



Review of Submissions:

IMPORT HEALTH STANDARD REQUIREMENTS FOR CAPSICUM SEEDS

28 September 2016

Ministry for Primary Industries

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Plants, Food & Environment Directorate
Regulation & Assurance Branch

REVIEW OF SUBMISSIONS ON:

IMPORT HEALTH STANDARDS REQUIREMENTS FOR CAPSICUM SEEDS

28 September 2016

Approved for general release

Peter Thomson

Director Plants, Food & Environment
Ministry for Primary Industries

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Introduction

The Ministry for Primary Industries (MPI) has consulted with interested parties on the proposed changes to specific requirements for the importation of Capsicum seeds for sowing (Import Health Standard 155.02.05: Seeds for Sowing). The consultation ran from 11 March 2016 to 06 April 2016 in accordance with Section 22 of the Biosecurity Act (1993).

Capsicums are affected by a wide range of viruses, viroids, bacteria and fungi. Many of these organisms are already present in New Zealand, and as such are deemed to be 'non-regulated', meaning that the Ministry for Primary Industries (MPI) will not take action against them if they are identified in imported seeds or crops in New Zealand.

A risk analysis on virus and viroid hazards that are seed-borne and transmitted seed-to-seedling in capsicum peppers (including chilli and bell peppers: *Capsicum annuum*, *C. frutescens*, and *C. chinense*) was completed by the MPI in 2012. The risk analysis identified that the basic import requirements in the MPI import health standard (IHS) 155.02.05: Seeds for Sowing did not adequately manage the risk posed by seed transmitted viroids.

MPI amended the IHS under urgency in August 2014 to include a new schedule for Capsicum seed for sowing to manage the risk of importation of *Potato spindle tuber viroid* (PSTVd). Specific measures for PSTVd were implemented on 1 September 2014.

MPI notified trading partners of the urgent changes via the WTO SPS notification system. Following the International standard ISPM No.13: (2001) "Guidelines for the notification of non-compliance and emergency action", MPI has reviewed the technical justification for the continuance of the emergency measures for PSTVd in Capsicum seed for sowing. A summary of the pest risk analysis was presented in the Risk Management Proposal (RMP) that accompanies the draft IHS during consultation.

An additional regulated viroid, *Pepper chat fruit viroid* (PCFVd), was identified in the 2012 risk analysis as requiring phytosanitary management on the Capsicum seed for sowing pathway. The management of this disease was also the subject of the RMP during the consultation.

MPI received submissions from:

John Seymour	21 March 2016
Potatoes New Zealand Inc., Tomatoes New Zealand Inc. and Vegetables New Zealand Inc.	06 April 2016
Monsanto New Zealand Limited	13 April 2016
NZGSTA	13 April 2016
NGINZ	13 April 2016

A full copy of these submissions are available in Appendix 1.

Review of submissions

This document reviews the submissions and provides a response to any questions or queries. The submissions have been reproduced in full and are appended to this document.

GENERAL FEEDBACK

1. *The Nursery and Garden Industry New Zealand submitted that they are comfortable with the measures that MPI necessarily proposed.*

MPI appreciates the response provided by NGINZ and the time spent reviewing the proposal.

SPECIFIC FEEDBACK

Further submissions included specific comments and concerns, which are addressed below.

2. *Potatoes New Zealand Inc., Tomatoes New Zealand Inc. and Vegetables New Zealand Inc. commented that the rationale is not provided as to why pests, previously listed in the 31 March 2014 draft RMP and IHS pest list are not included in the March 2016 draft RMP and IHS.*

MPI response:

The purpose of the Risk Management Proposal is to provide the rationale for the proposed measures for seed transmitted quarantine pests (*Potato spindle tuber viroid* (PSTVd) and *Pepper chat fruit viroid* (PCFVd) associated with imported capsicum seeds for sowing from all countries. This was outlined in the Risk Management Proposal document.

Further assessment of other pests and diseases initially proposed in earlier drafts led MPI to conclude that there was not sufficient evidence at this time that the pathogens were absent from New Zealand or that the potential economic consequences could be regarded as sufficient to warrant specific phytosanitary measures to manage the risk of entry. MPI needs to demonstrate sufficient biological difference between strains, for example, in order to regulate 'strains not present in New Zealand'. It was concluded that the virus *Pepper mild mottle virus* (PMMoV) was already present in New Zealand, and there was insufficient evidence to continue to regulate new strains.

MPI will undertake further analysis for the other pathogens such as *Paprika mild mottle virus* (PaMMV), *Tobacco mild green mosaic virus* (TMGMV), *Tomato bushy stunt virus* (TBSV), *Stemphylium solani* and *Anthomonas eugenii* on this pathway in the future if new information becomes available.

3. *Potatoes New Zealand Inc., Tomatoes New Zealand Inc. and Vegetables New Zealand Inc. commented that the RMP, paragraph 27, states the potential economic impacts of PSTVd establishing in New Zealand on capsicum have been assessed by MPI as being low to moderate (MPI, 2012). It would appear that the economic impact has been reduced from potentially high with severe strains causing significant losses [in an earlier draft RMP] to low/moderate for capsicum and excludes the impact on other crops, including potato and tomato.*

MPI response:

Thank you for this comment because it will help us improve how we communicate the size of economic impact in future.

While an early draft of the RMP considered the economic impact across multiple cropping industries, the RMP which went out for consultation in 2016 presented only the economic impacts for capsicum, in alignment with the economic impact assessment in the MPI Risk Analysis done in 2012.

It is difficult to accurately quantify or state the size of the economic impact without consideration of a specific scenario, because it depends on whether the infection is noticed early, in a greenhouse environment perhaps, and prevented from spreading to its full extent in the environment.

Some analyses will consider economic and trade impacts at the 'worst case scenario', where the organism has spread to its full extent in the environment, while other analyses will take a more moderate approach. MPI will ensure that future RMPs outline the hypothetical 'event' that the economic impact assessment is based on, so that the assessment is more transparent.

The important point to note is that the available risk management options to manage the risk on the capsicum pathway also mitigates the risk to the other industries in New Zealand from further spread of PSTVd.

4. *Potatoes New Zealand Inc., Tomatoes New Zealand Inc. and Vegetables New Zealand Inc. commented that the RMP, paragraph 33, states the adverse impacts of PCFVd on capsicums and tomatoes in New Zealand are not fully known. The statement does not consider potatoes and in addition, the economic impact section in Table 1 excludes potatoes and tomatoes.*
5. *Potatoes New Zealand Inc., Tomatoes New Zealand Inc. and Vegetables New Zealand Inc. commented that the RMP Table 1 does not include trade impacts of the two viroids for potatoes or tomatoes.*

MPI response:

MPI considers that the requirement for phytosanitary measures to manage *Pepper chat fruit viroid* (PCFVd) is sufficiently justified on the basis of economic risks to New Zealand primary industries. Potato is an experimental host for PCFVd, and information related to its economic and trade impacts is not specifically available.

As stated previously, economic and trade impacts are difficult to quantify and depend on whether an infection is detected early, with only a localised impact, or whether the infection has spread to a wider area or further crops, before detection is noted. The potential consequences would depend on the extent of spread in the environment, and could be negligible to high.

The important point to note is that the available risk management options to manage the risk on the capsicum pathway also mitigates the risk to the other industries in New Zealand from further spread of PCFVd.

6. *Potatoes New Zealand Inc., Tomatoes New Zealand Inc. and Vegetables New Zealand Inc. commented that the wording is inconsistent in the RMP/IHS that allows area*

freedom/country freedom for the two viroids. Both allow for the same measure but they are written differently. In addition, the PSTVd additional declaration is different to the current IHS. For PSTVd in the RMP, paragraph 36, country freedom is proposed, however in the current IHS, pest free area is the measure.

7. *Potatoes New Zealand Inc., Tomatoes New Zealand Inc. and Vegetables New Zealand Inc. commented that if New Zealand can provide PSTVd country freedom declarations for our exports as PSTVd is now not known to occur in New Zealand.*

MPI response:

MPI applies the definition listed in ISPM 4 Requirements for the establishment of pest free areas: 'Country freedom' is determined when the pathogen is not known to occur in a country. The term 'pest free area' could include an entire country, an uninfested part of the country in which a limited infested area is present, or an uninfested part of the country situated within a generally infested area. It is determined by data of general surveillance and from specific surveys from which an NPPO has responsibility.

As PSTVd has been detected in New Zealand greenhouses in crops in the past, the official status of PSTVd in New Zealand is 'transient: actionable, under eradication'. Under the SPS Agreement, MPI could provide phytosanitary certificates for exported capsicum with a country freedom declaration, but not a pest free area declaration.

8. *New Zealand Grain & Seed Trade Association Inc., and Monsanto New Zealand Limited asked what communications the MPI has had with the Dutch NPPO to confirm that they will certify Additional Declarations using the test being proposed in the current RMP, where this has not been validated by NAKT? Have there been similar discussion with other relevant NPPOs as well?*
9. *New Zealand Grain & Seed Trade Association Inc., Monsanto New Zealand Limited have also requested an alternative testing protocol for small seed lots would improve NZ access to quality germplasm. The final destination for seed is not always known so not all seed has field inspection reports, and some germplasm has not been introduced into NZ by NZGSTA members as a request. Request consideration of a composite sampling protocol.*
10. *John Seymour from Horticulture New Zealand submitted that as long as testing is done with the European Free Trade Agreement (EFTA) guidelines, there should not be a problem.*

MPI response:

MPI has considered the implementation of a testing protocol on 3,000 seeds using three lots of sub-samples instead of the proposed sub-sampling method currently validated for use by MPI's Plant Health & Environment Laboratory. MPI agrees that a harmonisation of testing protocols would facilitate trade. MPI has assessed the reference testing protocol established by Naktuinbouw for pospiviroids, including PSTVd and PCFVd and determined that it is suitable for routine application and acceptable for MPI purposes. This test is already accepted by other NPPOs. The sub-sample size will not be stated on the IHS. Discussion with other NPPOs about this specific topic was not initiated.

MPI is currently working together with the Centre of Excellence for Biosecurity Risk Analysis (CEBRA) on the development of a sample methodology that can be applied for small seed lots in the IHS: Seeds

for sowing. Therefore, options for testing of small seed lots of capsicum seeds will be considered at the same time.

11. *New Zealand Grain & Seed Trade Association Inc. and Monsanto New Zealand Limited commented that parent plant testing accompanying field inspection technically unjustified considering that there is still not global scientific consensus that seed transmission has been proven in capsicum seed, and the lack of scientific consensus as to whether, in that case, PSTVd can indeed be symptomless in capsicum seed.*
12. *Monsanto New Zealand Limited commented that this could be applied also for PCFVd for that matter.*

MPI response:

Seed transmission of PCFVd is known to occur in capsicum seeds (19% seed-to-seedling transmission rate) (Verhoeven *et al.*, 2009). Furthermore, PCFVd is highly likely to establish and spread throughout a Capsicum crop if exposure occurs because it can be spread mechanically during crop management activities. MPI have determined the importation of infected Capsicum seeds to be a pathway of entry for this pathogen into New Zealand.

PSTVd is transmitted by seed and pollen of infected tomato and potato plants. The percentage of infected seedlings, grown from seeds from plants infected with PSTVd, ranged from 2 to 31% in tomato and 6-12% in potato (using true potato seed). Seed transmission studies have not been done for capsicum seed, however infected seeds are likely to have been the source of the infected capsicum plants previously detected in New Zealand (Lebas *et al.*, 2005). Direct evidence of the biological association of PSTVd with capsicum seeds was described by Lebas *et al.*, 2005, where seeds and fruit of PSTVd-infected capsicum plants tested positive for PSTVd by RT-PCR. Furthermore, Barbetti *et al.* 2012 have detected PSTVd in volunteer capsicum plants. As a visual inspection of a consignment of capsicum seeds will not enable detection of contaminated seeds, it is considered highly likely that if capsicum seeds exported to New Zealand are infected with PSTVd, then PSTVd will enter New Zealand and establish within the resulting crop.

Infected plants may be symptomless in the field. The only symptom recorded from naturally infected capsicums has been a certain "waviness" or distortion of the leaf margins near the top of infected plants (Lebas *et al.*, 2005). In March 2016, PSTVd was detected in *Capsicum annuum* plants in 4 greenhouses in The Netherlands and in 2 distinct places of production in Switzerland. No specific symptoms were observed on the infected plants. Therefore, MPI has assessed that visual inspection of parent plants is not efficacious and pest free status needs to be demonstrated through sampling and testing of the parent plants at the production site by the exporting NPPO, following approved sampling and testing methodology. This may be endorsed on the phytosanitary certificate as an additional declaration, as an alternative to seed testing.

13. *Monsanto New Zealand Limited commented that the RMP does not clearly address transitional arrangements and how long industry will have to ensure compliance with any new import conditions.*

MPI response:

At the time of consultation, the final requirements were not certain, therefore an implementation period could not be determined. Following consideration of the submissions received the industry will have six months as a transitional period from the date when the final version of the IHS will be issued.

References

Barbetti, M., Mackie, A., Rodoni, B., McKirdy, S., & Jones, R. (2012). CRC10164 - phylogeny, pathogenicity and epidemiology of potato spindle tuber viroid (PSTVd) and related pospiviroids in australia. *Cooperative Research Centre for National Plant Biosecurity, Australia*.

Lebas, B S M; Clover, G R G; Ochoa-Corona, F M; Elliott, D R; Tang, Z; Alexander, B J R (2005) Distribution of Potato spindle tuber viroid in New Zealand glasshouse crops of capsicum and tomato. *Australasian Plant Pathology* 34: 129-133

EPPO (2004) Diagnostic protocols for regulated pests: Potato spindle tuber pospiviroid EPPO Bulletin 34: 257–269. Available online at [http://www.eppo.org/QUARANTINE/virus/PSTVd/pm7-33\(1\)%20PSTVD0%20web.pdf](http://www.eppo.org/QUARANTINE/virus/PSTVd/pm7-33(1)%20PSTVD0%20web.pdf)

Verhoeven, J T J; Jansen, C C C; Roenhorst, J W; Flores, R; Pena, M (2009) Pepper chat fruit viroid: biological and molecular properties of a proposed new species of the genus Pospiviroid. *Virus research* 144(1/2): 209-214.

Revised import health standard measure

Capsicum

The following entry conditions only apply to species in the Plants Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Capsicum*".

Countries: All

Quarantine Pests: *Pepper chat fruit viroid*; *Potato spindle tuber viroid*

Phytosanitary Certificate Additional Declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declarations to the phytosanitary certificate:

a) "The [*Capsicum annuum*; *C. baccatum*; *C. cardenasii*; *C. chinense*; *C. eximium*; *C. frutescens*; *C. microcarpum*; *C. pendulum*; *C. pubescens*] seeds for sowing in this consignment have been:

i) inspected in accordance with appropriate official procedures and found to be free of any visually detectable regulated pests.

AND

b) For *Potato spindle tuber viroid* (PSTVd):

i) sourced from (country name) where *Potato spindle tuber viroid* is not known to occur.

OR

ii) sourced from a 'pest free place of production', where parent plants were tested according to a NPPO approved methodology and found free from *Potato spindle tuber viroid*.

OR

iii) have been officially tested, on a representative sample of a minimum of 3000 seeds officially drawn according to the ISTA or AOSA sampling methodology using an approved PCR NPPO testing method, and found to be free from *Potato spindle tuber viroid*".

AND

c) For *Pepper chat fruit viroid* (PCFVd):

i) sourced from a 'pest free area' free from *Pepper chat fruit viroid*;

OR

ii) sourced from a 'pest free place of production' free from *Pepper chat fruit viroid*

OR

iii) have been officially tested, on a representative sample of a minimum of 3000 seeds officially drawn according to the ISTA or AOSA sampling methodology using an approved PCR NPPO testing method, and found to be free from *Pepper chat fruit viroid*".

Appendix 1: Copy of submissions

SUBMISSION

TO THE

MINISTRY OF PRIMARY INDUSTRIES

ON

PROPOSED AMENDMENTS TO THE
IMPORTING REQUIREMENTS FOR CAPSICUM
SEEDS FOR SOWING

APRIL 2016

Prepared by the New Zealand Grain & Seed Trade Association
PO Box 23143, Templeton, Christchurch

CONSULTATION ON PROPOSED AMENDMENTS TO THE IMPORTING REQUIREMENTS FOR CAPSICUM SEEDS FOR SOWING

Introduction

The New Zealand Grain and Seed Trade Association (NZGSTA) is the national industry body promoting the development and adoption of superior seeds and grains.

The Association has over 70 members based across New Zealand. Our members are involved in a range of activities including:

- Breeding and Research
- Multiplication
- Marketing
- Processing and Distribution
- Support services eg testing, broking, transport, chemicals and packaging

The following submission provides specific comment on MPIs proposed amendments to the importing requirements for capsicum seeds for sowing.

Name and contact details

Name of submitter:	Thomas Chin
Organisation name:	NZ Grain & Seed Trade Association
Postal address and Postcode:	PO Box 23143, Templeton, Christchurch
Telephone number:	021679989
Email:	thomas.chin@seedindustrynz.co.nz

13 April 2016

Plant Germplasm (Imports) Team
Ministry for Primary Industries
PO Box 2526
Wellington

Via email: plantimports@mpi.govt.nz

This submission provides comments on the proposed import requirements for capsicum seeds.

Lab testing protocols

- The NZGSTA is supportive of an option for offshore testing protocols.
- Current Naktuinbouw (NAKT) validated PCR methods for detecting PSTVd and PCFVd prescribe test results to be conducted on a representative sample of a minimum of 3,000 seeds, with sub-sample sizes of 1,000 seeds. Most capsicum seed for NZ will come from Netherlands.
- We would like to ask what communications the MPI has had with the Dutch NPPO to confirm that they will certify Additional Declarations using the test being proposed in the current RMP, where this has not been validated by NAKT? Have there been similar discussion with other relevant NPPOs as well?
- Experience with recent Australian emergency measures for tomato and capsicum seed imports is that the only way to ensure that an exporting NPPO will issue an Additional Declaration based on a laboratory test is where the exporting government has endorsed the specific protocol to be used.
- A number of governments are currently working to harmonise testing protocols for pospiviroids, and we would encourage New Zealand to be involved in this exercise in order to gain confidence in the specificity and accuracy of these protocols while at the same time still facilitating trade in seed. In the mean time we would ask MPI to allow NPPO-approved test protocols to be used for these viroids so as not to disrupt trade.
- An alternative testing protocol for small seed lots would improve NZ access to quality germplasm. The final destination for seed is not always known so not all seed has field inspection reports, and some germplasm has not been introduced into NZ by NZGSTA members as a request. Request consideration of a composite sampling protocol.

Parent plant testing accompanying field inspections

- This additional measure is technically unjustified considering that there is still not global scientific consensus that seed transmission has been proven in capsicum seed, and the lack of scientific consensus as to whether, in that case, PSTVd can indeed be symptomless in capsicum seed. The ISF Pest List, for example, still lists this pathway as not being proven in the scientific literature, and capsicum annum is not listed as a host of PSTVd in the CABI Crop Consortium. In addition, a number of countries do not regulate PSTVd on pepper seed despite regulating the viroid on tomato seed imports (eg Japan and the EU). Please see Appendix 1 for ISF Pest List including references.

- Given this is the case, there is a lack of scientific evidence to support the conclusion that viroid infection can be asymptomatic. And that it is any different from any other pospiviroid.
- In addition, there is no literature showing that the testing of asymptomatic mother plants will improve the possibility of detecting an infected seed that will transmit the viroid. In a field situation an asymptomatic plant might be latent or healthy (as symptoms may develop later). Visual field inspection follow by testing of suspicious plants therefore increases the probability of detecting an infected seed.
- Often times the final destination for seed is not known during production. As such, seed eventually destined for New Zealand that has received a 'pest free place of production' certification from the exporting NPPO may not be accompanied by parent plant testing results. Again, this will lead to additional costs as seed testing will be required and may lead to delays, potential loss of sales and the missing of planting windows. Field inspections of parent plants can be conducted late in the season when symptoms are known to occur.

Thomas Chin
General Manager

Appendix 1: ISF regulated pest list database

Species	Crop	Scientific name	Type	Is seed a pathway?	Remarks	Is there a seed test?	Type of test	Remarks	Can the pest be managed by seed treatments	Remarks
Capsicum annum ¹	Pepper	Pepper chat fruit viroid (PCFVd)	Viroid	Pathway not proven	PCFVd can occur on pepper, tomato and potato, however, its distribution is limited. One reference indicates seed as a pathway based on experimental data. No other references found indicating seed as a pathway for PCFVd in pepper. A quality systems approach in production of the seeds by crop inspections should reduce the chances of seed contamination.	Yes	DNA based	A seed assay using RT-PCR is commercially available.	No	No references found indicating a seed treatment effective against PCFVd in pepper.
Capsicum annum ²	Pepper	Potato spindle tuber viroid (PSTVd)	Viroid	Pathway not proven	Pepper can be a host of PSTVd, however, it is more important in potato and to a lesser extent on tomato. One reference evaluated a small number of both pepper and tomato seedlings grown from PSTVd infected plants and did not detect PSTVd as far out as 27 weeks after germination. Another reference has experimental data indicating seed as a pathway for PSTVd in tomato, however, the proper controls were not included which raises questions about the data. Other references suggest seed as a pathway for PSTVd in pepper, however, no references found clearly indicating seed as a pathway for PSTVd in pepper. A quality systems approach in production of the seeds by crop inspections should reduce the chances of seed contamination.	Yes	DNA based	A seed assay using RT-PCR is commercially available.	No	No references found indicating a seed treatment effective against PSTVd in pepper

Review of submissions on the Import requirements for Capsicum seeds

References

1:

[1-179] Verhoeven, J.T.J., Botermans, M., Jansen, C.C.C. and Roenhorst, J.W. (2011). First report of Pepper chat fruit viroid in capsicum pepper in Canada. *New Disease Reports*, 23, 15. (http://www.ndrs.org.uk/pdfs/023/NDR_023015.pdf) (Last checked 12.08.2013)

[1-180] Reanwarakorn, K., Klinkong, S. and Porsoongnurn, J. (2011). First report of natural infection of Pepper chat fruit viroid in tomato plants in Thailand. *New Disease Reports*, 24, 6. (<http://www.ndrs.org.uk/article.php?id=024006>)

[1-180] Reanwarakorn, K., Klinkong, S. and Porsoongnurn, J. (2011). First report of natural infection of Pepper chat fruit viroid in tomato plants in Thailand. *New Disease Reports*, 24, 6. (<http://www.ndrs.org.uk/article.php?id=024006>)

2:

[1-11] Descriptions of Plant Viruses. (www.dpvweb.net) (Last checked 12.08.2013)

[1-101] Singh, R. (1970). Seed transmission of potato spindle tuber virus in tomato and potato. *American Potato Journal*, 47 (6), 225-227.

[1-102] Lebas, B.S.M., Clover, G.R.G., Ochoa-Corona, F.M., Elliott, D.R., Tang, Z. and Alexander, B.J.R. (2005). Distribution of Potato spindle tuber viroid in New Zealand glasshouse crops of capsicum and tomato. *Australasian Plant Pathology*, 34 (2), 129-133.

[1-229] Ling, K. and Sfetcu, D. (2010). First report of natural infection of greenhouse tomatoes by potato spindle tuber viroid in the United States. *Plant Disease*, 94(11):1376. <http://apsjournals.apsnet.org/doi/abs/10.1094/PDIS-07-10-0516>

[1-230] Hammond, R. W. and Owens, R. A. (2006). Viroids: New and Continuing Risks for Horticultural and Agricultural Crops. *Online. APSnet Features*. doi: 10.1094/APSnetFeature-2006-1106. <http://www.apsnet.org/publications/apsnetfeatures/Pages/Viroids.asp>

[1-231] Simmons HE, Ruchi TB, Munkvold GP (2015). Frequencies of Seed Infection and Transmission to Seedlings by Potato Spindle Tuber Viroid (A Pospiviroid) in Tomato. *Jornal of Plant Pathology and Microbiology* 6: 275. doi:10.4172/2157-7471.1000275 <http://www.omicsonline.org/open-access/frequencies-of-seed-infection-and-transmission-to-seedlings-by-potato-spindle-tuber-viroid-a-pospiviroid-in-tomato-2157-7471-1000275.pdf>

From: John Liddle @ NGINZ <john@nginz.co.nz>
Sent: Wednesday, 13 April 2016 3:34 p.m.
To: Rose Souza Richards
Cc: Plant Imports; Kathryn Hurr (Kath); John Liddle @ NGINZ
Subject: RE: Consultation on the proposed amendments to the importing requirements for capsicum seeds for sowing

Should say “We’ve now had time ...”
Apologies.

regards
John

John Liddle BBS, MSc, PhD | Chief Executive | Nursery and Garden Industry New Zealand

From: John Liddle @ NGINZ
Sent: Wednesday, 13 April 2016 3:29 p.m.
To: Rose Souza Richards <Rose.SouzaRichards@mpi.govt.nz>
Cc: Plant Imports <PlantImports@mpi.govt.nz>; Kathryn Hurr (Kath) <Kathryn.Hurr@mpi.govt.nz>; John Liddle @ NGINZ <john@nginz.co.nz>
Subject: RE: Consultation on the proposed amendments to the importing requirements for capsicum seeds for sowing

Hi Rose

We’ve not had time to look at this and NGINZ is comfortable with the measures that you necessarily propose.

Thanks for the extra time.

regards
John

John Liddle BBS, MSc, PhD | Chief Executive | Nursery and Garden Industry New Zealand

1 Potatoes New Zealand Inc., Tomatoes New Zealand Inc. and
Vegetables New Zealand Inc. submission to the draft MPI
capsicum seed RMP/IHS. April 2016

**Draft Risk Management Proposal and Import Health Standard for Capsicum Seeds
(March 2016 version)**

**Comments from Potatoes New Zealand Inc. (PNZ Inc.), Tomatoes New Zealand Inc.
(TNZ Inc.) and Vegetables New Zealand Inc. (VNZ Inc.)**

PNZ Inc., TNZ Inc. and VNZ Inc. would like to thank MPI for the opportunity to comment on the draft Risk Management Proposal (RMP) and Import Health Standard (IHS). This is a joint submission and the three product groups hope the comments will assist MPI in drafting a fit-for-purpose IHS that is defensible, clear and based on science outcomes. We would be happy to meet with you to discuss any areas outlined in this submission.

We would like to take this opportunity to provide specific comment to the draft RMP and IHS as potatoes, capsicums and tomatoes have been identified as impacted hosts of the two regulated viroids requiring phytosanitary measures.

There is also some uncertainty about whether potatoes would be impacted by other regulated pests that were previously listed in the March 2014 draft RMP and IHS (refer sec 1a) below) but are not listed in the March 2016 draft RMP and IHS.

1. Current draft RMP and IHS

The product groups have some comments to the draft RMP and IHS and have suggested changes to the RMP Table 1 (Appendix 1) and IHS (Appendix 2) to assist in finalising the document.

a) We note that the rationale is not provided as to why pests, previously listed in the 31 March 2014 draft RMP and IHS pest list as below are not included in the March 2016 draft RMP and IHS.

These pests were also erroneously termed regulated non-quarantine pests in the 31 March 2014 draft but are in fact regulated pests for New Zealand. We consider there should be some explanation on how they were risk assessed for capsicums, tomatoes and potatoes in particular, and excluded from the RMP and IHS and from measures for this pathway. The assessment process undertaken by MPI is also quite confusing as there was a pest list including a number of organisms (i.e. insects, fungi etc.) in the March 2014 draft RMP despite the draft RMP only assessing the risks of viruses and viroids. The March 2016 draft RMP and IHS also states it only considers viruses and viroids.

We would like MPI to please provide the rationale for exclusion of these pests and include the rationale and references in the RMP. 2 Potatoes New Zealand Inc., Tomatoes New Zealand Inc. and Vegetables New Zealand Inc. submission to the draft MPI capsicum seed RMP/IHS. April 2016

Pest list from MPI draft RMP/IHS March 2014:

Pepper mild mottle virus [strains not in New Zealand]; *Paprika mild mottle virus (PaMMV)*; *Tobacco mild green mosaic virus (TMGMV)*; *Tomato bushy stunt virus (TBSV)*; *Alternaria capsici-annui*; *Alternaria longissima (Prathoda longissima)*; *Cercospora capsici*; *Choanephora cucurbitarum*; *Curvularia ovoidea*; *Stemphylium solani*; *Anthonomus eugenii* (*pepper weevil*).

b) We note that the RMP, paragraph 27, states the potential economic impacts of PSTVd establishing in New Zealand on capsicum have been assessed by MPI as being low to moderate (MPI, 2012). It would appear that the economic impact has been reduced from potentially high with severe strains causing significant losses (MPI RMP 2013) to low/moderate for capsicum and excludes the impact on other crops, including potato and tomato.

We would like MPI to please provide the rationale for why the economic impact has been downgraded.

PNZ Inc. and TNZ Inc. also recommend that the RMP includes the economic impact of PSTVd on potatoes and tomatoes and it should also be included in the economic impact section of Table 1.

Extract from the March 2016 RMP:

27. The likelihood of PSTVd establishing and spreading in tomato and capsicum crops within a single season is considered to be high. The potential economic impacts of PSTVd established in New Zealand on capsicum have been assessed by MPI as being low to moderate (MPI, 2012). If PSTVd infection of crops is detected early, there may only be a localised impact and the associated costs may not be too great. However if PSTVd infection is not detected immediately, which is likely as some infected plants are symptomless, infection may spread to a wider area, increasing costs of detection and eradication and possible yield losses.

c) We note that the RMP, paragraph 33, states the adverse impacts of PCFVd on capsicums and tomatoes in New Zealand are not fully known. The statement does not consider potatoes and in addition, the economic impact section in Table 1 excludes potatoes and tomatoes.

We recommend that the RMP includes the economic impact of PCFVd on potatoes and tomatoes and that should also be included in the economic impact section of Table 1.

Extract from the March 2016 RMP:

33. The viroid is a relatively new and emerging pathogen of *Capsicum* seed and *Solanum lycopersicum*. The extent of adverse impacts for PCFVd in New Zealand are not fully known. It is likely to have similar impacts than other pospiviroids and is assessed as presenting low to moderate economic impacts.

d) We note the RMP Table 1 does not include trade impacts of the two viroids for potatoes or tomatoes.

We recommend the trade impacts be added for both organisms for potatoes and tomatoes. We consider there will be negative trade impacts including restrictions on seed and fresh potato exports and fresh tomato exports.

e) We note that the wording is inconsistent in the RMP/IHS that allows area freedom/country freedom for the two viroids. Both allow for the same measure but they are written differently. In addition, the PSTVd additional declaration is different to the current IHS. For PSTVd in the RMP, paragraph 36, country freedom is proposed, however in the current IHS, pest free area is the measure.

We would like MPI to state the difference between country freedom and pest free area for the two viroids and if there is no difference, the terminology must be standardised.

Extract from the March 2016 RMP

Country Freedom

36. This current phytosanitary measure is considered appropriate to manage the risk of PSTVd in imported Capsicum seed, and no changes are proposed. For countries where PSTVd is not known to occur, a country freedom declaration can be endorsed on the phytosanitary certificate and provides a sufficient level of assurance that consignments are free from this pathogen. Exporting countries must follow the guidelines established by ISPM 4 when determining country freedom.

Current IHS schedule entry

Quarantine pests: Potato spindle tuber viroid

2.14.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declaration to the phytosanitary certificate:

a) "The Capsicum seeds have been:

i) sourced from a 'pest free area' free from Potato spindle tuber viroid;

f) We would like to know if New Zealand can provide PSTVd country freedom declarations for our exports as PSTVd is now not known to occur in New Zealand, can MPI please make comment to this?

Appendix 1: Table 1 of RMP Summary of seed-transmitted diseases of Capsicum proposed to require measures in the seed for sowing IHS.

Pathogen	Host/s	Seed-transmission	Status in NZ	Distribution	Reference	Likelihood of entry & establishment on seed	Economic Impacts	Trade Impacts	Additional notes
<i>Potato spindle tuber viroid</i> PSTVd	Capsicum, Potato, Tomato	Transmitted in potato and tomato. Detected in capsicum seeds.	Regulated	Worldwide	Verhoeven et al., 2007; Lebas et al., 2005	Moderate likelihood of entry; Highly likely to be spread through the crop by mechanical means; Likely to establish outside.	Moderate likelihood of entry; Highly likely to be spread through the crop by mechanical means; Likely to establish outside.	Low to moderate. ? Impact for potatoes and tomatoes and capsicums should be amended (Moderate to high)	Expected negative trade impacts of fresh capsicum and tomatoes. Add fresh and seed potatoes
<i>Pepper chat fruit viroid</i> PCFVd	Capsicum, Tomato, [potato, experimental]	Transmitted in capsicum with a rate of 19%	Regulated	Canada, Netherlands, and , Thailand	Verhoeven et al., 2009, 2011	Moderate likelihood of entry; Highly likely to be spread through the crop by mechanical means; Likelihood of establishment for more than one growing season is uncertain.	Low to moderate, with uncertainty. Add impact on potatoes (low-moderate with uncertainty)	Export of fresh capsicums, and possibly other crops. Add potatoes and tomatoes	Emerging risk. Regulated in Australia.

Review of submissions on the Import requirements for Capsicum seeds

From: John Seymour <John.Seymour@hortnz.co.nz>
Sent: Monday, 21 March 2016 4:32 p.m.
To: Rose Souza Richards
Subject: FW: Consultation on the proposed amendments to the importing requirements for capsicum seeds for sowing

Hi Rose

Please find the relevant response below from Roelf Schreuder (NZG Ltd)

Regards
John

John Seymour
Senior Business Manager
Horticulture New Zealand
DDI 64 4 494 9973
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Email: john.seymour@hortnz.co.nz
Website: www.vegetablesnz.co.nz
From: Roelf S [mailto:roelf@nzg.co.nz]
Sent: Monday, 21 March 2016 3:25 p.m.
To: John Seymour
Subject: RE: Consultation on the proposed amendments to the importing requirements for capsicum seeds for sowing

Hi John,

I checked and as long as testing is done consistently done with the EFTA guidelines, there should not be a problem.

Kind Regards,

Roelf Schreuder

Production Director Protected Crops
New Zealand Gourmet
PO Box 53-028
Auckland International Airport
Auckland 2022

Review of submissions on the Import requirements for Capsicum seeds



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Attention: Dr Rose Souza Richards

13 April 2016

Re: Risk Management Proposal for Import Requirements for Capsicum Seeds

Dear Dr Souza Richards

Thank you very much for the opportunity to comment on the Ministry of Primary Industries' draft *Risk Management Proposal for Import Requirements for Capsicum Seeds, March 2016*. Monsanto very much appreciates this bipartisan approach to implementing new phytosanitary measures that will directly impact the seed industry.

Introduction

Monsanto is one of the world's leading agricultural companies, including undertaking significant and ongoing research and development in new vegetable seeds. Monsanto's vegetable seed business serves open-field and protected culture customers through its brands: Seminis and De Ruiter. Our mission is to deliver products that provide yield and value to our customers, and more tasty and healthy vegetables to the consumer. We are the largest importer of tomato and capsicum seeds into New Zealand, accounting for a 65% share of the NZD\$ 2.5 million tomato seed market and 20% of the NZD\$ 1.4 million dollar capsicum seed market, and therefore have a significant interest in a workable and sustainable outcome from this DHS review. It is essential for import requirements to strike a balance between decreasing the likelihood that pests will enter

New Zealand, while still making it possible for New Zealand growers to access affordable capsicum seed and, just as importantly, improved and competitive germplasm.

In summary, it is our understanding that following the earlier introduction of emergency phytosanitary measures on capsicum seed imports, MPI has reviewed the biosecurity risks associated with the import of capsicum seeds for sowing and identified two pests of concern which may be transmitted in these seeds:

1. *Potato spindle tuber viroid* (PSTVd); and
2. *Pepper chat fruit viroid* (PCFVd).

As such, the Department is proposing to update the Additional Declarations required to be included on phytosanitary certificates accompanying imported capsicum seed for sowing. The major differences between the current emergency measures and the proposed new requirements are:

- Certification of freedom from PSTVd through a 'pest free place of production' Additional Declaration will now require additional parent plant testing.
- Certification of freedom from PSTVd through a laboratory test will now need to be through an official test result on a representative sample of a minimum of 3,000 seeds (sub-sample size of 400 seeds) officially drawn according to the ISTA or AOSA sampling methodology using an approved PCR NPPQ testing method. The use of other NPPQ-approved testing methods for PSTVd will no longer be allowed.
- The addition of a new Additional Declaration requirement for PCFVd, requiring pest freedom certification through either area freedom, a pest free place of production or an official test result on a representative sample of a minimum of 3,000 seeds (sub-sample size of 400 seeds) officially drawn according to the ISTA or AOSA sampling methodology using an approved PCR NPPQ testing method.

Development of a Risk Management Proposal

Monsanto would like to commend the MPI for developing this RMP and releasing it for public comment within a reasonable timeframe from the implementation of emergency measures. This sets a great precedent internationally on what should be acceptable under the SPS Agreement and reduces the amount of uncertainty that industry has to deal with.

We are also supportive of the continued flexibility provided by the MPI in the IHS, allowing Additional Declarations to be obtained using a number of different methodologies. This is vital to the seed industry as the final destination of seed is not always known at the time of production.

However, we do have some comments on the draft RMP which we hope can be considered in developing the final amendments to the IHS. As a general comment, Monsanto is supportive of the submission of the New Zealand Grain and Seed Trade Association but would also like to add some more detail and information of our own.

Seed test protocol for PSTVd and PCPVd

Monsanto supports the ongoing inclusion of offshore testing of seed as a phytosanitary option in the draft RMP. Currently, as part of its seed health program for capsicum seeds, Monsanto uses Naktuinbouw (NAKT)-validated PCR methods for detecting PSTVd and PCPVd. These protocols prescribe test results to be conducted on a representative sample of a minimum of 3,000 seeds, with sub-sample sizes of 1,000 seeds. This is relevant to this consultation because these methods are currently accepted by the Dutch NPPO - where the majority of New Zealand capsicum seed imports will come from, due to the protected culture nature of the industry in this country - for the purpose of certifying Additional Declarations for freedom from these two viroids. Certainly all of our capsicum seed imports will come from the Netherlands.

Our experience with recent Australian emergency measures for tomato and capsicum seed imports is that the only way to ensure that an exporting NPPO will issue an Additional Declaration based on a laboratory test is where the exporting government has endorsed the specific protocol to be used. Australia required a test protocol for PSTVd that had not been validated by the NAKT and other international laboratories and we were not able to obtain Additional Declarations as a result - including from the Dutch NPPO. In the end a separate import option had to be created to address this situation where an AD was not required, however this took some time and led to delays and confusion both at the export and at the import end. We would be happy to share more details of our experiences with the Australian system if desired.

We are therefore wondering whether MPI has contacted the Dutch NPPO to confirm that they will certify Additional Declarations using the test being proposed in the draft RMP, where this has not been validated by NAKT, and whether there have been similar discussions with other relevant NPPOs as well. Discussions with NPPOs can take a long time (over two years in the case of Australia). Monsanto would therefore like to request that MPI consider amending the RMP to allow the use of NPPO-approved testing methods for both PSTVd and PCPVd (as is currently the case for PSTVd testing for tomato seed imports and was previously the case for imports of capsicum seeds for sowing). A number of governments are currently working to harmonise testing protocols for poospiviroids, and we would encourage New Zealand to be involved in this exercise in order to gain confidence in the specificity and accuracy of these protocols while at the same time still facilitating trade in seed.

Monsanto would also make the point that the only method available for viroid detection is PCR and that this should be reflected in the RMP.

Harmonisation of phytosanitary measures is important to ensure flexibility in moving seed and to avoid increased costs where specific lots need to be tested several times in order to meet different requirements. Because these tests are destructive, decisions may be made to ensure such high value seed is not lost and New Zealand may miss out on important germplasm due to its relatively small market size. This is even more important where inspections during plant growth have not been completed.

Parent plant testing for PSTVd

The proposed amendments to the Import Health Standard for capsicum seed for sowing include a new requirement for parent plant testing for PSTVd as part of a 'pest free place of production' certification. Monsanto believes that this additional measure is technically unjustified considering that there is still not global scientific consensus that seed transmission has been proven in capsicum seed. The ISF Pest List, for example, reports that no references can be found clearly indicating seed as a pathway for PSTVd (and PCFVd for that matter) in pepper, and that a quality systems approach in production of the seeds by crop inspections should reduce the chances of seed contamination. This is particularly so in a protected cropping environment. In addition, a number of countries do not regulate PSTVd on pepper seed despite regulating the viroid on tomato seed imports (eg. Japan and the EU).

Given this, there is therefore also a lack of scientific consensus as to whether, in that case, PSTVd can indeed be said to be asymptomatic in capsicum seed (as opposed to other viroids).

In addition, we are not able to find any literature showing that the testing of asymptomatic mother plants will improve the possibility of detecting an infected seed that will transmit the viroid. In a field situation an asymptomatic plant might be latent or healthy (as symptoms may develop later). Visual field inspection followed by testing of suspicious plants therefore increases the probability of detecting an infected seed.

Other significant concerns or considerations with Monsanto has with this proposed requirement that we would like to raise include:

- The extra time and expense to conduct a laboratory analysis on parent plants will increase and may negatively affect the capsicum seed trade to New Zealand, given that New Zealand is a small market where only a few thousand seeds may be sent from a large lot.
- The additional requirement for parent plant testing could impact timelines to conduct trials with new products. An NPPD's capacity to conduct the parent plant testing will restrict the ability of New Zealand to source capsicum seed from other countries. Monsanto has experienced this issue with other countries seeking to implement such requirements. Certain countries do not have the capacity to undertake PCR testing of parent plants (for example, Chile and Guatemala) and testing would need to be done in another country on the produced seed.
- Often times the final destination for seed is not known during production. As such, seed eventually destined for New Zealand that has received a 'pest free place of production' certification from the exporting NPPD may not be accompanied by parent plant testing results. Again, this will lead to additional costs as seed testing will be required and may lead to delays, potential loss of sales and the missing of planting windows (especially if Additional Declarations for seed testing are not obtainable either). Depending on the amount and production value of the seed, the import may also be cancelled.
- Lack of clarity and differing interpretations on the procedures to conduct "parent plant testing" by exporting NPPDs could mean extensive and unnecessary tissue collection and testing of asymptomatic plants. Practical questions from NPPDs such as how many plants,

what is the area considered, sampling procedure to use, etc will cause confusion and in turn lead to a significant increase in time and costs. However, prescribing a specific protocol for this parent plant testing will also prove problematic due to the same issues mentioned in the previous section in relation to laboratory testing protocols. At the very least, an NPPO-approved parent plant testing protocol should be allowed, but this will not address all the issues referenced above.

We are confident that field inspection alone for parent plants is an effective measure in the prevention of PSTVd pathogen movement because there are already defined and established guidelines for field inspections which provide clarity on how to conduct them. From such guidelines, field inspections of parent plants can be conducted late in the season when symptoms are known to occur. If there are plants with suspicious symptoms, most field inspectors will collect samples and submit them to an accredited lab for the proper diagnosis. A field inspection would avoid unnecessary PCR testing by focusing the testing on situations where there is a reasonable probability that the viroid is present.

Testing of small seed lots

Currently Monsanto is importing small batches of capsicum seed into New Zealand that have either been sourced from larger seed lots which have been tested for freedom from PSTVd through NPPO-approved testing protocols, or that have been sourced from pest-free places of production. The lack of a testing protocol for small seed lots has meant that we have not introduced some high-value trial capsicum germplasm into New Zealand. Monsanto would therefore like to request that MPI consider providing seed companies with such a protocol as part of the final amendments to the Import Health Standard, thereby allowing the flexibility to import high-value potential germplasm where this seed has not been inspected during the growth stage and is of limited supply. As stated previously, the final destination for seed is not always known during production and New Zealand is certainly missing out on particular genotypes of interest without this option. Such a protocol could include the use of composite sampling. Concerns about any increased risk from such a protocol are mitigated by the fact that capsicum seed imports into New Zealand are primarily for the protected cropping market and are therefore produced in controlled production conditions and under seed health quality assurance arrangements. Monsanto would be happy to share its quality assurance arrangements for capsicum seed production confidentially if this would assist in MPI's consideration of this matter. For New Zealand exports to be competitive, there is a need to access the best germplasm available.

Transitional arrangements

The RMP does not clearly address transitional arrangements and how long industry will have to ensure compliance with any new import conditions. Appropriate transition times are something that is important to ensure appropriate planning can be undertaken and we would ask that lots harvested before the new arrangements come into force should be allowed entry into New Zealand under the previous import conditions. As a general rule, it can take up to 18 months to produce, clean and process seed ready for sale.

I would like to take the time again to thank you for this opportunity to comment. I look forward to positive outcomes resulting from this consultation process and to Monsanto's continued successful business in New Zealand. If you wish to discuss any of the points raised in our submission in further detail, please do not hesitate to contact me.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Michael Leader".

Michael Leader
Regional Seed Movement Lead, Asia-Pacific and China

