Senate Enquiry into the Current Revised Draft IRA for the Importation of New Zealand Apples to Australia

SUBMISSION BY:

Tasmanian
Apple & Pear Growers
Association Inc

on behalf of
the Tasmanian Industry

TASMANIAN APPLE & PEAR
TAPGA
GROWERS ASSOCIATION INC.

April 2004

\\home1\sen00002\03legislation inquiries current\ira apples 2004\submissions\inwards submissions\sub11.doc

INTRODUCTION

Biosecurity Australia released a revised Draft IRA and recommendation regarding New Zealand's apple access application on the eve of the 2004 harvest season. Apple and pear growers are now in the process of preparing a response to that draft.

Industry continues to base its responses on science and that has not changed from previous NZ applications. Therefore, with no new science the high level of risk previously recommended by Biosecurity should also have not changed.

Growers are particularly concerned about the quarantine controls proposed in Biosecurity's latest recommendation which would not provide adequate protection from the introduction of Fire Blight and other pests and diseases and does not meet International Standards. Specific concerns are detailed in the following pages.

TAPGA is the industry body in Tasmania representing apple and pear growers from all regions of the State. The Tasmanian industry accounts for around 65% of all Australian apple exports and this success is at significant risk under this revised IRA and Biosecurity's recommendation. The affects of Fire Blight and some of the other pests and disease involved is not known as they currently do not occur in the Australian environment and yet Biosecurity want to take the risk anyway.

TAPGA welcomes the Senate Enquiry into Biosecurity's recommendation and the IRA process and would be happy to provide further information if required.

1. If protocol is ineffective.

Biosecurity Australia has concluded that if no mitigating measures are in place the risk of introducing fire blight and the other identified pests and diseases is higher than Australia's appropriate level of protection (ALOP).

In relation to fire blight it has concluded that the bacteria can be present on mature symptomless apples.

In accordance with the World Trade Organization (WTO) agreement, they have designed a protocol with 3 steps that they conclude will lower the risk to a "very low" or "negligible" level that results in Australia's ALOP being met.

Industry strongly contends that these measures are inadequate in lowering the risk which means the present banning of fruit from areas with fire blight should remain or a much more stringent protocol would need to be recommended.

The whole risk analysis is underpinned by a risk assessment matrix that identifies the level of risk in each step of the process (i.e. "extreme" or, "high", or "moderate", or "low", or "very low" or "negligible".)

Industry believe the matrix is faulty which means the whole process would need to be started again as the protocols are not designed for the higher risk.

In summary, the industry believes that the science does not support Biosecurity Australia's assumption that the protocols lower the risk sufficiently and also that the risk matrix is faulty. This being the case, the recommendations of the revised IRA cannot be adopted by the Australian Government

2. Brief of WTO Case

This whole process is being undertaken in an environment where Biosecurity Australia is intimidated by the possibility that if New Zealand does not like what is proposed then they will take Australia to the WTO on the basis that science does not support the proposed measures and that they are too trade restrictive.

The recent WTO ruling against Japan has been interpreted as a precedent and seems to have a strong influence on the manner in which Biosecurity Australia has managed this revised draft IRA.

The industry strongly believes that the ruling on Japan is not a precedent. Close scrutiny of the 280-page ruling clearly shows that the Americans won for the following reasons.

- The science used by Japan to support their position was done on immature apples (van de Zwett 1990), and as such did not demonstrate that fire blight could be on mature apples. As America was only proposing to export mature fruit and Japan had not based their science on this, then the protocols were not based on relevant science.
- The Japanese process in evaluating risk was not of sufficient transparency and vigor.

On the other side the experts advising the WTO panel clearly stated the following:

- It was reasonable to require apples to come from fire blight free orchards.
- The risk of accidental contamination or erroneous grading is very real.

- Infections of trees in close proximity to blocks destined for export increased risks.
- Fire blight has been isolated in orchards showing no symptoms of the disease.

Biosecurity Australia has come to the same conclusion as Japan (i.e. fire blight can be on mature apples.) It is of note that both New Zealand and the United States are on record in their submissions to the previous draft IRA as conceding that fire blight can be on mature apples.

3. Protocols

The proposed protocol has 3 steps that are supposed to lower the risk to an acceptable level. They are:

- MAFNZ to provide assurance that apples are sourced from areas free of disease symptoms, determined for the example by surveillance.
- Chlorine treatment of fruit.
- Cold storage of fruit for 6 weeks.

There is limited detail of how these protocols will be implemented and as such we have to "second guess" Biosecurity Australia in some of our responses.

The industry is convinced that the science available on fire blight clearly demonstrates that the proposed steps do not lower the risks. This is based on the following.

Visual Inspections

There is a large body of scientific evidence where firelight has been clinically isolated when there were no visible symptoms on the trees. Examples of this are:
McManus and Jones 95
Clark '93 (.5% to 1.3% infestation)
Sholberg '88 (100% infection adjacent to infected pears)
Miller and Schroth '72
Van der Zwet '90
Schroth '74
Thompson '75
Eden Green and Billing '74
Haung and Goodman '75
Thompson '86
Van der Zweth '72
Crepel '96
Van der Zwatt and Buskirk '84
Gevda and Goodman '70

Added to this are Biosecurity Australia Australia's own conclusions:

> Page 86 – "fire blight cannot be detected by visual inspections"
>
> Page 96 – "Bacteria is not visible and will almost certainly survive quality inspections"

All of this should be viewed in the context of what is known about the fire blight bacteria. For example:

- "It is a competent epiphyte capable of colonizing and multiplying on the surface of plants:" - Steiner 2000.
- "Five fire blight bacteria were sufficient to cause fire blight symptoms in apple flowers" – Van der Zwet et al 94.
- "A single fire blight bacterium was sufficient to cause infection when it was placed directly on the hypanthien**"** – Hildebrand 39
- "One bacteria could produce one million bacteria in ten hours" – Agrios 97.

On the basis of all the factors listed, the industry is of the view that the evidence clearly indicates that a visual inspection process will not identify the bacteria that is present and will not assist in lowering the risk of infested or infected apples being exported.

Chlorine Treatment

There is sufficient scientific evidence to show conclusively that dipping apples in any solution does not disinfect the calyx area of apples due to the formation of air pockets. Biosecurity Australia recognizes that "Bacteria, especially those inside the protected calyx cavity would not be removed in the water dump due to the formation of air pockets in at least some fruit" – Page 92

There is a large body of scientific evidence that clearly accepts that the fire blight bacteria will most likely have higher concentrations in the calyx due to protection from sunlight and latent infection from the flower remnants.

Very recent research in Australia and France has confirmed that chlorine is not always effective on bacteria. This is due to bacteria's ability to create a biofilm that protects it. We are presently seeking more information and recently published papers in this area.

On the basis of the available science in relation to the inability of sterilizing the calyx through dipping and the variable effectiveness of chlorine as a disinfectant, this protocol will not assist in lowering the risk of infested or infected apples being exported.

3 Cool Storage for 6 Weeks

There is sufficient scientific evidence to demonstrate that cool storage does not have a significant impact on the survival of fire blight.

There is one scientific paper that even draws a correlation with pre-bloom freezing as being a vector for fire blight. – Powell '63.

Obviously fire blight survives sub-freezing conditions over winter in Europe and the United States.

There are two specific scientific papers that deal with the effects of cool storage on fire blight. They are;

- Nachtigall et al '85 – fire blight survived for 34 weeks at 0˚C.
- Scholberg et al '88 – fire blight survived for 6 months at 0˚C.

There is also a paper presented at the New Zealand conference that refers to infected bud wood that survived long-term storage – Taylor '01.

New Zealand has presented work with artificially inoculated fruit that showed fire blight reduced to non-culturable levels in cool stores. Past history in fire blight

research shows that you get very diverse results with inoculated fruit and fire blight can be notoriously difficult to culture artificially.

On the basis of the available science into the disinfestation of fire blight through the usage of cool storage, the proposed protocol will not reduce the risk of fruit carrying fire blight.

In summary the 3 steps of the protocol are in conflict with the known scientific work on fire blight, and will not reduce the risks. As such the risk remains the same as that established by Biosecurity Australia on unrestricted exports.

4. Trash

Trash is scientifically recognized as a high-risk vector. Biosecurity Australia has proposed that they will establish if it is present by inspection 600 pieces of fruit.

As growers, we know that due to varying levels of picker experience, the number of leaves left on fruit can vary greatly from bin to bin. Any statistical assumption needs to take this into account. Added to this is the fact that the carrier of trash is most likely the carton rather than a piece of fruit and as such the inspection procedure for trash should be 600 cartons not 600 pieces of fruit. Article 5.2 of the WTO SPS agreement specifically states that "relevant processes and production methods" must be taken into account in any risk analysis.

5. Pests

Protocols for all other pests and diseases are visual inspection of orchards before harvest.

European Canker has been scientifically identified in the seeds and flesh of fruit and so will not be identified with a visual inspection. Biosecurity Australia has concluded that more than 40% of the volume of imports will come from areas that have Canker.

International experience has also shown that some of the pests (e.g. midge) are not always found with visual inspection as they are only 1 to 2mm long and reside in the calyx. The United States for example insists on fumigation to protect from the introduction of the midge.

6. Risk Matrix

The matrix used by Biosecurity Australia to determine the level of risk has changes from the 2000 draft. It is broken into 8 steps as follows:

Present in source orchards – *high*

Likelihood that picked fruit is infested/infected – *very low.*

Likelihood that clean fruit is contaminated during harvest and transport – *very low.*

Likelihood that fire blight survives routing processing (Packing) – *moderate.*

Likelihood that clean fruit is contaminated during packing – *very low.*

Likelihood that fire blight survives alleviation, quality inspection, containerization and transport – *high.*

Likelihood that clean fruit is contaminated during palletisation, quality inspection, containerization and transport – *negligible.*

Likelihood that fire blight survives and remains with fruit after an arrival minimum boarder procedures – *high.*

Early advise from experts in this field concludes that the matrix is flawed. It does not add appropriate weighting to some important parts of the steps and as such results in a risk assessment that is lower than the actual risk.

For example, it concludes that the probability of fire blight being present in the orchard is high, but the likelihood of picked fruit being infected is very low. It does not take into account that a percentage of trees will carry higher infection than the rest and will be harvested, packed and shipped in one concentrated step. This part of any shipment will carry a higher risk than the average of the shipment.

There are many other steps in the process where the protocol realities have been overlooked in both fire blight and other pests and diseases.

If it is demonstrated that the matrix is faulty then the present IRA would need to be done again.

7. Issues missed in relation to protocols

There is a large body of scientific evidence that clearly shows that factors not included in Biosecurity Australia's protocol will also influence the degree of risk. Some of these are:

- Infection of orchards in previous seasons.
- Proximity of infected hosts to blocks being harvested for export.
- Cross contamination by machinery.
- Growers are able to remove symptoms prior to inspections taking place.
- Fruit can be contaminated during the packing process.
- The ability of other pests to act as a vector during cool storage.
- The possibility of fruit from non-designated blocks being included in export lots.
- Climatic conditions pre harvest.

All of these parameters have a direct bearing on the effectiveness of the protocol and the level of risk that has to be addressed by the protocols.

For example, if the rows beside the registered block have a heavy infestation of fire blight, science clearly states that the chance of surface and internal infection on trees nearby (the registered block) will increase dramatically.

Neither the risk matrix nor the protocol takes this into account, despite the fact that it is not a rare event.

To take this to its logical conclusion you are faced with two possible outcomes; either the risk assessment is too low and the IRA needs to be done again or the protocols are not designed to cater for this higher risk and therefore more protections need to be put in place.

8. Lack of Details of protocols

As stated on Page 9 of the IRA, measures should be based on international standard guidelines or recommendations where they exist. Clearly in relation to the other pests this has been overlooked. Fumigation is the standard requirement for both midge and

leaf roller yet Biosecurity Australia proposes a visual inspection, which has been demonstrated to be ineffective.

Biosecurity Australia has given no information in relation to the mechanics of each protocol, yet the industry has to respond with these crucial components missing. Clearly this makes it impossible for Biosecurity Australia "to deliver a policy recommendation to the Director of Animal and Plant Quarantine that is characterized by sound science, and by transparency, fairness and consistency" as stated in Biosecurity Australia own, Import Risk Analysis handbook – 2003