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Dear Dr Grant

DEPARTMENT OF PRIMARY INDUSTRIES (DPI) RESPONSE TO THE DRAFT IMPORT RISK ANALYSIS FOR FRESH APPLES FROM THE PEOPLE'S REPUBLIC OF CHINA

Thank you for your memorandum of 21 January 2009, notifying the Department of Primary Industries (DPI) of the release of the Draft Import Risk Analysis (IRA) for fresh apples from the People's Republic of China for comment.

Specialists within the DPI have examined the IRA and the DPI response to the draft IRA is attached. The following is a summary of the main issues:

1. DPI considers that there are several omissions in the Pest Categorisation stage, for example: both *Monilinia mali* and *Pezicula malicorticis* are not recorded in Australia and, therefore, should be considered further in the Risk Analysis;
2. DPI also considers that the scientific evidence to support the claim of China's area freedom from Fireblight (caused by *Erwinia amylovora*) should be provided to all stakeholders;
3. DPI considers that there are a number of issues with the risk management measures proposed e.g. measures to demonstrate area freedom from oriental fruit fly; the efficacy of the optional fruit bagging; the efficacy of air blasting to remove insect pests;
4. DPI considers that some aspects of some pest risk assessments are inadequate e.g. for summer fruit tortrix and European canker; and
5. DPI is also concerned about the unusual management practice of removing fruit stalks, which can cause a wound in the stem-end of the fruit and provide easy entry of pathogens.

Thank you for the opportunity to provide comments on the Import Risk Analysis and I look forward to being notified of the progress of this IRA.

I trust that the matters raised will receive your serious consideration.

Yours sincerely

HUGH MILLAR
Acting Executive Director Biosecurity Victoria

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DRAFT IMPORT RISK ANALYSIS REPORT FOR FRESH APPLE FRUIT FROM THE PEOPLE'S REPUBLIC OF CHINA – JANUARY 2008:

DEPARTMENT OF PRIMARY INDUSTRIES (DPI) VICTORIA RESPONSE

Introduction

DPI Victoria staff from Biosecurity Victoria Division, have reviewed this draft Import Risk Analysis and have identified a number of issues that they would like to have addressed by Biosecurity Australia (BA). The following is a list of these issues which have been grouped according to different sections that relate to the structure of the Import Risk Analysis (IRA).

1. Pest Categorisation (Appendix A, p185)

There are several significant omissions in the Appendix A. Pest Categorisation:

1) On p. 220, *Monilinia mali* is listed as present in Australia, yet upon checking the references there is no evidence that it has ever been recorded in Australia. There is no record on APPD, and the publication referred to (Shivas 1989), doesn't record this pathogen (Shivas pers. comm.). This pathogen causes Monilinia leaf and blossom blight of apples (Holb 2008), an important disease of apple in East Asia, including China.

   - **Consequently, this pathogen should be considered further in the Import Risk Analysis.**

2) On p. 222, *Pezicula malicorticis* is listed as present in Australia (APPD 2008). However, Cunnington (2004) indicates that the five specimens listed on APPD as being *N. malicorticis* are not *N. malicorticis*. There appears to be no evidence of this pathogen in Australia (Cunnington pers.comm.).

   - **Consequently this pathogen should also be considered further in the Import Risk Analysis.**

3) Status of Fire blight. On p 272-274, as part of Appendix D, Summary of stakeholders' comments on the Issues Paper and Biosecurity Australia's responses, the IRA addresses stakeholder issues on the status of fire blight.

The IRA accepts country wide area freedom from fire blight for the whole of China on the basis of two unpublished reports/letters (see below), and several visits by BA scientists to some of the Chinese apple growing regions.

However, the scientific evidence of Area Freedom for China for Fire blight (caused by the bacterium *Erwinia amylovora*) is not available to stakeholders. The evidence apparently consists mainly of an unpublished list:

(AQSIQ 2007 List of plant quarantine pests of the People's Republic of China, announced on 28 May 2007. The General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China, Beijing, China),

and a letter –

(AQSIQ 2008, Letter on providing technical information on pathogens for Chinese apples to be exported to Australia. The General Administrator of Quality Supervision, Inspection and Quarantine of the People's Republic of China, Beijing, China).

There is little historical evidence that this disease is not present in China.

- **Consequently, the scientific evidence for area freedom from Fire blight for the whole of China should be made available to stakeholders before this pathogen is removed from the Import Risk Analysis.**

2. Summary (p11)

Under the summary section on page 11 of the report the following combination of risk management measures and operational systems are proposed for potential imports of fresh apples from the People's Republic of China:

- Area freedom for Oriental fruit fly, codling moth, European canker and apple scab
- Orchard control and surveillance, and fruit bagging for other pests
- Pressurised air blasting and inspection for mealybugs and mites and remedial action if quarantine pests are detected
- Disinfection treatment in the packing house for sooty blotch and flyspeck and other quarantine pathogens
- A supporting operational system to maintain and verify the phytosanitary status of consignments. The Australian Quarantine and Inspection Service will be present under a pre-clearance arrangement to inspect and verify pest freedom prior to export.

DPI Victoria considers that these proposed measures have the following shortcomings which need to be addressed and that the current set of measures will not be sufficient to achieve ALOP for these imports:

1. Area freedom for fruit flies

If area freedom from Oriental fruit fly (*Bactrocera dorsalis*) (and any other pest fruit fly species within a growing district) is to be claimed and used as the justification for allowing entry in relation to this pest, then the producers/exporters will need to have a system in place within each of the districts producing crops for export to Australia. There is some brief mention of the use of fruit fly traps under Section 3.3.4 (Pest control) (page 32) but no mention of them being used in a trapping grid to

demonstrate area freedom as required under this proposed set of measures. If a trapping grid capable of demonstrating area freedom for Oriental fruit fly is not already in place in some districts, will Biosecurity Australia ensure this is included as a mandatory requirement? It should be noted that while Oriental fruit fly is not generally present in apple growing regions in northern China, it may enter and establish, perhaps temporarily, in these areas as "there are limited control measures in place to prevent its spread from southern provinces" (Section 4.5.2, bullet point 3, page 64). This means that even in areas where Oriental fruit fly is not considered to be endemic, that monitoring will still be required to substantiate ongoing area freedom from this pest.

2. Fruit bagging

This control measure is part of the second measure proposed (bullet point) in this list on page 11. However, it should be noted that bagging "is encouraged by local and provincial agricultural departments" (sentence 3, paragraph 2, Section 3.3.3, page 31). This means that this method of pest management is optional not mandatory. If the proposed set of measures recommended by Biosecurity Australia are implemented, will this treatment become mandatory for all orchards supplying fruit for export to Australia ?

The review also notes that bags "are usually removed two to four weeks prior to harvest" (sentence 4, paragraph 2, Section 3.3.3, page 31). This means that bagging will not provide any form of control against the range of pests (and diseases) that may attack or infest crops close to harvest. These may include many significant fruit pests such fruit fly eggs and larvae, neonate leafroller larvae and crawlers of many sucking insects such as scale insects and mealybugs plus mites. The other forms of "orchard control" referred to in the second measure, will therefore need to include some form of protection over the period close to harvest.

3. Pressurised air blasting and inspection

It is not clear whether this will be a mandatory treatment. If this is the case will producers be capable of individually air blasting fruit as they currently do (sentence 1, paragraph 2, Section 3.3.6, page 34), if and when large volumes of fruit for export require treatment ?

Furthermore, it must be noted that while this form of treatment can remove motile stages of insects and mites on exposed surfaces, it will not remove stages which are fixed to the plant surface (e.g. settled armoured scale insects, eggs of some mite species, weevil eggs), nor insects or mites that have entered the calyx of fruit or have tunnelled into the fruit (e.g. leafroller larvae). Has Biosecurity Australia been provided with any trial or packing house data to substantiate the effectiveness of this treatment against the complete range of pests of concern? If no data has been provided, then Biosecurity Australia should request that suitable trials to an agreed standard are conducted to provide these data.

Some consideration should have been given to alternative methods of achieving post harvest dis-infestation, in particular the potential use of high pressure water blasting that is routinely used by apple exporters in some other countries.

Greater detail is required with regard to how inspections would be conducted. In particular, any proposed inspections need to include cutting up fruit. This is especially important for varieties with open calyces as a number of the pests are capable of entering and internally infesting fruit. These pests include mealybugs, mites, neonate leafroller larvae and others.

3. Pest risk assessments for quarantine pests (IRA Section 4, p39-154)

There appear to be some incorrect judgements that have been made with regard to the probabilities for entry, establishment or spread for some pests or diseases. Some examples of these are as follows:

1. Summer fruit tortrix moth (*Adoxophyes orana*) (IRA Section 4.10)

Probability of importation = low

This rating was allocated based on (1) egg laying mostly occurs on leaves, and (2) fruit damage being conspicuous and warning of the presence of the moth (last sentence in Probability of importation section, page 84). However, even for species of leafrollers that lay eggs mainly on fruit, this will occur more often than rarely and because these are laid in batches (groups) each set of eggs represents a significant threat. Neonate larvae may often feed at the calyx end of fruit where their presence and damage is less conspicuous. When fruit are placed into cool storage, larvae may enter fruit via the calyx and feed, with little sign of any damage occurring. When the fruit are removed from cool storage and allowed to warm the larvae emerge and cause damage.

- **This rating should therefore be higher.**

2. European canker *(Neonectria ditissima)* (IRA Section 4.20)

The IRA presumes that the unrestricted risk estimate for apples from China is the same as existing policy for *N. ditissima* as found in the Final Import Risk Analysis Report for Apples from New Zealand (Biosecurity Australia 2006). However, there are significant differences between:

a. production systems in the two countries (e.g. stalk removal etc),
b. the cultivars grown (New Red Star, Qinguan, Red General, Guag and Orhin are listed in the IRA for China in addition to cultivars such as Fuji, Gala, Red Delicious, Golden Delicious and Pink Lady and
c. the climatic conditions under which apples are grown (and which have a major impact on the prevalence of European canker.

The susceptibility of these Chinese cultivars to European canker is not known, nor is the impact of different production systems and the wide range of climatic conditions under which apples are grown in China on the likelihood that imported fruit will be carrying latent infections of canker.

- **All these factors indicate the need to assess the risk from European canker in Chinese imported apples separately from the risk from NZ imported apples.**

4. Appendix D - Scope of the IRA, p269-270

In answer to stakeholder comments on the issues paper, BA outlines the scope of the IRA.

The third paragraph of p270, states that "mature apples, free from trash..." are to be imported. In order to support the requirement for apples "free from trash" BA states that "In China it is the normal practice to remove the stem and any leaves during harvest of each apple in the orchard..... During this process leaves and **stems attached to the fruit stalk are removed**, minimising the chances of trash entering the packing house or storage facility."

How are stems to be removed from the fruit? (See p270 of IRA 2009) If stems are pulled free of the fruit then a wound is made, providing ready access for pathogens to enter the fruit, where they may remain until conditions favour their development. This could occur after import into Australia and when excess fruit are discarded. Spores or other inoculum such as bacterial ooze can then be readily spread to hosts by air currents, rain splash, insects or birds etc. If stems are cut then the pedicel can be invaded resulting in fruit infection (Azegami et al 2006).

It is particularly important that the fire blight pathogen is not present in China as this scenario provides a high risk pathway for the bacterium to enter and establish via imported apples. Bacteria in the stem end of fruit are very likely to be able to enter fruit tissue during or after the stem removal process, where they may remain until conditions favour fruit rotting. See "Final IRA report for apples from New Zealand, 2006", p62-63, for many references to infection of mature fruit by the fire blight organism eg. Jock et al 2005, Azegami et al 2006, Tsukamoto et al 2005, Dueck 1974.

- **Fruit stalk removal is especially important in the case of fruit rots such as *Monilinia fructigena* and *Neonectria ditissima* and the Fire blight pathogen (*Erwinia amylovora*). It emphasises the importance of the Fire blight status of China. As a consequence, the scientific evidence for area freedom from Fire blight for the whole of China should be made available to stakeholders before this pathogen is removed from the Import Risk Analysis. (SEE comments under Pest Categorsiation, above).**