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Draft report for the review of import conditions for fresh potatoes for processing from New Zealand

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The picture of unwashed ware potatoes (*Solanum tuberosum*) on the front cover was obtained by a DAFF Biosecurity officer (2011) Pukekohe, New Zealand.

Submissions
This draft report has been issued to give all interested parties an opportunity to comment and draw attention to any scientific, technical or other gaps in the data, misinterpretations and errors. Any comments should be submitted to the Department of Agriculture, Fisheries and Forestry within the comment period stated in the related Biosecurity Advice on the website. The draft report will then be revised as necessary to take account of the comments received and the final import conditions prepared.

Comments on the draft report should be submitted to:

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Contents

1 Introduction

This draft report for the review of import conditions assesses a proposal from New Zealand for market access to Australia for fresh potatoes for processing.

The Department of Agriculture, Fisheries and Forestry (DAFF) Biosecurity has engaged in preliminary consultations with the New Zealand Government and Australian industry representatives regarding this review of import conditions. The report provided here discusses the key issues associated with the import of potatoes for processing from New Zealand to enable all interested stakeholders to provide formal comment prior to the finalisation of import conditions. Further, an assessment of the potential risks posed by the import of New Zealand potatoes is given, and a number of potential risk management measures are proposed.

A review of import conditions is a process that reassesses the risk management measures and import conditions currently recognised for an import pathway. The review process is prompted in response to new information which suggests there are additional or modified risks posed by an import pathway, and which may suggest that amendments to the current quarantine measures are required. In conducting this review, DAFF Biosecurity has taken into consideration the following components:

- previous conditions established for the import of fresh potatoes for processing from New Zealand;
- domestic regulations for the interstate movement of potato commodities in Australia;
- relevant export compliance programs utilised by New Zealand for export of potatoes to other international markets;
- current policies for pests and diseases of quarantine concern to Australia which are relevant to this market access request and the development of final import conditions; and
- any additional information made available through the literature and the consultation process which is relevant to the assessment of the import risks posed.

2 Background

The import of fresh potatoes for human consumption and for processing is currently prohibited entry to Australia from all countries (ICON 2012). Potatoes for processing were previously permitted entry to Australia from New Zealand under quarantine arrangements defined within the *Plant Quarantine Manual 1983* (Commonwealth of Australia 1983). Broadly, the policy required secure processing of potatoes in quarantine approved premises and trade to be permitted only from production areas certified as being free from potato black wart and potato cyst nematode (PCN). However, following advice from New Zealand that it was unable to meet the area freedom requirements for potato cyst nematode, trade was suspended in 1988.

In June 2006, the New Zealand Ministry for Primary Industries (MPI), previously known as the Ministry of Agriculture and Forestry (MAF), formally requested renewed access for fresh potatoes (*Solanum tuberosum*) for processing to Australia. Fresh potatoes for processing is New Zealand's highest agricultural market access priority to Australia.

In support of its request, MPI provided DAFF Biosecurity with its *MAFBNZ Export compliance programme for the provision of additional declarations (Potato Cyst Nematode and Potato Wart)* (MAFBNZ 2009), which outlines the operational requirements for growers, packing facility operators, storage facility operators and independent verification agencies to ensure production site freedom from PCN and area freedom from potato black wart.

In July 2010, Australia's Import Market Access Advisory Group assigned this market access request a priority 'A' status and the policy review was prioritised on DAFF Biosecurity's work plan. DAFF Biosecurity has conducted an assessment of the biosecurity risks associated with the import of potatoes from New Zealand, including:

- an assessment on the pests and diseases associated with New Zealand potato production areas;
- a review of both international and domestic policies for the import and movement of potato commodities; and
- verification visits to consider and assess potential risk management measures.

A brief account of these assessments and verification activities is provided in Section 3.

3 Pests and diseases identified in association with fresh potatoes from New Zealand

In 2007, MPI provided DAFF Biosecurity with a list of pests and diseases associated with potato tubers in New Zealand.

DAFF Biosecurity has reviewed the available literature and conducted an assessment of the pests and diseases associated with potato tubers from New Zealand, including the pests and diseases identified by New Zealand in 2007. Based on this analysis, the following pests and diseases have been identified as potentially being associated with the import pathway and being of quarantine concern to Australia:

Bacteria

- "*Candidatus* Liberibacter solanacearum"* (zebra chip)
- *Ralstonia solanacearum* (bacterial wilt, brown rot) (Races 1 and 3)[TAS and WA]
- *Pseudomonas marginalis* [WA]

Fungi

- *Phacidiopycnis tuberivora* (dry rot) [TAS and WA]
- *Polyscytalum pustulans* (skin spot)
- *Synchytrium endobioticum* (potato black wart)

Nematodes

- *Ditylenchus destructor* (potato rot nematode)
- *Globodera pallida* (pale potato cyst nematode)
- *Globodera rostochiensis* (golden potato cyst nematode)
- *Trichodorus* spp. (stubby-root nematode)

Arthropods

- *Agriotes lineatus* (wireworm)
- *Bactericera cockerelli* (tomato-potato psyllid)
- *Heteronychus arator* (African black beetle) [TAS]
- *Wiseana cervinata*
- *Wiseana jocosa*
- *Wiseana signata*
- *Zeoliarus atkinsoni*

Viruses

- *Impatiens necrotic spot virus* (INSV)
- *Potato virus M* (PVM)
- *Potato virus S - Andean strain* (PVSA)
- *Potato Spindle Tuber Viroid* (PSTVd)

* The name "*Candidatus* Liberibacter solanacearum" has displaced the earlier name "*Candidatus* Liberibacter psyllaurous".

Some pests and diseases identified in the list have not been recorded in some regions of Australia, and due to interstate quarantine regulations, are considered pests of regional concern. These pests are identified with a superscript, such as 'Tas' and/or 'WA', for the state in which the regional pest status is considered. Where a pest is identified as being of regional concern, any quarantine measures proposed for that pest need only be applied to product destined for that state where regional freedom is recognised.

Nomenclature of the *"Candidatus Liberibacter"* species associated with zebra chip disease in potato tubers

Since the release of the *Final pest risk analysis report for* "Candidatus *Liberibacter psyllaurous" in fresh fruit, potato tubers, nursery stock and its vector the tomato-potato psyllid* in September 2009 (Biosecurity Australia 2009), the bacterium associated with zebra chip disease was informally renamed (Liefting *et al* 2009a) and later formally renamed "*Candidatus* Liberibacter solanacearum" and fully described in the *International Journal of Systematic and Evolutionary Microbiology* (Liefting *et al.* 2009b). Although the alternative name, "*Candidatus* Liberibacter psyllaurous" has priority (Hansen *et al.* 2008), the later name has been supplanted in almost all literature appearing since 2009. Liefting *et al* (2009b) elected to use the specific epithet 'solanacearum', because of the association with the family of solanaceous plants.

It is a potential source of confusion to have different designations for the same pathogen in documents produced in Australia and in New Zealand (Pitman *et al* 2011). In order to be consistent with the currently accepted taxonomy, DAFF Biosecurity has adopted "*Candidatus* Liberibacter solanacearum" as the preferred species name here and for all future documents.

"*Candidatus* Liberibacter solanacearum" (zebra chip)

It is important to note that the disease zebra chip, caused by the bacterium "*Ca.* L. solanacearum", is a disease-vector complex – that is, the disease can only be transmitted from plant to plant through its psyllid vector (*Bactericera cockerelli*).

The *Final pest risk analysis (PRA) report for* "Candidatus *Liberibacter psyllaurous" in fresh fruit, potato tubers, nursery stock and its vector the tomato-potato psyllid* identified two potential pathways (fresh fruit and nursery stock) to introduce infected psyllids (*Bactericera cockerelli*) into Australia. *Bactericera cockerelli* may be associated with any aerial part of the plant, and while they feed primarily on leaves, psyllids and their eggs may also be present on stems or aerial fruit of the host plant.

Based on the findings of the final PRA report for bacterium "*Ca.* L. solanacearum", there is no evidence to suggest that this psyllid feeds on potato tubers.

Ralstonia solanacearum (brown rot)
Information provided by MPI has indicated that races 1 and 3 of brown rot (*Ralstonia solanacearum*) have previously been recorded at a low prevalence level in New Zealand. No report of brown rot has occurred in New Zealand since 1979, and it has never been recorded on the South Island. Race 2 and the less commonly distinguished

races 4 and 5 are not present in New Zealand (information provided by MPI in November 2011).

DAFF Biosecurity considers that a combination of mitigation measures may be required to manage the risks associated with imported potatoes from New Zealand to Australia consistent with Australia's appropriate level of protection. These proposed measures have been outlined in section 6.

4 Existing policies for potatoes

4.1 International policy

4.1.1 Requirements for the import of fresh potatoes for processing from New Zealand

As noted earlier, import policy for potatoes for processing from New Zealand to Australia was previously established. The main requirements under these arrangements were as follows:

- potatoes were to be sourced from the Manawtu-Rangitikei region and certified as being free from *Globodera rostochiensis* and *G. pallida* (potato cyst nematodes) and *Synchytrium endobioticum* (potato black wart);
- potatoes were to be clean and healthy;
- potatoes were to be processed in quarantine approved premises located in a metropolitan area in Australia; and
- all waste (including any soil, packaging material and waste by-product) to be disposed of under appropriate quarantine conditions.

These previous import conditions were taken into consideration as part of this review process to determine whether additional measures are required to mitigate the risks associated with this import pathway.

4.1.2 Requirements for the importation of fresh potatoes from countries where "*Candidatus* Liberibacter solanacearum" and the tomato-potato psyllid are present

Following the detection of "*Ca.* L. solanacearum" and its vector, the tomato-potato psyllid, in New Zealand, DAFF Biosecurity conducted a pest risk analysis (PRA) to evaluate the risks posed by the import of potential host commodities from New Zealand (including potatoes). The *Final pest risk analysis report for* "Candidatus *Liberibacter psyllaurous" in fresh fruit, potato tubers, nursery stock and its vector the tomato-potato psyllid* (Biosecurity Australia 2009) was released in September 2009. The report identified potato tubers as a potential risk pathway for the introduction of "*Ca*. L. solanacearum". Mitigation measures were recommended to reduce the unrestricted risk of "*Ca*. L. solanacearum" to meet Australia's appropriate level of protection (ALOP). The conclusion of this assessment was that potato tubers could be safely imported into Australia for processing if transport, processing and waste disposal was managed under appropriate quarantine conditions.

The processing of potatoes under a quarantine approved premises (QAP) arrangement ensures that the quarantine risks associated with processing imported potatoes are contained and fully managed. All QAP's would be required to meet specific standards in relation to storing and processing of potatoes as well as for the subsequent disposal of any waste material. These measures prevent the Australian environment being exposed to any quarantine issues associated with the import of New Zealand potatoes for processing.

DAFF Biosecurity considers that the processing of potatoes imported from New Zealand at a QAP is appropriate for managing the risks associated with a number of pests and diseases identified as being of quarantine concern to Australia.

The final PRA report concluded that tomato-potato psyllids are not associated with potato tubers and is therefore not considered a potential risk pathway for the entry of this pest into Australia.

4.1.3 New Zealand requirements for exporting potatoes free from potato cyst nematode (PCN) and potato black wart

New Zealand exports potatoes to a number of countries under specific quarantine arrangements as required by the importing country. A key requirement is for potatoes to be free from potato cyst nematode (PCN) and potato black wart. To meet this provision, New Zealand requires all potatoes destined for export to be produced in accordance to the *MAFBNZ Export Compliance Programme for the Provision of Additional Declarations (Potato Cyst Nematode and Potato Wart).* This program outlines the operational requirements for growers, packing facility operators, storage facility operators, exporters and independent verification agencies to ensure production site freedom from PCN and area freedom from potato black wart.

DAFF Biosecurity has conducted an assessment of New Zealand's export compliance program for PCN and potato wart and this has helped inform this review process.

4.2 Domestic policy

4.2.1 Requirements for the domestic movement of potatoes to prevent the spread of potato cyst nematode (PCN)

The Australian Government is responsible for regulating the movement of plants and plant products into and out of Australia, but the State and Territory Governments are responsible for plant health controls within their respective jurisdictions. Legislation relating to plant health may be used by State and Territory Government agencies to control interstate movement of plants and their products.

Currently, there are limited distribution records for PCN in Australia and domestic movement regulations are in place to prevent the spread of PCN on potato commodities for interstate trade.

The Victorian Department of Primary Industries' *PCN Compliance Agreement: Sourcing potatoes from a PCN Control Area* (DPI 2007) enables potatoes sourced from control areas (areas where PCN has been detected) to be received and processed by a business located in an area free from PCN. This agreement allows for the movement of potatoes throughout the state of Victoria subject to specific phytosanitary control measures.

Additionally, the *Interstate Certification Assurance (ICA) Agreement: Potatoes from a PCN Control Area*, ICA-44 (DPI 2007) allows for the movement of potatoes from Victoria into other states of Australia subject to specific phytosanitary control measures. This agreement outlines the responsibilities and actions of personnel involved in the movement of potatoes out of a PCN control area and receipt at a plant

for processing and/or storage interstate. This agreement also provides guidelines for the washing and/or brushing and the transport of potatoes to local and interstate markets.

The risk mitigation measures recommended under domestic PCN legislation were assessed as part of the review of import conditions process.

5 Verification visits

5.1 Potato processing facility

DAFF Biosecurity has conducted verification visits of a potato processing facility in Australia. The purpose of these visits was to assess the standard operating procedures and waste management practices implemented for processing potatoes. Specific consideration was given to how the operational procedures were administered by the facility under ICA-44 for potatoes sourced from PCN control areas. In particular, the procedures in place for waste management, cleaning and maintenance of product security for processing potatoes from PCN control areas was evaluated.

The information obtained from these visits has been considered in determining appropriate measures to address the risks associated with the processing of potatoes from New Zealand.

5.2 New Zealand potato production practices and packing house procedures

On 10 February 2011 and on 29-30 June 2011, DAFF Biosecurity visited potato production areas and packing house facilities in Pukekohe and Palmerston North, New Zealand, to observe the *MAFBNZ Export Compliance Programme for the Provision of Additional Declarations (Potato Cyst Nematode and Potato Wart)* procedures. As part of these visits, DAFF Biosecurity verified in-field and packing house procedures for the export of potatoes. This information has informed the development of revised import conditions.

6 Proposed risk management measures for fresh potatoes for processing from New Zealand

Based on a consideration of the pests and diseases associated with New Zealand potatoes, existing policies (both international and domestic), verification visits and stakeholder consultations, DAFF Biosecurity has identified risk management measures that will mitigate the risks associated with the import of fresh potatoes for processing from New Zealand. These measures are outlined below and include requirements which extend from production through to on-arrival processing at a QAP facility.

6.1 MAFBNZ Export Compliance Programme for the Provision of Additional Declarations (Potato Cyst Nematode and Potato Wart)

As part of the market access request, MPI proposed that all potatoes exported from New Zealand to Australia must be produced under the *MAFBNZ Export Compliance Programme for the Provision of Additional Declarations (Potato Cyst Nematode and Potato Wart)* to reduce the risk of PCN and/or potato black wart being present in consignments of potatoes exported to Australia.

Following a review of the export compliance program utilised by New Zealand to export potatoes to other countries, DAFF Biosecurity considers that aspects of this compliance program would be appropriate for the export of potatoes to Australia. Specifically, DAFF Biosecurity considers that the following components of the compliance program are suitable:

- only potatoes grown on production sites that are registered with MPI and comply with the *MAFBNZ Export Compliance Programme for the Provision of Additional Declarations (Potato Cyst Nematode and Potato Wart)* are permitted entry into Australia,
- potato production sites are subject to an annual soil test (pre-planting or pre-harvest) to demonstrate freedom from PCN (this is a mandatory requirement and no exemptions apply),
- soil samples must be analysed by MPI approved laboratories, and
- potatoes must be produced in areas certified as being free from potato black wart (*Synchytrium endobioticum*).

6.2 Packing house processes

Consistent with the Australian domestic conditions for the management of PCN, measures will be required to ensure potato tubers are practically free from soil. This will reduce the risk of soil borne pests and diseases of quarantine concern (e.g. nematodes) being present in consignments imported into Australia.

DAFF Biosecurity recommends the following measures:

- Potatoes must be washed and/or brushed so as to be practically free from soil.

- Consignments with cakes of soil adhering to potato tubers will not comply with Australian requirements for the import of New Zealand potatoes for processing.

- All growers, packing houses and/or storage facilities in New Zealand must be registered under the *MAFBNZ Export Compliance Programme for the Provision of Additional Declarations (Potato Cyst Nematode and Potato Wart).*

- Phytosanitary inspection and certification must be completed by MPI or Independent Verification Agency (IVA) staff.

6.3 Packing and labelling

To prevent contamination of potatoes by pests or diseases during storage and/or transport prior to export, DAFF Biosecurity recommends the following measures:

- Potatoes are to be transported in bins or bags marked or labelled with the registration number for the designated production site issued by MPI or IVA staff.

- Potatoes are to be stored at least 1 metre from potatoes from non-designated production sites. Potatoes are not to be stacked below potatoes from non-designated production sites.

- Only potatoes for export to Australia are to be sorted and packed at a given time.

- Potatoes are to be packed into new, clean bags (e.g. polypropylene bags) and packed on clean pallets.

- Each bag must be labelled with the words ‘not for planting’ and provide traceability information (i.e. production area and packing house registration number, packing date).

- Potatoes must be imported in fully sealed shipping containers, e.g. Full Container Loads (FCL).

The DAFF Biosecurity document *Cargo Containers: Quarantine Aspects and Procedures* (DAFF Biosecurity 2012a), specifies the quarantine requirements for containers, cargo, and packaging materials. All timber packaging, pallets or dunnage in FCL containers are subject to inspection and treatment during on-arrival procedures, unless certified as having undergone treatment by a DAFF Biosecurity approved method. This measure will ensure that containers are cleaned and/or inspected prior to packing and found to be free from any contaminants.

6.4 Phytosanitary import requirements

Fresh potato tubers (*Solanum tuberosum*) imported into Australia for processing from New Zealand must be sourced from production sites and packing facilities registered for export to Australia under the *MAFBNZ Export Compliance Programme for the*

Provision of Additional Declarations (Potato Cyst Nematode and Potato Wart) (section 6.1).

The phytosanitary requirements shall be defined in the phytosanitary certification as 'fresh potatoes produced from production sites/areas in New Zealand free from potato cyst nematode (*Globodera rostochiensis* and *Globodera pallida*) and potato black wart disease (*Synchytrium endobioticum*)'.

The Phytosanitary certificate must provide registration information for growers, packing houses and store facilities, for traceability purposes, as well as container and seal numbers.

The phytosanitary requirements for potatoes imported for processing from New Zealand have been developed to prevent the quarantine pests listed in section 3, including PCN and potato black wart disease, from being introduced into Australia.

DAFF Biosecurity reserves the right to audit New Zealand's export compliance program prior to the commencement of trade.

6.5 Transport to DAFF Biosecurity quarantine approved premises for inspection and processing

To mitigate the risk of pests and diseases entering and establishing in Australia while consignments are transported from the port of entry to quarantine approved premises for processing, DAFF Biosecurity recommends that potatoes must be transported in sealed containers (e.g. Full Container Loads). By sealing containers, the potential for pests or pathogens to enter the Australian environment will be prevented.

Full Container Loads may be vented (door ajar) to allow airing during sea transit to Australia provided the containers are secured by closing and sealing the doors prior to movement from the wharf to the QAP for inspection and processing.

Transport must use a direct route to the QAP and must not travel through rural areas. On-arrival, DAFF Biosecurity will verify that containers are secure and seals are intact.

In the event of spillage of potatoes during transportation to the QAP for inspection and processing, DAFF Biosecurity must be notified and the spillage cleaned up to DAFF Biosecurity's satisfaction.

All consignments are subject to inspection on-arrival by DAFF Biosecurity prior to being directed to a QAP for potato processing.

If live quarantine pests, disease symptoms or contaminants including unidentified plant material, seeds or trash are found, the consignment must be treated (using a DAFF Biosecurity-approved method that suitably addresses the quarantine risk) or re-exported or destroyed.

6.6 Processing in a quarantine approved premises (QAP)

DAFF Biosecurity will require that all potatoes imported from New Zealand to be processed at a QAP, located in a metropolitan area. This is to ensure that the quarantine risks associated with the processing of imported potatoes are contained and fully managed. In particular, all waste (e.g. soil, peelings, wastewater and packaging material) generated during processing operations should be appropriately treated or disposed of, thereby mitigating the risk of quarantine pests and diseases entering, establishing and spreading in the Australian environment.

All potatoes imported from New Zealand are to be processed at a QAP that meets DAFF Biosecurity requirements as defined in Sections 46A and /or 66B of the *Quarantine Act*.

Potatoes must be held under secure conditions as determined by DAFF Biosecurity until processed to ensure that no imported potatoes are used for any purpose other than processing.

Should a QAP facility handle and/or process potatoes from any other origin (domestic or otherwise) for the period that New Zealand potatoes and any associated waste products are on site, the QAP must have in place appropriate segregation procedures.

An approved quarantine waste management program must be in place at the QAP for potato processing. All waste generated during processing will be handled in accordance with the DAFF Biosecurity waste management policy and guidelines (DAFF Biosecurity 2012b). This includes the following:

- all loose soil and sweepings must be treated and disposed of under appropriate quarantine conditions,
- all waste (e.g. peel, sludge, waste water, packaging, discarded potatoes etc.) generated during processing must be treated and disposed of under appropriate quarantine conditions,
- the equipment and premises must be cleaned and sanitised after processing imported potatoes from New Zealand,
- empty shipping containers must be cleaned and all debris must be treated and disposed of under appropriate quarantine conditions prior to next use.
- if the waste generated during processing cannot be treated and/or disposed of under appropriate quarantine conditions at the QAP, it must enter into a contract with a waste disposal provider, approved by DAFF Biosecurity, to perform the required treatment and disposal procedures for waste generated during processing.

A QAP for potato processing must record quantities (weight) of potatoes processed and quantity (weight) of waste. This will be audited by DAFF Biosecurity officers to ensure that the total quantity of potatoes imported is accounted for.

A QAP for potato processing must be audited by DAFF Biosecurity officers for compliance with appropriate quarantine conditions. Where third parties have been engaged to undertake treatment and disposal services for the proposed import pathway, they would also be subject to auditing procedures by DAFF Biosecurity to ensure compliance with the import conditions.

7 Stakeholder consultation

DAFF Biosecurity has engaged in consultations with representatives from the Australian industry regarding this review of import conditions for New Zealand fresh potatoes for processing, including the Australian Potato Processing Association of Australia and AUSVEG (the peak industry body representing Australian potato growers).

DAFF Biosecurity has previously provided industry representatives with a position paper outlining the assessments conducted by DAFF Biosecurity, key issues and risks identified with the import of New Zealand potatoes and potential risk management measures. The purpose of these discussions was to advise stakeholders of the commencement of preliminary work on New Zealand's market access request to renew access for potatoes for processing, and to provide stakeholders with the opportunity to raise any relevant concerns early in the process.

In addition, in response to comments received, DAFF Biosecurity has written to a number of industry representatives and Federal Members of Parliament to provide further information on the preliminary assessment, key issues and risks posed by the import of fresh potatoes for processing from New Zealand.

Anyone interested in this review process should register as a stakeholder. This can be done electronically through the DAFF Biosecurity website at www.daff.gov.au/ba/stakeholder.

DAFF Biosecurity will consider all submissions received on the draft review of import conditions by 3 September, 2012 and may consult informally with some stakeholders regarding their submissions.

DAFF Biosecurity will then finalise the import conditions for fresh potatoes for processing from New Zealand, taking into account stakeholder comments.

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