



New South Wales

FAXED

DEPARTMENT OF PRIMARY INDUSTRIES

DA06/174

- 5 APR 2006

Technical and Administrative Services
Plant Biosecurity
Biosecurity Australia
GPO Box 858
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Dear Ms van Meurs

I refer to the release by Biosecurity Australia (BA) in December 2005 of the Import Risk Analysis (IRA) of the *Revised Draft Import Risk Analysis Report for Apples from New Zealand, Parts A, B and C* for which stakeholder comment was requested.

Technical review undertaken by experts in NSW Department of Primary Industries indicates that BA has underestimated the likelihood and consequences of risk that NSW would incur were apples to be imported into Australia from New Zealand. Greater specification of mandated conditions to mitigate risks to acceptable levels is also required.

In responding to the revised IRA, four areas of the report are addressed: pathology, entomology, biometry and risk management. Detailed comments can be provided when required.

1. Pathology

- (a) Fire blight: Concerns previously raised by stakeholders regarding the role of extracellular polysaccharides in the epiphytic survival of the fire blight pathogen *Erwinia amylovora* were dismissed by BA but this rejection seems to be based on a misinterpretation of the literature. The pathogen's ability to survive as an epiphyte is largely related to its ability to produce an exopolysaccharide (EPS) capsule which protects bacterial cells from desiccation during dry periods. EPS is dispersed in water. Conclusions reached by BA that epiphytic populations of *E. amylovora* pose an insignificant risk because of limited survival capability appear to be based on studies using washed bacterial cells which were therefore unlikely to have an EPS capsule. Epiphytic survival may be a pathway and this issue should be resolved prior to the commencement of trade.
- (b) European canker: The fungal pathogen *Neonectria galligena* poses a particular threat to NSW. This pathogen has a latent phase in both fruit and twigs where it can remain symptomless for up to four years which would protect it from disinfestation and detection at inspection. As there is no cost-effective means of detecting infected but symptomless host material, four-year time-framed conditions have been suggested by NSW DPI pathologists for inclusion in the European canker draft operational framework. The pathogen also has effective long distance non-vectored dispersal spore mechanisms which are readily produced in infected fruit, contrary to BA's interpretation of the literature. In addition, European canker has an extensive host range which will have serious implications for urban and residential landscapes were it to establish in Australia.

NSW has an elevated risk of incursion primarily because climates in the NSW apple production areas are conducive to the establishment and spread of the pathogen. Changes in the fungicide use spectrum in orchard management, consistent with Integrated Fruit Production (IFP), also increase the level of risk. Technical errors have been detected in BA's discussion of fungicide use in New Zealand orchards resulting in a misinterpretation of the implications of IFP on European canker control.

2. Entomology

- (a) The entomological component of the IRA Pest Categorisation Tables (Part C) was reviewed to determine whether the assessment of species **not** considered as posing risks to Australia was adequate. In most cases the chance of insect or mite species becoming established in Australia through importation of apples from New Zealand was considered appropriate. Concerns were raised regarding some species of wasps, moths, book lice and mites. The treatment of some entire families as single entities was questioned as being an oversimplification of potential risk.
- (b) For a number of species in the Arthropod Categorisation Tables (Part C) BA has assumed that their ecological role in New Zealand will be mirrored in Australia if the organism does enter, establish and spread through the importation of apples. This assumption is invalid because the complexity and diversity of the Australian environment differs from New Zealand and Australia possesses a greater diversity of native species than New Zealand. Protocols established under International Standard Phytosanitary Measure #3 for the importation of biological control agents should be applied to potential parasites and predators rather than assuming that the ecology of parasites or predators in New Zealand will be the same if the species are transferred to Australia.
- (c) The IRA raised a number of technical question marks with regard to survival of cocoons of apple leafcurling midge through packing house operations (pages 145-146) and the flight capabilities of adults (page 153). Research should be undertaken to clarify survival and viability characteristics of the pest under various treatment regimes and environmental circumstances (page 158) as well as adult flight distances.

3. Biometry

- (a) Fire blight: Importation step 2 (Imp 2), the likelihood that picked fruit is infested/infected with *E. amylovora*, understates the associated risk for two reasons. Firstly, the reference used to draw conclusions about the incidence of infestation itself underestimates that parameter and secondly, the use of the model to determine the decline in infestation from the immature fruitlet stage to the mature fruit is questioned. Determination of the distribution of Importation step 3 (Imp 3), the likelihood that clean fruit is contaminated by *E. amylovora* during picking and transport to the packing house, is also queried because of uncertainty about the derivation of the figures.

Limited sensitivity analyses were run to test how sensitive the model used to determine the probability of entry of fire blight is to different distributional assumptions. By changing each set of parameters independently, the estimates of probability of entry are altered. Marked effects were evident for modifications to Imp 2 and to Importation step 5 (Imp 5), the likelihood that clean fruit is contaminated by *E. amylovora* during processing in the packing house. As the assignment of distributions to model components is, in many cases subjective, BA's assessment of the risk when importing apples from New Zealand to Australia could benefit by the use of sensitivity analysis.

- (b) European canker: Results obtained when determining the probability of importation differ from those presented in the report and actually lower the estimates of risk. However, the use of the averaging approach to assess risk is questioned, especially with regard to the observation that European canker is known to be more prevalent in wet seasons. Averaging Importation step 1 (Imp 1), the likelihood that *N. galligena* is present in the source orchards in New Zealand, over all seasons downplays the acknowledged increased risk of European canker in wet seasons.
- (c) The use of the median rather than the mean as the summary statistic when quantifying overall risk for the probability of entry, establishment and spread (PEES) is queried. For distributions skewed to the right, as in the case with PEES for fire blight and European canker, the median downplays the associated risk. Also questioned is the formulation of the model used for determining the probability that an individual piece of imported infested/infected fruit results in an outbreak of disease. The model formulation makes assigning distributions to the model components conceptually difficult. NSW DPI biometricians suggest an alternative presentation.

4. Risk management

- (a) Operational arrangements to address specific risk management measures for New Zealand apples entering Australia generally align with Interstate Certification Assurance arrangements that operate within Australia and with accepted norms for international trade.

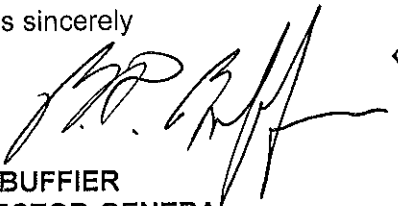
Importation, however, is predicated on the fruit being "free from trash" and the assumption is made that this standard is achievable. Achievement of the standard "free from trash" should be validated by packing shed data obtained in New Zealand before entry is countenanced. The IRA does not adequately address the procedure to be followed if trash is detected in a consignment. Should importation be approved, this regulation should be strictly enforced and non-compliant consignments rejected.

- (b) 'The Risk management and draft operational framework' comprises a mere eleven pages in a 587 page report. Presumably this section will guide the procedures to be adopted if apples from New Zealand are granted access to Australian markets and its brevity is noted. Also, in this section, comment on the management measures for apple leafcurling midge and leafrollers and other pests could have been clearer if the IRA team had recommended a preferred position for consideration. Will stakeholders be consulted in the final determination of risk management conditions if apples from New Zealand are permitted to enter Australia?
- (c) It is a matter of concern that the evidence-based assessment of the IRA team determined that handling bulk fruit presents a 'significant' risk of fire blight (page 103). However, the report overturns this conclusion by a technically unsubstantiated opinion stating that requiring fruit to be packed in boxes as a risk management measure "could be overly trade restrictive".

I believe that the comments made by NSW Department of Primary Industries reviewers are substantive and indicate that there are a number of issues which warrant further consideration by BA before a determination can be made on the proposal to import apples from New Zealand into Australia. A meeting with our technical team should be convened to discuss our concerns with BA.

At this point our concerns are such that we do not support the importation of apples from New Zealand.

Yours sincerely



B D BUFFIER
DIRECTOR-GENERAL