



Submission to Biosecurity Australia

Draft Report for the Non-Regulated Analysis of Existing
Policy for Apples from New Zealand (May 2011)

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Department of Primary Industries, Parks, Water, and
Environment

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Contact Details

Andrew Bishop
Chair, Biosecurity Technical Group Working Group (Apples/New Zealand)
DPIPWE, PO Box 303, Devonport, Tasmania 7310
Phone: 03 64217601, Fax: 03 64245142
Andrew.Bishop@dpipwe.tas.gov.au

Executive Summary

This submission outlines the results of a review by a DPIPWE working group of the Draft Report for the *Non-Regulated Analysis of existing Policy for Apples from New Zealand (May 2011)*. The report presents general comment and assessment from the working group and then lists any points of clarification sought or any concerns that it feels should be addressed by Biosecurity Australia.

Risk Analysis: An examination of the risk analysis undertaken by Biosecurity Australia indicates consistency in risk analysis approach and adherence to the principles of biosecurity risk analysis.

Entomology: The working group are satisfied by the technical data supplied for apple midge in support of a very low risk of Likelihood of Entry, Establishment, and Spread (LEES). Clarification is sought on the proposed 600 fruit inspection especially in relation to leaf rollers.

Plant Pathology: The draft report has provided detailed risk assessments for the quarantine pests including fire blight which is the pest of most concern for Tasmania and on the whole addresses most issues. Clarification is sought on the extent of technical information assessed by Biosecurity Australia in relation to whether fire blight bacteria would start to multiply in physiological ageing fruit.

Production systems in source country: Though it was noted that the production systems appear effective at managing the risk of disease organisms such as *Erwinia amylovora*, concerns were raised by the working group in relation to reliance on an industry production system in another country and risk estimate effects should those processes change, lack of provision of full production details for assessment, and a query if Biosecurity Australia has considered the lack of treatment options in Australia should fire blight enter and establish. Clarification was sought on the monitoring of imported apples for fire blight to 'ground truth' if any *E. amylovora* is entering on apples.

Introduction

This submission outlines the results of a review by a DPIPWE working group¹ of the Draft Report for the *Non-Regulated Analysis of existing Policy for Apples from New Zealand (May 2011)*. The working group was originally convened several years ago and has been reconvened on several occasions to review the range of reports that have been generated in relation to New Zealand's application for the export of apples to Australia. The working group is technically based with technical and operation specialists from DPIPWE and a representative from Fruit Growers Tasmania to consider industry operational matters.

¹ Biosecurity Technical Group- Working group (Apples New Zealand)

The report presents general comment and assessment from the working group and then lists any points of clarification sought or any concerns that it feels should be addressed by Biosecurity Australia.

Areas of Review

Risk Analysis: An examination of the risk analysis undertaken by Biosecurity Australia indicates consistency in risk analysis approach and adherence to the principles of biosecurity risk analysis. The approach used is consistent with Tasmania's published risk analysis framework (DPIPWE, 2010). The process used is logical and referenced by relevant International Sanitary Phytosanitary Measures (ISPMs). The risk estimates drawn from the provided technical data appear consistent and are conservative in some cases.

The Working Group noted that the process itself is weak in taking into account regional variations with respect potential establishment in Tasmania of the fire blight organism which may affect the consequence calculation. Though further clarity on this would be appreciated it is noted the final risk estimates would not be changed.

The working group considers the mechanics of the risk analysis process and risk estimates drawn are supported by the data presented.

Point of Clarification sought: On P-105, the risk analysis notes modelling (Beresford and Kim 2008, Baker and Mewett 2009) predicts Tasmania (and the rest of the country) as marginal for European Canker whereas two dot points earlier notes it was hard to eradicate in Tas, despite eradication efforts. No additional explanation is provided as to this apparent contradiction.

Entomology: The working group are satisfied by the technical data supplied for apple midge in support of a very low risk of Likelihood of Entry, Establishment, and Spread (LEES) with the most reassuring part being the formula by Vail *et al* 1993, cited on page 81, for quantifying the likelihood of a male and female midge occurring coincidentally at an import site given a certain level of fruit infestation based on historic inspection records. They also collated a lot of quantified information on occurrence of the pest on fruit.

Point of Clarification sought: With respect to leafrollers (page 119), Table 5.2 lists the 600 fruit inspection for all pests. On Page 120, Option 1, paragraph 2 describes the interim inspection method of cutting 600 *rejected* fruit to quantify level of internal leaf-roller caterpillar infestation. This will continue until the level of internal leafrollers is established. Page 26, last paragraph mentions NZ standard practice of only cutting fruit if external inspection suggest a deeper problem. The working group understands this to mean that a random sample of 600 fruit will be inspected for several pests plus, for the time being, an additional 600 rejected fruit cut for leafroller. Table 5.2 doesn't make this clear, that is, that there are two lots of 600 fruit involved and the 600 for leafroller inspection are not the same as the 600 for mealybug inspection. Does 'rejected' fruit (p120) means rejected in grading prior to the 600 inspection step, otherwise it will be hard to get 600 rejects for cutting from the random sample of 600?

Plant Pathology: The draft report has provided detailed risk assessments for the quarantine pests including fire blight which is the pest of most concern for Tasmania. The report has presented a range of investigations and researches published globally on this subject including fruit infection proportion, numbers of bacteria carried by fruits, survival conditions etc. The extent of this analysis appears comprehensive. The epiphytic survival of the bacteria on the surface of healthy fruit seems like an unlikely pathway and an acceptable risk especially with some of the sanitised washing procedures that are in place.

However there are a great many reports on the ability of inoculum to be carried by the apple calyx. To summarise, taking an average from the many studies, some of which were conflicting, inoculum can be present in the calyx (declines with time) and some low level of viable cells will likely be able to be found in a small proportion of fruit for 2 – 3 months after the fruit are harvested, the decline seems to continue in cool storage and there is no evidence that the bacteria multiply within the calyx. These fruit will enter Australia and Tasmania, which is indicative that inoculum will be imported, but accepting that it is unlikely to find its way to a host plant.

Point of clarification sought: With respect these supporting statements, our technical advice has questioned whether any of these experiments were done with ageing, rather than fresh fruit, and wonder whether any surviving bacteria would begin to multiply as the apples physiologically aged? We note that there are few citations on this subject. Is there further information on this possibility? Has it been considered? If so has it been dismissed?

Production systems in source country: The New Zealand production systems seem to be soundly based and thorough in terms of the management of disease inoculum control which would minimise spread of the disease, and remove sources of contamination. We note the hygiene practices under the Pipfruit (Integrated Fruit Production) IFP manual described on page 23 and that 5% or less of orchards are currently being sprayed with either the biological control agent or streptomycin (which is not much of the 8900 Ha area which is about 450Ha). This is indicative of low levels of fire blight in the regions.

Point of clarification sought: It is noted that the unmitigated risk calculations are based on the apples being produced via PipFruit's IFP approach. The working group raised the question of how are quarantine concerns taken into consideration should these commercial production practices change. One would assume that in itself would have the potential to change the risk analysis determinations as they currently stand. It seems unusual that an industry production system without external audit can serve as the basis of risk mitigation for diseases caused by pathogens such as *Erwinia amylovora*. Are there mechanisms to monitor production practices or variances into the future?

As assessment is based on Appropriate Level of Protection at a 'very low level of risk' being acceptable, clearly there is still some risk associated with fire blight entering and establishing. In this situation have considerations been given to possible treatments? At present there are no registered pesticides effective against fire blight in Australia and the New Zealand treatments of antibiotics would seem unlikely to be registered in Australia. Has this apparent lack of treatments been taken into account

during Biosecurity Australia assessments? In relation to potential entry is there going to be any monitoring of imported apples for fire blight to 'ground truth' if any *E. amylovora* is entering on apples? If so how would that be done? If there was a detection on apples is there an entry threshold for number of fruit carrying the bacteria?

Provision of operational information: Similarly as in previous review reports, the working group has registered concern at not having full operational details of how risk will be managed, (in this case the commercial-in-confidence New Zealand PipFruit IFP production systems manuals. This lack of operational information prevents the working group undertaking a full and frank assessment of the production systems and how it relates to risk mitigation.

Conclusions

The working group has determined that the risk analysis process used is sound and logical and the analysis assessments are consistent with the technical data presented. There are a number of areas where clarification is sought or that Biosecurity should at least take into consideration and these are listed in the report.

References

Baker, J. and Mewett, O. (2009) Suitability of climate in New Zealand and Australia for European canker (*Neonectria galligena*) infection of host trees. Annexe 2. Rebuttal submission of Australia. Australia-measures affecting the importation of apples from New Zealand. World Trade Organisation WT/DS367/12, 21 April 2009.

Beresford, R. and Kim, K.S. (2011) Identification of regional climatic conditions favourable for the development of European canker of apple. *Phytopathology* 101: 135-146.

DPIPWE (2010) *Import Risk Analysis: A framework of context, concepts, methods, and administrative procedures*. Ed. C. Hanson. ISBN -978-0-7246-6523-5.

