition punctures and subsequent larval development (Weems et al. 2019). Symptoms include necrosis, decomposition, and premature fruit drop (DPI, 2022). Fruit damage may also be unobservable until later due to *B. dorsalis* larvae tunnelling into the fruit and feeding internally. Damage caused by tunnelling larvae is further compounded as the tunnels provide entry points for bacteria and fungi to damage fruit (DPI, 2022).
5. *Zeugodacus cucurbitae* is a highly destructive fruit fly located in over 25 countries worldwide (CABI, 2022). It has an extensive host range of over 80 species including many commercially important crops including avocado, bean, cauliflower, cucumber, mango, melon, passionfruit, peach, pumpkin, tomato, and watermelon (CABI, 2022, Fruit Fly ID Australia, 2023; Miller et al. 2022).
6. Damage to the plant host occurs via the oviposition of the adult fly followed by infestation by larvae that internally feed on the host (CABI, 2022). The economic impact of *Z. cucurbitae* can be 80-100% loss to fruit production (Benyazid, 2020; Mkiga & Mwatawala, 2015).
7. *B. dorsalis* and *Z. cucurbitae* pose a significant biosecurity risk for New Zealand - if either species were to establish, they would likely cause considerable losses to the horticulture sector. It is critical that the fresh lychee pathway from Taiwan has adequate phytosanitary measures in place to mitigate the biosecurity risks posed by these two fruit fly species.

Comments on the proposed amendments

8. HortNZ is supportive of the removal of the suspended vapour heat treatment schedule. The detection of *B. dorsalis* following vapour heat treatment on the lychee pathway from Taiwan in 2021 (MPI, 2023) is a clear indication that this treatment option does not provide adequate biosecurity risk management. As this treatment option is not efficacious against the target pest, it should not be considered as a sole treatment.

9. HortNZ supports the proposed addition of a combined treatment schedule of vapour heat followed by cold treatment for lychees from Taiwan (fruit pulp temperature raised from ambient to 46.2°C or above for at least 20 minutes followed by fruit pulp temperature lowered to 2°C or below, within 6 hours, for at least 42 hours) (MPI, 2023). This combined treatment not only provides importers with an additional treatment option, but more importantly, is the internationally used combined treatment schedule for lychees (Table 1).

Table 1: Existing joint vapour heat and cold treatment phytosanitary schedules against *B. dorsalis* on lychees (Dohino et al. 2016).

Origin (export)	Importing country	Treatment schedule (fruit core temperature)	Target pests	Reference
China	Japan	To 46.5°C, hold for 10 min, followed by 2°C for 40h	*B. dorsalis* complex	MAFF Japan 2015
Taiwan	Japan	To 46.2°C, hold for 20 min, followed by 2°C for 42h	*B. dorsalis* complex	MAFF Japan 2015
	South Korea	To 46.2°C, hold for 20 min, followed by 2°C for 42h	*B. dorsalis*	QIA Korea 2015

10. HortNZ requests clarification from MPI on whether the combined treatment has ever failed for *B. dorsalis* and *Z. cucurbitae* and if so, under which commodity and pathways?

11. As MPI are proposing to remove the vapour heat treatment for fresh lychees from Taiwan, HortNZ urges MPI to review and consider removing this treatment from all lychee pathways e.g., fresh lychees from Thailand (MPI, 2014). While this pathway has not been active in recent years, it is still an open pathway, and it is important that the risks of high-impact pests entering on fresh lychees from Thailand are adequately managed.

Conclusion

12. HortNZ is broadly supportive of the proposed amendments to the import requirements for fresh lychee from Taiwan. The aim of these amendments is to strengthen the management of the high risks posed by *B. dorsalis* and *Z. cucurbitae* on this pathway.
13. HortNZ urges MPI to ensure effective management of the risks posed by this pathway as soon as possible and welcomes the opportunity to discuss any of the points raised in this submission.

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