



Risk Management Proposal:

Amendment to the import health standard

Grain and Seeds for Consumption, Feed, or Processing

GCFP.IHS

Prepared for public consultation
by Plant Product Imports
Animal and Plant Health Directorate

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1 General information

1.1 Purpose

- (1) The purpose of this document is to:
 - a) Outline the proposed changes to the standard,
 - b) Explain how the proposed changes will manage risk, and
 - c) Ask for feedback on the changes.

1.2 Background

- (2) The import health standard *Grain and Seeds for Consumption, Feed, or Processing* was last issued on 3 May 2023, under section 24A of the Biosecurity Act 1993 and incorporated amendments made in accordance with section 24B(1)(a) of that Act.

1.3 Timing and consultation

- (3) The proposed amendment was released for consultation on 16 June 2023 and will remain open for consultation until 31 July 2023.

2 Proposed changes

- (4) We propose removing three pests from the standard, along with the requirements to manage these pests:
 - a) *Liposcelis entomophila* (*Liposcelis entomophilus*) from the pest list for *Zea mays*
 - b) *Dinoderus minutus* from the pest list for *Zea mays*
 - c) Tomato black ring virus (TBRV) from the pest list for *Phaseolus* spp.
- (5) To see what the proposed changes will look like in the standard, please refer to Appendices 1 and 2.

2.1 How the changes will affect you

- (6) If you import *Zea mays* or *Phaseolus* seeds for consumption, feed or processing, your seeds will now have less requirements to comply with.
- (7) If you are a grower, your plants will continue to experience the same level of protection they do now.

2.2 *Liposcelis entomophilus*

- (8) *Liposcelis entomophilus* is a booklouse that is found worldwide in homes and storage, including in New Zealand (ONZPR). In 2021, MPI made this pest non-regulated. As a result, there is no reason to keep it on the pest list for *Zea mays*.

Question for your submission

*Can you think of any reasons for us to regulate *Liposcelis entomophilus* on maize imports?*

2.3 *Dinoderus minutus*

- (9) *Dinoderus minutus* (bamboo borer) is a wood-boring beetle. It primarily attacks felled culms and bamboo timber. It is also a minor pest of rice, cassava, and sugarcane and has been reported in the wood of imported *Pinus* spp. *Zea mays* is not recorded as host of this beetle. (Matthew and Nair, 1990; Koehler, 2003).
- (10) New Zealand does not have any native or iconic bamboo species.
- (11) MPI revoked this beetle's unwanted organism status on 3 March 2022 after we found an infestation in Kerikeri in March 2021. We decided not to eradicate the infestation, and the beetle is no longer under official control. *Dinoderus minutus* has also been collected from Auckland and Bay of Plenty (Manaaki Whenua). As a result, there is no reason to keep *D. minutus* on the pest list for *Zea mays*.

Question for your submission

*Do you have any evidence that *Dinoderus minutus* will have impacts we haven't considered?*

2.4 Tomato black ring virus (TBRV)

- (12) Tomato black ring virus (TBRV) is a member of the Nepovirus genus (subgroup B) in the family Secoviridae, which can be easily transmitted mechanically, by the nematode (*Longidorus* spp.) and through seeds (Pospieszny et al. 2020; Brunt et al, 1996). It was first described in 1946 in the UK (Smith, 1946).
- (13) TBRV infects a wide range of economically important crops, such as carrots, grapevines (*Vitis* spp.); *Prunus* spp. (cherries, apricots, peaches); berryfruit (raspberries, currants, strawberries, blueberries) and solanaceous species (potatoes, tomatoes, capsicums). *Phaseolus* spp. are not known to be natural hosts of this virus, but researchers have managed to artificially infect *P. vulgaris* in a laboratory under experimental conditions (Hollings 1965; Harrison 1957).
- (14) The following reasons justify removing TBRV from the *Phaseolus* spp. pest list:
 - a) We do not have good evidence that *Phaseolus* spp. are natural hosts of this virus. Evidence for natural infection is limited to a single paper, which used an unknown number of seeds of an unknown source. TBRV infection was confirmed in about 4% of the seeds (Chalam et al. 2005). There is no information on how these seeds were processed before grown (i.e., surfaced sterilised). There are no field reports of TBRV infection of *Phaseolus* spp., so the evidence that TBRV is naturally associated with *Phaseolus* seeds is extremely weak.
 - b) We do not have good evidence that TBRV is transmitted in *Phaseolus* seeds. There is only one study on seed transmission of TBRV in *Phaseolus vulgaris* (Chalam et al. 2005). However, due to flaws in the study, we can't confidently say that the virus is seed-borne or seed-transmitted. The distinction between seed transmission and seed-borne infections is important. A seed-transmitted pathogen can gain

access to the seed, survive commercial processing (e.g., cleaning, treatment, storage) and become established on emerging seedlings. There is extremely weak evidence that TBRV is seed-transmitted in *Phaseolus* spp., capable of surviving commercial processing and capable of transmitting the pathogen to seedlings grown from infected seeds.

- c) *Phaseolus* seeds are globally traded in high quantities. We expect that if this virus could infect seeds naturally and be transmitted, our overseas counterparts would report incursions of TBRV. There is very limited information globally on an association between TBRV and *Phaseolus*. This indicates that *Phaseolus* spp. are not the primary host of this pest.
 - d) TBRV may be asymptomatic (Chalam et al. 2005) or have minor economic impacts on *Phaseolus* spp. *Phaseolus* plants appear to recover from infection (Smith, 1946).
- (15) As a result, there is no reason to keep regulating TBRV on *Phaseolus* seeds imported for consumption, feed, or processing.

Question for your submission

Do you know about any evidence that Phaseolus plants are naturally infected by this virus?

2.5 Conclusion

- (16) Under international law, we cannot require measures for a pest unless we have scientific evidence that the pest can enter New Zealand, become established here and have negative impacts on the New Zealand economy, environment, human health, or things of social or cultural value to New Zealanders.
- (17) Continuing to regulate *L. entomophilus* and *D. minutus* on the *Zea mays* and TBRV on the *Phaseolus* spp. seeds imported for consumption, feed, or processing is not justified.

3 Feasibility of proposed changes

- (18) We expect these changes will make it easier for importers to import *Zea mays* and *Phaseolus* seeds.
- (19) We do not expect these changes to have any negative impacts on growers.

Removing *L. entomophilus* and *D. minutus* from the *Zea mays* pest list and TBRV from *Phaseolus* spp. schedule is in keeping with our commitment to maintaining up-to-date and scientifically justified regulations and make it less restrictive for importers to import *Zea mays* and *Phaseolus* seeds.

4 References

- Brunt, A A; Crabtree, K; Dallwitz, M J; Gibba, A J; Watson, L; (1996) *Viruses of plants. Descriptions and lists from the VIDE database*. CAB International; Wallingford, UK. 1484 pp.
- Chalam, V; Khetarpal, R; Parakh, D; Maurya, A; Anju, J; Shamsheer, S (2005) Interception of seed-transmitted viruses in French bean germplasm imported during 2002–2003. *Indian Journal of Plant Protection*, 33(1): 134–138.
- Harrison, B D (1957) Studies on the host range, properties and mode of transmission of beet ringspot virus. *Annals of Applied Biology*, 45(3): 462–472.
- Hollings, M (1965) Some properties of celery yellow vein, a virus serologically related to tomato black ring virus. *Annals of Applied Biology*, 55:459–470.
- Koehler, P G; Oi, F M (2003) *Powderpost Beetles and Other Wood-Infesting Insects*. ENY-266. Entomology and Nematology Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida; Florida, USA.
- Manaaki Whenua – Landcare Research (2023) *Dinoderus minutus* (Fabricius, 1775). *Biota of New Zealand*. Manaaki Whenua – Landcare Research; Lincoln, NZ.
<https://biotanz.landcareresearch.co.nz/scientific-names/c1504a5f-7c4f-485b-be01-8b88506732f2> Accessed 5 June 2023.
- Mathew, G; Nair, K S S (1990) Storage pests of bamboos in Kerala. Bamboos. Current research. *Proceedings of the International Bamboo Workshop, Cochin, India, 14-18 Nov. 1988* [edited by Rao, I V R; Gnanaharan, R; Sastry, C B] Kerala, India; Kerala Forest Research Institute, 212–214.
- ONZPR (2023) Pests of concern to New Zealand. *Liposcelis entomophila*. Official New Zealand Pest Register. Ministry for Primary Industries; Wellington, NZ.
<https://onzpr.mpi.govt.nz/pests-of-concern/?scientificName=&organismType=&freeSearch=Liposcelis+entomophila> Accessed 6 June 2023.
- Pospieszny, H; Borodynko-Filas, N; Hasiow-Jaroszewska, B; Czerwinka, B; Elena, S F (2020) An assessment of the transmission rate of the Tomato black ring virus through tomato seeds. *Plant Protection Science*, 56(1) 9–12.
- Smith, K M (1946) Tomato black-ring: a new virus disease. *Parasitology*, 37(3–4): 126–130.

Appendix 1: Proposed *Zea mays* regulated pest list

Zea mays REGULATED PESTS

<p><u>Insect</u></p> <p><i>Attagenus unicolor</i> <i>Carpophilus freeman</i> <i>Carpophilus lugubris</i> <i>Cathartus quadricollis</i> <i>Caulophilus oryzae</i> <i>Corcyra cephalonica</i> <i>Cryptophlebia leucotreta</i> <i>Cynaues angustus</i> <i>Dinoderus distinctus</i> <i>Dinoderus minutus</i> <i>Doloessa viridis</i> <i>Euxesta stigmatias</i> <i>Gibbium psylloides</i> <i>Glischrochilus quadrisignatus</i> <i>Gnatocerus maxillosus</i> <i>Latheticus oryzae</i> <i>Lepinotus reticulatus</i> <i>Leptoglossus zonatus</i> <i>Liposcelis entomophilus</i> <i>Mussidia nigrivenella</i> <i>Pagiocerus frontalis</i> <i>Palorus ratzeburgi</i> <i>Palorus subdepressus</i> <i>Paralipsa gularis</i> <i>Pharaxonotha kirschii</i> <i>Prostephanus truncatus</i> <i>Pyroderces rileyi</i> <i>Sesamia calamistis</i> <i>Sesamia nonagrioides</i> <i>Teretriosoma nigrescens</i> <i>Tribolium freemani</i> <i>Trogoderma glabrum</i> <i>Trogoderma granarium</i> <i>Trogoderma inclusum</i> <i>Trogoderma variabile</i></p>	<p><u>Mite</u></p> <p><i>Acaropsellina sollers</i></p> <p><u>Fungus</u></p> <p><i>Botryosphaeria zeae</i> (anamorph <i>Macrophoma zeae</i>) <i>Cephalosporium maydis</i> <i>Claviceps gigantea</i> <i>Cochliobolus pallescens</i> (anamorph <i>Curvularia pallescens</i>) <i>Cochliobolus tuberculatus</i> (anamorph <i>Curvularia tuberculata</i>) <i>Peronosclerospora heteropogoni</i> <i>Peronosclerospora maydis</i> <i>Peronosclerospora philippinensis</i> <i>Peronosclerospora sacchari</i> <i>Peronosclerospora sorghi</i> <i>Rhizopus maydis</i> <i>Sclerophthora rayssiae</i> var. <i>zeae</i> <i>Stenocarpella macrospora</i> <i>Ustilago maydis</i></p> <p><u>Bacterium</u></p> <p><i>Acidovorax avenae</i> subsp. <i>Avenae</i> <i>Clavibacter nebraskensis</i> <i>Pantoea stewartii</i></p> <p><u>Virus</u></p> <p><i>High plains virus</i> <i>Maize dwarf mosaic virus</i></p>
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Appendix 2: Proposed *Phaseolus* spp. pest information

2.18.4 Importation of grain/seeds for biosecurity clearance on arrival at the New Zealand border (Option 4)

Documentation

- (1) A sampling certificate and a seed analysis certificate are required; otherwise, the seeds must be analysed upon arrival in New Zealand, as per Part 1.6.
- (2) A phytosanitary certificate is required:
 - a) the following additional declarations must be included on the phytosanitary certificate:
 - i) "The *Phaseolus* spp. seeds were:
 - 1) inspected in accordance with appropriate official procedures and found to be free of any live, visually detectable regulated insects;
 - or
 - 2) fumigated with an appropriate pesticide and subsequently found to be free of any live, visually detectable regulated insects."
 - and
 - ii) "The *Phaseolus* spp. seeds were:
 - 1) sourced from a "pest free area" free from *Curtobacterium flaccumfaciens* pv. *flaccumfaciens*;

or

- 2) sourced from a "pest free place of production" free from *Curtobacterium flaccumfaciens* pv. *flaccumfaciens*;

or

- 3) representatively sampled with a sample size of five times (5×) ISTA and in accordance with ISTA or AOSA guidelines/methodologies. The samples were tested at a NPPO-approved diagnostic laboratory and the test result was negative for *Curtobacterium flaccumfaciens* pv. *flaccumfaciens*."

If this declaration can not be included in the phytosanitary certificate, MPI will accept a separate lab test result endorsed by the NPPO of the exporting country.

and

iii) "The *Phaseolus* spp. seeds were:

- 1) sourced from a "pest free area" free from *Cochliobolus miyabeanus*, *Elsinoe phaseoli* and *Phoma exigua* var. *diversispora*;

or

- 2) sourced from a "pest free place of production" free from *Cochliobolus miyabeanus*, *Elsinoe phaseoli* and *Phoma exigua* var. *diversispora*;

or

- 3) representatively sampled with a sample size of five times (5×) ISTA and in accordance with ISTA or AOSA guidelines/methodologies. The samples were tested at a NPPO-approved diagnostic laboratory and the test result was negative for *Cochliobolus miyabeanus*, *Elsinoe phaseoli* and *Phoma exigua* var. *diversispora*."

If this declaration can not be included in the phytosanitary certificate, MPI will accept a separate lab test result endorsed by the NPPO of the exporting country.

and

iv) "The *Phaseolus* spp. seeds were:

- 1) sourced from a "pest free area" free from *Bean common mosaic virus* [blackeye cowpea mosaic strain], *Southern bean mosaic virus* and ~~*Tomato black ring virus*~~;

or

- 2) sourced from a "pest free place of production" free from *Bean common mosaic virus* [blackeye cowpea mosaic strain], *Southern bean mosaic virus* and ~~*Tomato black ring virus*~~."

Guidance

- Importers may also apply to MPI to have consignments that have been representatively sampled by the exporting country's NPPO, tested at an MPI-approved diagnostic laboratory for the presence of *Curtobacterium flaccumfaciens* pv. *flaccumfaciens*, *Cochliobolus miyabeanus*, *Elsinoe phaseoli* and *Phoma exigua* var. *diversispora*. The sample size must be five times (5×) ISTA using ISTA or AOSA guidelines/ methodologies.
- Treatment details for regulated pests can be recorded in the "Disinfestation and/or Disinfection Treatment" section of the phytosanitary certificate.

***Phaseolus* spp. REGULATED PESTS**

<p><u>Insect</u></p> <p><i>Acanthoscelides argillaceus</i> <i>Acanthoscelides obvelatus</i> <i>Bruchidius atrolineatus</i> <i>Bruchidius incarnatus</i> <i>Bruchus pisorum</i> <i>Callosobruchus analis</i> <i>Callosobruchus maculatus</i> <i>Callosobruchus phaseoli</i> <i>Cydia fabivora</i> <i>Etiella grisea</i> <i>Etiella grisea drososcia</i> <i>Etiella zinckenella</i> <i>Matsumuraeses phaseoli</i> <i>Prostephanus truncatus</i> <i>Zabrotes subfasciatus</i></p>	<p><u>Fungus</u></p> <p><i>Cochliobolus miyabeanus</i> (anamorph <i>Bipolaris oryzae</i>) <i>Elsinoe phaseoli</i> <i>Phoma exigua</i> var. <i>diversispora</i></p> <p><u>Bacterium</u></p> <p><i>Curtobacterium flaccumfaciens</i> pv. <i>flaccumfaciens</i></p> <p><u>Virus</u></p> <p><i>Bean common mosaic virus</i> [blackeye cowpea mosaic strain] <i>Southern bean mosaic virus</i> <i>Tomato black ring virus</i></p>
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