The Senate

Rural and Regional Affairs and Transport Legislation Committee

Administration of Biosecurity Australia – Revised draft import risk analysis for bananas from the Philippines

March 2005

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The IRA handbook should have a procedure for handling minority or dissenting opinions on panels and reflecting them appropriately in IRA reports and draft reports.

Note to Readers

The Committee draws readers' attention to another of its reports -
Administration of Biosecurity Australia – revised draft import risk analysis for apples from New Zealand.

The two inquiries were conducted at the same time. There are some issues that arose in relation to both inquiries and the risk modelling recommendations in both reports are applicable to both inquiries.

Chapter 1

Background

Conduct of the inquiry

1.1 The Committee adopted the inquiry on 2 March 2004 of its own motion under Standing Order 25(2)(b), which allows committees to inquire into the performance of the departments and agencies allocated to them. The terms of reference are:

> the administration of Biosecurity Australia with particular reference to the revised draft import risk analysis report released in February 2004 relating to the Philippines, including:
>
> a) the processes and research underpinning the analysis;
>
> b) the conclusions and recommendations; and
>
> c) related matters.

1.2 The Committee advertised the inquiry in *The Australian* and invited submissions from peak bodies and the NSW and Queensland governments. The Committee received 14 submissions (see Appendix 1) and held 6 public hearings (see Appendix 2). The Committee thanks submitters and witnesses for their contribution. Submissions and transcripts of the Committee's hearings are available on the Parliament's internet site at www.aph.gov.au

Background to import risk analysis

1.3 As a member of the World Trade Organisation (WTO), Australia adheres to the international *Agreement on the Application of Sanitary and Phytosanitary* Measures (SPS Agreement). Under the SPS Agreement Australia is obliged to consider requests by other countries to admit their agricultural produce into Australia. Decisions to accept or reject an application to import may only be made on grounds relating to quarantine risk. A key purpose of the SPS Agreement is to prevent unreasonable quarantine controls acting as a disguised restriction on trade.

1.4 Some key concepts in the SPS Agreement are:

- Member countries have the sovereign right to decide what level of quarantine risk they will accept (their 'appropriate level of protection' or ALOP). However they should take into account the objective of minimising negative trade effects. Australia's policy is to reduce

quarantine risk to a very low level, but not to zero, on the basis that 'it is impossible in practice to operate a zero risk biosecurity regime'.[1]

- Members must avoid arbitrary or unjustifiable differences in the appropriate level of protection in different situations, if this results in a disguised restriction on trade.
- If a member adopts a quarantine measure to achieve the appropriate level of protection, it must ensure that the measure is not more trade restrictive than required.
- Where scientific evidence is insufficient, a member may adopt a provisional quarantine measure, but must seek additional information to allow a more objective assessment of risk.
- Economic matters which may be considered are the potential damage to local production if a disease or pest enters the country; the cost of control; and the cost-effectiveness of alternative approaches to limiting risk. [2]

1.5 Quarantine risks are assessed in Import Risk Analyses (IRAs) carried out by Biosecurity Australia (BA). BA for most of this inquiry period was a group within the Department of Agriculture, Fisheries and Forestry (DAFF). It was established in 2000 to separate biosecurity policy development and market access negotiations from the operational border protection role of the Australian Quarantine Inspection Service (AQIS). During 2003-04 BA was working on 26 animal IRAs and 11 plant IRAs. Import risk analysis is done by 'IRA teams' which include external scientific experts as necessary.[3]

1.6 On 1 December 2004 BA was established as a 'prescribed agency' under the *Financial Management and Accountability Act 1997*. This means that it has a budget line and outcome statement independent from the Department's. The Minister, Mr Truss, explained this at the time as intended to 'boost the independence of its operations':

> Establishing Biosecurity Australia as a prescribed agency has further boosted the independence of its operations and ensured appropriate financial autonomy. This change will further reassure stakeholders of

1 Biosecurity Australia, *Guidelines for Import Risk Analysis*, draft September 2001, p.18,25. Australia's ALOP is often said to be 'very low risk'. In fact it is 'very low risk *over one year*.' The reference to a period of time is essential for the concept of ALOP to be meaningful. See paragraph 1.19.

2 SPS Agreement, article 5; annex A. Biosecurity Australia, *Import Risk Analysis Handbook*, 2003, p.5.

3 DAFF, *Annual Report 2003-04*, p113-4. Biosecurity Australia, *Import Risk Analysis Handbook*, 2003, p.12.

> Biosecurity Australia's capacity to ensure that quarantine policy will always be based on sound science.[4]

1.7 The Minister had also announced in July 2004 that he would establish a group of eminent scientists to play a role in assessing stakeholder comments on IRAs. The Director of Quarantine appointed three scientists in August 2004.[5]

Summary of risk assessment methodology

1.8 Risk analyses are done according to the procedural rules in BA's *Import Risk Analysis Handbook* and the risk assessment methodology in BA's *Guidelines for Import Risk Analysis*.

1.9 Risk assessment involves estimating the probability (likelihood) of an unwanted event, and considering the severity of the consequences if the event occurs. Where the assessment shows that 'unrestricted risk' (risk in the absence of any special protective measures) is higher than Australia's appropriate level of protection (ALOP), the analysis must then consider whether there are risk management measures that would bring the risk down to within Australia's ALOP.[6] According to BA, Australia's chosen ALOP is 'very low risk'.[7]

1.10 The unwanted event (for example, 'the pest enters, establishes and spreads') will very often be the outcome of a number of preceding steps each of which has its own probability ('the pest is in the harvested fruit… the pest survives transport and storage' etc.). These probabilities may be combined to calculate the probability of the outcome event. This procedure is in principle mathematical, although the result will be an estimate insofar as the inputs are estimates if the probabilities are not known exactly. The overall probability is rated on a scale of high/ moderate/ low/ very low/ extremely low/ negligible, where each of these categories is matched to a numerical probability range as follows:

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4 Hon W. Truss, Minister for Agriculture, Fisheries and Forestry, *Government Commitment to Independence of Biosecurity Australia Delivered*, media statement 1 December 2004. See also discussion at hearing of the Committee's inquiry into IRA on apples from New Zealand: *Committee Hansard* 9 February 2005, p.1ff. BA remains part of the Department in relation to broader lines of accountability such as audit and parliamentary scrutiny: Mr J. Cahill, Interim Chief Executive, BA, correspondence 25 February 2005.

5 Hon W. Truss, Minister for Agriculture, Fisheries and Forestry, *Minister welcomes appointment of quarantine watchdogs,* media statement 11 August 2004.

6 Biosecurity Australia, *Guidelines for Import Risk Analysis*, draft September 2001, p.112ff

7 Biosecurity Australia, *Guidelines for Import Risk Analysis*, draft September 2001, p.25. In fact, to be meaningful, this must be read as 'very low risk *in any one year*'. See paragraph 1.19.

Figure 1: Nomenclature for semi-quantitative likelihoods		
likelihood	**descriptive definition**	**probability range**[8]
high	the event would be very likely to occur	0.7-1 (7/10-1)
moderate	the event would occur with an even probability	0.3-0.7 (3/10-7/10)
low	the event would be unlikely to occur	0.05-0.3 (1/20-3/10)
very low	the event would be very unlikely to occur	0.001-0.05 (1/1,000-1/20)
extremely low	the event would be extremely unlikely to occur	1/10^6-0.0001 (1/1,000,000-1/1,000)
negligible	the event would almost certainly not occur	0-1/10^6 (0-1/1,000,000)
source: BA, *Guidelines for Import Risk Analysis*, draft September 2001, p.43.		

1.11 Consequences may be economic (for example, cost of lost production or control measures), or social (for example, social consequences of reduced rural and regional economic viability). Each type of consequence is estimated at the local, district, regional and national level, on a scale of highly significant/ significant/ minor/ unlikely to be discernible. The results for the various types of consequences are combined using rules in the IRA guidelines to give an overall rating for consequences on a scale of extreme/ high/ moderate/ low/ very low/ negligible.[9]

1.12 The ratings for probability and consequences are 'combined' (to use BA's term[10]) to make a matrix such as the following:

8 In the case of repeatable experiments, probability expressed as a fraction x/y means that in the long run, over many trials, the outcome of interest occurs x/y of the time. For example, the probability that a tossed coin will show a head is 1/2. In the case of unique events, what it means to say 'the probability of a certain outcome is x/y' is a matter of argument among theorists.

9 Biosecurity Australia, *Guidelines for Import Risk Analysis*, draft September 2001, p.104ff.

10 Biosecurity Australia, *Guidelines for Import Risk Analysis*, draft September 2001, p.25,69.

Figure 2: Risk estimation matrix from Biosecurity Australia, *Guidelines for Import Risk Analysis,* 2001, p.70						
probability of the event	*severity of the consequences*					
	negligible	*very low*	*low*	*moderate*	*high*	*extreme*
high	negligible risk	very low risk	low risk	moderate risk	high risk	extreme risk
moderate	negligible risk	very low risk	low risk	moderate risk	high risk	extreme risk
low	negligible risk	negligible risk	very low risk	low risk	moderate risk	high risk
very low	negligible risk	negligible risk	negligible risk	very low risk	low risk	moderate risk
extremely low	negligible risk	negligible risk	negligible risk	negligible risk	very low risk	low risk
negligible	negligible risk	negligible risk	negligible risk	negligible risk	negligible risk	very low risk

1.13 The matrix expresses the intuitively and logically appealing propositions that:

- reading down each column: an unwanted event with a high probability creates a greater risk than the same event with a lower probability;
- reading across each row: an event with more serious consequences creates a greater risk than an event which has the same probability but less serious consequences.[11]

1.14 It is tempting to add a third proposition: 'Reading the diagonals from the top left: a very likely event with minor consequences creates the same risk as a less likely event with more serious consequences.' However this is not a logical statement like the other two. It appears plausible only because the same risk category name is being

11 In this sense 'risk' refers to the *outcome* of 'combining' the two considerations: probability and consequences. This should not be confused with its common use as merely a synonym for 'probability', as in 'the risk of an event occurring is such-and-such.'

used inexactly to label two situations which are in fact incommensurable. Whether in some sense these risks are 'the same' is a matter of judgment.[12]

1.15 A similar matrix from Australian Standard 4360, *Risk Management*, is:

Figure 3: Risk estimation matrix
from Australian Standard 4360, *Risk Management*, 1999, p.35

probability of the event	*severity of the consequences*				
	insignificant	*minor*	*moderate*	*major*	*catastrophic*
almost certain	high risk	high risk	extreme risk	extreme risk	extreme risk
likely	moderate risk	high risk	high risk	extreme risk	extreme risk
moderate probability	low risk	moderate risk	high risk	extreme risk	extreme risk
unlikely	low risk	low risk	moderate risk	high risk	extreme risk
rare	low risk	low risk	moderate risk	high risk	high risk

1.16 In both these matrixes the borders between different risk categories generally flow along diagonals from the top left to the bottom right. However in detail they are different. This reflects the fact that probabilities and consequences are different types of information, and 'combining' them to fill in the matrix is not a matter of mathematical calculation, but rather a matter of judgment which depends on one's attitude to risk. A more risk accepting person would move all the category boundaries towards the top right; a more risk averse person would move them towards the bottom left. A person who gives relatively more weight to the severity of the consequences would make the diagonal boundaries between risk categories slope more steeply.

12 A higher risk, lower consequence situation is 'If the coin shows a head, you lose $100'. A lower risk, higher consequence situation is 'If the die shows a six, you lose $300.' It is plausible that in some mathematical or logical sense these scenarios are equivalent: both scenarios, *if repeated many times*, will cause similar losses. However this is a poor analogy for real world situations where probabilities are imperfectly known, consequences cannot be quantified numerically for comparison, and there is only one trial. As well, it is still arguable that in principle 'risk' is a psychological, not a mathematical concept: whether these two scenarios are in some sense 'the same' is found only by polling people to see which they prefer.

An implication of this is that the concept of 'iso-risk curve' suggested in BA's risk analysis guidelines (p.26) is not particularly helpful: it suggests a mathematical exactness which does not exist.

1.17 For example, Figure 3 shows a greater aversion to risk in cases where the consequences would be catastrophic: even when the event is judged as unlikely the risk is judged as 'extreme'. The Australian Standard explains this: 'Decisions should take account of the need to carefully consider rare but severe risks, which may warrant risk reduction measures that are not justifiable on strictly economic grounds.'[13]

1.18 Verbal descriptions of *probabilities* (very low, low etc) can be arbitrarily matched to numerical probability ranges if desired, as in Figure 1 above. By contrast, phrases like 'very low/ low/ moderate *risk'* are not quantifiable: to talk about a 'one in one hundred risk' is meaningless.[14] The fact that words like 'very low/ low/ moderate…' are used with both probability and risk is perhaps confusing.

1.19 Note further that while it is often said that Australia's ALOP is 'very low risk', in fact, as a matter of policy, this means 'very low risk *in any one year*.' If an unwanted event has equal probability of occurring at any time, then the probability that it will occur is greater as the period of interest increases. Therefore the reference to a period of time is essential for the concept of ALOP to be meaningful. The probability of an event occurring *within a period of interest* is 'combined' with an assessment of consequences to judge the risk associated with the event *considered over that period.* The import risk analysis guidelines could explain this more clearly.[15] Further discussion is in chapter 2 (paragraph 2.2ff).

Comment

1.20 The fact that the parts of the risk assessment process to do with estimating probabilities can be done in a mathematical way (if there is enough information) should not be allowed to obscure the fact that other important parts of the process are not a matter of objective calculation, but rather rely on expert judgment.

1.21 This does not mean it is acceptable for IRAs to be 'subjective' in the sense of unsubstantiated or capricious. IRAs should of course follow an orderly and transparent methodology which allows for disciplined expert judgments, within clear parameters, in the places where they are unavoidable. BA's detailed IRA guidelines aim to ensure this. The Committee accepts BA's assurance that Australia's IRA methodology is 'by far the most explicit statement of appropriate level of protection used by any country in the world.'[16]

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13 Australian Standard AS 4360, *Risk Management*, par. 4.5.2.

14 It must be remembered that 'risk' here refers to the *combination* of probability and consequences. It is not a synonym for 'probability.'

15 Biosecurity Australia, *Guidelines for Import Risk Analysis*, draft September 2001, p.25,110,112. *Import Risk Analysis Handbook*, 2003, p.5: 'Australia's ALOP is currently expressed as providing a high level of sanitary or phytosanitary protection aimed at reducing risk to a very low level, but not to zero.'

16 Ms M Harwood (Biosecurity Australia), *Committee Hansard* 10 March 2004, p.6.

The IRA on bananas from the Philippines

1.22 BA initiated the IRA in June 2000 and appointed a risk analysis panel of six experts in January 2001.[17] The panel established three technical working groups to help with detailed issues; released an issues paper in May 2001; and released a draft IRA report in June 2002. The report concluded:

- For Moko, freckle, Black Sigatoka and mealybugs, unrestricted risk of entry, establishment and spread is too high to satisfy Australia's appropriate level of protection.
- For mealybugs, using an insecticidal treatment would reduce the risk to an acceptable level.
- For freckle and Black Sigatoka, applying an area freedom regime would reduce the risk to an acceptable level.
- For Moko, there do not appear to be feasible measures capable of reducing the quarantine risk to an acceptable level.
- Therefore, import should not be permitted.

1.23 Twenty submissions were received in response to this draft, including substantial comments from the Philippines government and industry, the Australian Banana Growers Council, and the Western Australian government.

1.24 The IRA panel then 'extensively reviewed' the situation, as explained in the February 2004 revised draft now under discussion:

> Given the substantial nature of the various submissions and reports, and the widely varying technical viewpoints, the IRA team considered it appropriate to undertake an extensive review of the technical information concerning each of the quarantine pests identified in the IRA. Additionally, the IRA team reviewed the various other technical issues arising from the submissions and reports. As a consequence, the IRA team identified the need to make significant changes to the analysis as reported in the June 2002 Draft IRA Report.[18]

1.25 The February 2004 revised draft changed the conclusions as follows:

- For Black Sigatoka, the unrestricted risk is now regarded as acceptable.
- For mealybugs, a combination of targeted inspection and targeted sponging and brushing between banana fingers would make the risk acceptable.
- For Moko and freckle, acceptable risk could be achieved either by sourcing bananas from areas of demonstrated low pest prevalence, or by

17 Dr Cheryl McRae of Biosecurity Australia was added to the panel later.

18 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.14.

restricting distribution within Australia to areas where commercial bananas are not grown.

- Therefore, import should be permitted subject to certain conditions.[19]

1.26 In March 2004 BA advised that the IRA contained an error in a spreadsheet used to estimate risk. Corrected risk estimates were issued in an addendum to the IRA in June 2004. Changes are:

- For Moko, the unrestricted risk category (low) has not changed. However the component figures have changed in a way which means that an area of low pest prevalance regime would have to be more stringent than that suggested in the February 2004 draft, to make the risk acceptable.
- For mealybugs, the unrestricted risk category (low) has not changed. However the component figures have changed in a way which means that insecticidal treatment would need to be added to the proposed washing and brushing, to make the risk acceptable.
- For banana bract mosaic virus, the unrestricted risk increases from very low to low, which does not meet Australia's ALOP. The risk could be made acceptable by sourcing bananas from areas of low pest prevalence, or by restricting distribution within Australia to areas where commercial bananas are not grown.

1.27 In December 2004 the Minister for Agriculture, Fisheries and Forestry, Mr Truss, announced that BA would review and reissue all IRAs now in progress for a further period of public comment. At the 9 February 2005 hearing BA suggested this would take 'some months'.[20]

Scope of the report

1.28 The report reflects the evidence received during 2004. The Committee thought it better to report on that evidence without further delay rather than awaiting anther revision of the draft IRA. The Committee may wish to review the topic when a revised draft is released.

1.29 Chapter 2 considers issues to do with IRA methodology:

- what the time horizon for assessment should be;
- how to acknowledge sub-threshold risks on a number of pests;

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19 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.16-19.

20 Hon W. Truss, Minister for Agriculture, Fisheries and Forestry, *Government Commitment to Independence of Biosecurity Australia delivered*, media statement 1 December 2004. Mr J. Cahill (Biosecurity Australia). *Committee Hansard* 9 February 2005, p.6.

- use of probability distributions in IRAs; and
- assessment of consequences.

1.30 Chapter 3 considers the main arguments about the pests and diseases of concern.

1.31 Chapter 4 considers matters to do with the administration of Biosecurity Australia.

1.32 Chapter 5 draws conclusions.

Chapter 2

Issues: IRA methodology

2.1 This chapter reviews some matters to do with IRA methodology which were raised in evidence:

- what the time horizon for assessment should be;
- how to acknowledge sub-threshold risks on a number of pests;
- use of probability distributions in IRAs; and
- assessment of consequences.

What should the time horizon for assessment be?

2.2 The probability of importing a disease or pest depends on the volume of imports being considered. Since a longer period of time implies a greater volume of imports, the assessed probability will depend on the period of time of interest.[1]

2.3 The draft IRA report chose an assessment period of 12 months, in line with BA's Import Risk Analysis Guidelines. It justified this saying:

> In these Guidelines, a period of 12 months was chosen because it allowed for the estimation of seasonal effects, but did not require long-range predictions regarding trading practices, plant or commodity production factors or pest biology.[2]

2.4 In fact the IRA guidelines contain no clear explanation of this policy. The only references are:

> The *OIE Code* suggests that 1 year be adopted as period of time by which to evaluate the effect of a projected volume of trade….
>
> Biosecurity Australia has designated 1 year as to be the standard period for which the effect of trade volume is estimated.[3]

2.5 The referenced OIE Code, at least in its current version, does not appear to make any relevant comment.[4]

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1 If there is a certain probability that an event will occur in any one year, there is greater probability that it will occur at some time in the next 10 years; etc. For example, if there is a 1% probability that an event will occur in any one year, there is about 18% probability that it will occur within 20 years, and about 63% probability that it will occur within 100 years.

2 Revised draft IRA report, p.53.

3 Biosecurity Australia, *Guidelines for Import Risk Analysis*, draft September 2001, p.68 footnote, p.107 footnote.

2.6 Mr Peasley argued that a one year horizon for risk assessment is too short:

> An accepted time frame for planning farm business operations is at least 5 years and I believe the risk should be calculated over this time frame, not one year. This risk would then be 5 times that of one year and include the increased volume of bananas. I don't believe the impact or consequences for the Australian banana industry, and the environment at a local, district, state and national level can be realistically assessed over a 12 month period.[5]

2.7 The ABGC argued that both a one year and a ten year period should be considered, as the ten year period 'provides a clearer indication of the risk of a pest over a reasonable longer term period.'[6]

2.8 The ABGC argued that 'based on the IRA team's own scientific conclusions.. even if the recommended area of low pest prevalence regime is imposed…there is a 99% chance that Moko will enter, establish and spread in Australia within 10 years after the importation of Philippine bananas commencing'.[7]

2.9 Similar concerns arose at a hearing of the Committee's recent inquiry into a pigmeat IRA. BA commented:

> **Ms Harwood**—Essentially, we have to define the appropriate level of protection—ALOP—in a way which allows us to measure against it, and that is that the quarantine risk is reduced to a very low level in a year of imports…
>
> **CHAIR**—But if it rises dramatically over a period of years does that say that there is a certain inevitability about us getting this if we keep going?...
>
> **Ms Harwood**—It is a statistical fact in that it is a probability multiplied through time. But the fact is that the actual import policies are extremely conservative. They are adjusted through time in the light of emerging information and conditions and developments overseas. It is not a static situation, so it does not make sense to multiply it out into—
>
> **CHAIR**—What is your version of the 10-year risk in percentage terms?
>
> **Ms Harwood**—As I said, we use a reference point for ALOP of a very low risk of the pest or disease entering Australia within a year or during a year.
>
> **CHAIR**—But what is your 10-year prediction?

4 OIE, *Terrestrial Animal Health Code 2003*: see www.oie.int

5 Submission 7, Mr D. Peasley, attachment H2, p.2.

6 Submission 6, ABGC, p.7.

7 Submission 6, ABGC, p.13. The ABGC made similar statements about freckle (97%), mealybugs (97%) and Banana Bract Mosaic Virus (99%).

> **Ms Harwood**—We are not giving a 10-year prediction. The discipline that we are working with is to measure against a declared reference point for ALOP.[8]

2.10 BA commented that it is reviewing the IRA methodology, with implication that this will be one of the matters considered.[9]

Comment

2.11 There seems to be no clear justification for limiting to a one year time horizon in assessing probabilities associated with volume of trade. Reference to 'seasonal effects' justifies a period of *at least* one year. It does not suggest that the period should be limited to *no more than* one year.

2.12 As for the difficulty of 'long-range predictions regarding trading practices, plant or commodity production factors or pest biology' - these predictions may be desirable, but they are not necessary. Amending a one year probability to give a five or ten year probability *based on current information* is a matter of simple mathematics which does not require any further prediction. It only requires acknowledging the possibility of inaccuracy if future probabilities are in fact different from the present ones used for the calculation. In the Committee's view the information is still worth having.

2.13 In the Committee's view limiting assessments to a one year time horizon takes an unduly short term view. Knowing the risk over a 10 or 20 year time frame is obviously a matter of great concern to affected industries.

2.14 This does not involve changing Australia's chosen ALOP. It is simply a matter of giving stakeholders more information. It may happen that 'very low risk over one year' means 'low risk over 10 years' or 'moderate risk over 20 years'. The statements are interchangeable: they would be different ways of describing a single situation.[10]

2.15 **The Committee recommends** that the risk assessment methodology should provide for assessing risk considered over ten years as well as one year.

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8 Ms M. Harwood (Biosecurity Australia), *Committee Hansard* (Import Risk Analysis for Pigmeat), 8 March 2004, p.33.

9 Biosecurity Australia, answers to questions 3 March 2005, enc.2, p.3.

10 For example: a probability of 1/50 is about in the middle of the probability range which the IRA guidelines labels 'very low probability'. A probability of 1/50 over one year is a cumulative probability of about 1/5 over 10 years ('low probability') or about 1/3 over 20 years ('moderate probability'). If the consequences are rated as 'moderate', this would change the assessed risk from 'very low' to 'low' to 'moderate'. See the risk estimation matrix at paragraph 1.12.

Recommendation 1

2.16 The risk assessment methodology should provide for assessing risk considered over ten years as well as one year.

How to acknowledge sub-threshold risks on a number of pests

2.17 Mr Peasley argued that the IRA methodology does not adequately acknowledge a situation where there might be just-below-threshold risk on a large number of pests. Intuitively, this creates a greater overall risk than just-below-threshold risk on one pest; but the methodology cannot reflect this.

> I do not believe the issue of multiple pests risk has been addressed adequately. I realise the risks of each pest are independent events, however, my intuition says that when there are more than one pest just outside Australia's ALOP that the overall risk is greater. The risk estimation matrix allows for a one pest assessment.[11]

2.18 In this Committee's inquiry into an IRA for New Zealand apples, Apple and Pear Australia Ltd pointed out that some countries have risk assessment methodologies that allow for this:

> The USA for example, uses a system of allocating points for each risk point (see Attachment 3). This means that risk factors accumulate from one issue to the next until a final score is achieved. This is an interesting contrast from the BA multiplication model that can allow high risks to be substantially discounted by low risks.[12]

2.19 BA commented that it is reviewing the IRA methodology, with implication that this will be one of the matters considered.[13]

Comment

2.20 It is certainly true that if events are independent (for example, 'entry, establishment and spread of moko'; 'entry, establishment and spread of freckle' etc), the more possible events are in question, the greater is the probability that at least one of them will happen.

2.21 The Committee agrees with Mr Peasley. There is no reason in logic why risk assessments should not allow for this. The event of concern to Australia is not 'entry, establishment and spread of moko…freckle… mealybugs….etc', each considered in isolation. The event of concern is rather 'entry, establishment and spread of at least one of the above.' The probability of that is the sum of the component probabilities.

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11 Submission 7, Mr D. Peasley, attachment H2, p.2

12 Senate RRAT Legislation Committee, inquiry into import risk assessment of New Zealand Apples, submission 1, Apple & Pear Australia Ltd, p.11.

13 Biosecurity Australia, answers to questions 3 March 2005, enc.2, p.3.

2.22 In the Committee's view Australia should be able to reserve the right to say, 'In respect of an import proposal, there are so many pests of concern that the cumulative risk is regarded as unacceptable.'

2.23 **The Committee recommends** that BA should investigate changing the risk assessment methodology to allow for the fact that the total risk is greater, the more pests there are of concern.

Recommendation 2

2.24 BA should investigate changing the risk assessment methodology to allow for the fact that the total risk is greater, the more pests there are of concern.

Use of probability distributions

2.25 There was some discussion in evidence about the use of probability distributions in risk assessment. There was debate over whether risk assessments should 'report the 95th percentile' or the 50th percentile.

General explanation of probability distributions

2.26 An unwanted event (for example, 'the pest enters, establishes and spreads') will often be the result of a number of preceding steps each of which has its own probability ('the pest is in the harvested fruit… the pest survives transport and storage' etc.). The probabilities of the component events are multiplied together to give the probability of the outcome event.

2.27 Making a probability distribution is a way of estimating the probability of the final outcome when the probability of each step is not known exactly, but is thought to lie within a certain range.

2.28 For each step a probability is chosen randomly within whatever range is regarded as reasonable. These numbers are multiplied together to give a notional total probability (probability that all the steps will happen). This is repeated 1000-2000 times, the result being different each time because the input numbers are different each time. The results are spread over a range from the smallest possible total probability (from multiplying the smallest values of the component probabilities) to the largest total probability (from multiplying the largest values of the component probabilities).[14]

2.29 According to the IRA guidelines, 'This distribution should be interpreted by 'fitting' it to the most appropriate semi-quantitative category. The approach to fitting that has been adopted by Biosecurity Australia is to compare the fifth, 50th (or

14 Biosecurity Australia, *Guidelines for Import Risk Analysis*, draft September 2001, p.43-4.

median) and 95th percentiles of the output distribution with the probability intervals [shown in Figure 1 in chapter 1 of this report].'[15]

2.30 The guidelines do not explain very clearly what 'compare' means and how conclusions are to be reached and by what rules. At one point the suggestion seems to be that the probability distribution should be labelled as 'very low…low…' etc according to which label covers the probability where the median value (the 50th percentile) falls, on the basis that more than half the results fall within this range.[16] At another point the instruction is: 'The distribution should be 'fitted' visually and by virtue of the distribution statistics to the most appropriate semi-quantitative interval.'[17]

2.31 The 50th percentile will always show a lower probability than the 95th. This may or may not affect the assessed risk. It depends on the details of whether reporting the 50th instead of the 95th puts the probability in a different probability category, and whether 'combining' this with the consequences according to the risk estimation matrix changes the risk category.

Use of probability distributions in the banana IRA

2.32 The IRA applied the guidelines on use of probability distributions as follows.

2.33 The first draft IRA report (June 2002) said that it 'reported the 95th percentile'. It explained this as:

> Distributions obtained from simulations of this model were fitted retrospectively to the most appropriate probability range. Where the distribution spans more than a single range, a conservative (95th) percentile was used to determine that which should be reported.[18]

2.34 The revised draft (February 2004) used the 50th percentile:

> Distributions obtained from simulations of this model were fitted retrospectively to the most appropriate probability range using the median value (or 50th percentile). The 50th percentile was chosen as it provides the most robust measure of central tendency for skewed (unsymmetrical) distributions.[19]

2.35 The ABGC argued that this change was made without adequate explanation, and is effectively more risk tolerant. The ABGC noted that the 50th percentile was

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15 Biosecurity Australia, *Guidelines for Import Risk Analysis*, draft September 2001, p.44.

16 This assumes that only one boundary between probability categories falls within the range shown by the distribution.

17 Biosecurity Australia, *Guidelines for Import Risk Analysis*, draft September 2001, p.44.

18 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - Draft IRA Report*, June 2002, p.58.

19 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised Draft IRA Report*, February 2004, p.52.

also used in recent reports on pigmeat and New Zealand apples, and was concerned that this was a systemic change.[20]

2.36 At hearings on pigmeat on 8 March 2004, and the following Budget Estimates hearing on 24 May, BA argued that if the biological assumptions involved are already very conservative, adding an extra level of conservatism by reporting the 95th percentile 'would give an unrealistic projection outside the bounds of biological reality':

> **Dr Banks**—I think that once we started to use these guidelines in a series of actual import risk analyses, we realised that it was more appropriate in each case to use the 50th rather than the 95th….
>
> **Ms Harwood**—In situations where all the inputs to the model are judged on a very conservative basis, if all the steps in the import pathway as you are inserting the judgment of likelihood and the entry into the probabilistic model are already very conservative, as in the case of those IRAs, it is more appropriate to use the 50th percentile as a genuine reflection of risk than to use the 95th, which would give an unrealistic projection outside the bounds of biological reality….
>
> **Senator BOSWELL**—...Who made the decision to go from 95 to 50?
>
> **Ms Harwood**—… it was the panel working together that chose to use the 50th.[21]

2.37 BA later advised that both the June 2002 draft and the February 2004 draft did in fact report the 50th percentile. The reference to the 95th percentile in the June 2002 draft was a mistake which arose from carrying over text from a previous version. BA noted that '…this and other aspects of Biosecurity Australia's methodology are under constant review and evaluation, and minor changes are often necessary to reflect ongoing best-practice in simulation and other aspects of risk analysis.'[22]

Comment

2.38 The Committee notes the concerns of stakeholders that the procedure recommended in the IRA guidelines (to report the 95th percentile) seems to have been changed as a matter of policy without adequate explanation. It is unclear to the Committee whether this is indeed a change of policy, or whether the choice is left to the discretion of individual IRA panels and might depend on the circumstances of the case.

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20 Submission 6, Australian Banana Growers Council, p.7.

21 Senate RRAT Legislation Committee, Budget Estimates, *Committee Hansard* 28 May 2004, p.99-100. Similarly RRAT Legislation Committee, inquiry into IRA for pigmeat, *Committee Hansard* 8 March 2004, p.30.

22 Biosecurity Australia, correspondence 1 February 2005, answers to questions, no. 30.

2.39 **The Committee recommends** that the IRA guidelines should state a clearer policy on use of probability distributions, and should explain it better to allay the concerns of stakeholders.

Recommendation 3

2.40 The IRA guidelines should state a clearer policy on use of probability distributions, and should explain it better to allay the concerns of stakeholders.

Concerns about assessment of consequences

2.41 As described in chapter 1, the risk assessment methodology involves 'combining' an estimate of the probability of an unwanted event with an estimate of the seriousness of the consequences if it occurs. According to the IRA guidelines each type of consequence is estimated at the local, district, regional and national level, on a scale of highly significant/ significant/ minor/ unlikely to be discernible. The results for the various types of consequences are combined using rules in the guidelines to give an overall rating for consequences on a scale of extreme/ high/ moderate/ low/ very low/ negligible.[23]

2.42 The Australian Banana Growers Council had concerns that this procedure is not sufficiently rigorous:

> The calculation of risk requires, first of all, that we know the annual likelihood of outbreak, establishment and spread and, second, that we know the consequences. We have a unit of measure for the likelihood: it is expressed as a probability… The problem with consequence is that it is just a term. We do not have a scale for that. So when we multiply those two together it is not possible to use the same terms or the same scale… The correct way to look at risk is expected loss.[24]

2.43 In a submission to this Committee's inquiry into an IRA on New Zealand apples, Apple and Pear Australia Ltd had similar concerns:

> The ISPM draft Pest Risk Analysis for Quarantine Pests (IPPC, September 1999) recommends that in assessing economic consequences 'wherever appropriate, quantitative data that will provide monetary values should be obtained.' It appears that no attempt has been made by Biosecurity Australia to quantify the economic consequences. Where these are likely to be profound it is inappropriate to use a qualitative scale. The estimation of consequences without an underlying and clearly understood monetary basis to confirm its rigour misleads the overall analysis.[25]

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23 Biosecurity Australia, *Guidelines for Import Risk Analysis*, draft September 2001, p.104ff.

24 Mr D. Pullar (ABGC), *Committee Hansard* 13 April 2004, p.19.

25 Senate RRAT Legislation Committee, inquiry into import risk assessment of New Zealand Apples, submission 1, Apple & Pear Australia Ltd, p.10.

2.44 The Queensland Department of Primary Industries and Fisheries was concerned about the possible effects of import on banana-reliant economies in North Queensland:

> It is likely that these shires would experience considerable difficulties if adjustment as a result of the loss of the banana industry were to occur.

2.45 The Department 'strongly advocates that the Commonwealth Government must address the socio-economic impact of changing import restrictions…'

> While it is acknowledged that it is important not to limit trade, the DPI&F believes that the Commonwealth must ensure that any inequitable burden placed on local communities dependent on the commodity in question is properly addressed.[26]

2.46 BA commented that it is reviewing the IRA methodology, with implication that assessment of consequences will be one of the matters considered.[27]

Comment

2.47 The Committee is sympathetic to the industry's concerns about assessment of consequences. The Committee accepts the point made in the IRA guidelines that some consequences (such as change in social amenity) are harder to measure than others (such as change in commercial production).[28] However it appears that even where consequences should be measurable, the IRA has made no particular effort to do so. For example, the impact of Moko on production is discussed qualitatively in some detail.[29] In the Committee's view it should not be impossible to put some figures on this, taking into account points such as those made by Mr Peasley about the difficulty of controlling Moko in North Queensland's highly mechanised farms (see paragraph 3.20).

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26 Submission 14, Queensland Department of Primary Industries and Fisheries, p.5.

27 Biosecurity Australia, answers to questions 3 March 2005, enc.2, p.3.

28 Biosecurity Australia, *Guidelines for Import Risk Analysis*, draft September 2001, p.105.

29 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised Draft IRA Report*, February 2004, p.152.

Chapter 3

Issues: scientific questions

3.1 This chapter reviews arguments on the diseases and pests which were of most concern in evidence.

Moko

3.2 Moko is a vascular wilt disease caused by the bacterium *Ralstonia solanacearum*. It is an aggressive disease which if not controlled will kill the plant. In some parts of the world it has serious effects. In commercial banana plantations of the Philippines costly control measures limit the incidence to about one plant per hectare per year.[1]

3.3 The IRA assessed the risk of Moko as follows:

Moko	June 2002 draft	Feb 2004 draft	June 2004 addendum
annual probability of entry, establishment & spread	high	moderate	high
consequences	moderate	low	low
unrestricted risk	moderate	low	low

3.4 A 'low' unrestricted risk does not satisfy Australia's Appropriate Level of Protection (ALOP) and would require risk management measures. The IRA suggests that bananas could be sourced from areas of low pest prevalence in the Philippines, or distribution in Australia could be restricted to areas where commercial bananas are not grown. Risk management measures are discussed from paragraph 3.51.

Claimed inadequacy of data on incidence of Moko in the Philippines

3.5 The prevalence of Moko in Philippine plantations affects the probability of the important step 'the likelihood that a tonne of harvested fruit will be infected'. The IRA relied on advice from Philippine authorities on the number of cases (infected plants) detected during routine control operations in 1998-2001.[2]

3.6 The Australian Banana Growers' Council (ABGC) argued that this information was inadequate:

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1 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.145f, 159.

2 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.148. Submission 6, ABGC, attachment 2.

> (a) the reporting period (4 years) is far too short to enable a proper assessment of the highest-likely incidence of a disease which shows substantial variations in incidence from year to year;
>
> (b) the geographic area from which the data is drawn is unspecified …
>
> (c) the data is average incidence data and therefore, it is certain that the incidence of Moko in some plantations will at times be substantially higher…
>
> (d) the data has not been supported by any survey data and therefore is unable to be audited and verified.[3]

3.7 The ABGC advised it had had confidential information that 'the incidence of Moko in one plantation in the Philippines managed by a multi-national company was 4.39 cases/hectare in the year. This is more than three times the incidence relied upon in the Second Report.' The ABGC noted that Australia had asked the Philippines for a retrospective survey of the incidence of Moko in commercial plantations over 5-10 years, but the Philippines had not done this.[4]

3.8 On the matter of relying on four-year summary information provided by the Philippines, Biosecurity Australia (BA) commented that this was 'sufficient for the purpose of the analysis and further information was not requested because the unrestricted risk of Moko using this data exceeded Australia's ALOP.' As well:

> In the margins of technical discussions and field visits before and after this information was received, Australian experts asked questions of Philippines experts about the incidence of Moko in the Philippines and the answers were consistent with the incidence data provided…
>
> The disease incidence could vary from time to time in a plantation and it was not considered essential to determine the highest likely disease incidence… the unrestricted risk estimate for Moko exceeded Australia's ALOP and, therefore, any fruit originating from an area where the disease incidence was higher than the level used in the risk simulation would not qualify for export to Australia.[5]

3.9 On the matter of the request for a 5-10 year survey, BA said that the purpose of this would be to investigate insect transmission of Moko/Bugtok, and although the Philippines never provided it, 'given that the Philippines have conceded that Moko/Bugtok is insect-transmitted, the IRA team maintained its original position [that insect vectors can transmit the disease from local banana cultivars to commercial Cavendish plantations].'[6]

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3 Submission 6, ABGC, p.10.

4 Submission 6, ABGC, p.10. Mr L. Collins (ABGC), *Committee Hansard* 13 April 2004, p.18.

5 Biosecurity Australia, further information 1 February 2005, Q20-25.

6 Biosecurity Australia, further information 1 February 2005, Q10,15.

Claimed errors in assessing certain probabilities

3.10 Estimating the probability of 'the likelihood that a tonne of harvested fruit will be infected' involves several steps. In the June 2002 draft, the likelihood was assessed as 'very low'; in the February 2004 draft, 'extremely low.' This reduces the assessed risk of Moko.

3.11 Dr Fegan, an Australian expert on Moko, argued that several of the assumptions or findings used to reach this conclusion were unsound. He argued that:

- the assumed incubation period (time between infection and showing visible symptoms) should be longer than the 12 weeks allowed in the IRA calculations;[7]
- the reasoning used to estimate that no more than 15% of infected plants will develop symptomless infected bunches is unsound and is a misuse of the source information (Stover 1972);
- the estimate that no more than 50% of the fruit on a symptomless infected bunch will be infected is questionable.[8]

3.12 Dr Fegan also argued that potential for transmission of the disease by insects 'requires more in-depth comment than that given in the Revised Draft IRA report.' This is relevant to the third dotpoint just above: infection by insects may be expected to affect a greater proportion of fruit on a symptomless infected bunch than infection moving upwards from roots or cuts.[9]

3.13 BA argued that the estimates that 15% of infected plants will develop symptomless infected bunches, and no more than 50% of the fruit on a symptomless infected bunch will be infected, were 'very conservative.'[10]

3.14 Dr Hayward, an Australian expert on Moko, also argued that the likelihood of entry, establishment and spread has been estimated conservatively. He said that:

- there are no recorded instances where Moko has been introduced on dessert banana fruit;
- symptomless infected fruit would be expected to manifest as prematurely ripened fruit at some point along the distribution and marketing chain;

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7 Submission 5, Dr M. Fegan, p.1: 'Research from the Philippines (Soguilon, 2003) has shown that infected plants do not exhibit symptoms 13 weeks after inoculation with the pathogen.' A longer incubation period implies a greater number of symptomless infected plants in proportion to visibly infected plants at any one time, and therefore increases the likelihood that infected fruit will unwittingly be harvested from a symptomless infected plant.

8 Submission 4, Dr M. Fegan, p.1-2.

9 Submission 4, Dr M. Fegan, p.3. *Committee Hansard* 13 April 2004, p.25.

10 Dr C. McRae (Biosecurity Australia),*Committee Hansard* 10 March 2005, p.4-5

- insect transmission is only important for cooking bananas and 'is not know to reach epidemic proportions in the absence of cooking bananas' (but Dr Hayward agreed that 'more investigation is required');[11]
- the estimate that no more than 50% of the fruit on a symptomless infected bunch will be infected is more likely to be an overestimation than an underestimation: 'In the Philippines the fruit are bagged at an early stage so that insect transmission is not a factor to be considered.'[12]

Probability that Moko, if it became established, would spread

3.15 Submissions stressed that if Moko became established, it is most unlikely that it could be quarantined or eradicated. No country has been successful in eradicating it. There are no chemical controls.[13] According to Mr Peasley conditions in North Queensland are ideal for the spread of Moko, especially by floodwater. Symptoms are easily confused with other diseases and it is more than likely that, by the time it was positively identified, it would be too late to contain it.[14]

3.16 The IRA acknowledges these points and assesses the probability of spread among commercial banana plants as 'high', which is the highest probability category.[15]

Consequences of Moko

3.17 The ABGC was concerned that, apparently without any new information, 'The IRA Team has reduced its assessment of the consequences of Moko from moderate to low between the First and Second Reports…'

> This change is based entirely on the IRA Team's reassessment of one criteria: the indirect impact of Moko on the economic viability of rural communities. In the First Report (at page 144), the IRA Team considered the indirect impact of Moko on rural communities to be 'highly significant at the local and district level, significant regionally and of importance at the national level.' By contrast, in the Second Report (at page 161), the IRA Team considered the indirect impact of Moko on regional communities to be 'minor at a district level.' The IRA Team has not provided an adequate explanation or relied upon any new scientific, technical or

11 Cooking bananas (plantains) are widely grown in the Philippines, often in smallholdings near commercial plantations of dessert bananas. They are not grown in Australia. Dr C. Hayward, submission 4 p.2, submission 4a p.2.

12 Submission 4, Dr C. Hayward, attachment: p.7; & submission 4a.

13 Submission 4a, Dr C. Hayward, p.2

14 Mr D. Peasley, *Committee Hansard* 13 April 2004, p.44. Submission 7, attachment G

15 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.157.

> economic information to support its major reassessment of this critical issue.[16]

3.18 The IRA notes that there is an element of subjectivity in assessing some sorts of consequences, such as loss of social amenity.[17]

3.19 BA commented that 'the IRA team members conducted further analysis on the available information at the time of preparation of the revised Draft IRA Report and this did not support a 'moderate' rating.[18]

3.20 Mr Peasley argued that controlling Moko in the ways done in the Philippines would not be feasible because of Australia's more mechanised farming practices; therefore the consequences could be much more severe here than there:

> In the Philippines, Moko spread is contained by destroying all plants within a 5 metre radius of the infected plant, disinfecting the affected area by heat (burning rice hulls) or applying soil fumigants, and erecting barricades around the affected area to prevent entry by workers. The Philippines industry does not use vehicles within the plantation itself because of the high availability of labour at relatively low cost.
>
> Implementing such a system in FNQ [Far North Queensland] would not be economically feasible as the detection of one infected plant could effectively remove the whole of the 600 metre row (and possibly the two adjoining rows if the 5 metre radius rule were to apply), from production because the mounded rows prevent access from row to row except at headlands at the end of each row. The direct consequences in lost production from an infection are thus far greater under the banana production system in FNQ.[19]

Comment

3.21 Changes between the June 2002 draft IRA and the February 2004 draft have the effect that:

- annual probability of entry, establishment and spread of Moko (without risk management measures) is reduced from 'high' to 'moderate';
- consequences are reduced from 'moderate' to 'low';
- therefore the unrestricted risk is reduced from 'moderate' to 'low'.[20]

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16 Submission 6, ABGC, p.11.

17 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - draft IRA report*, June 2002, p.145. *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.162.

18 Biosecurity Australia, answers to questions 3 March 2005, enc.2, p.3.

19 Submission 7, Mr D. Peasley, attachment G2, p.3.

20 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.158.

3.22 The June 2004 addendum changed the annual probability of entry, establishment and spread back to 'high'; but this, combined with consequences assessed as 'low', still leaves the unrestricted risk as 'low'.[21]

3.23 It happens that in this case the changes have not changed the conclusion that the unrestricted risk is above Australia's Appropriate Level of Protection (ALOP). Thus the argument turns to whether risk management measures are feasible and adequate (discussed below). However it is still a matter of interest whether changes between the first and second draft are adequately justified.

3.24 Concerning the adequacy of Philippine data on the prevalence of Moko, the Committee accepts BA's reasoning that since the information given puts the unrestricted risk at above Australia's ALOP, more information is not necessary. To put this another way: if the reported prevalence implies the need for risk management by areas of low pest prevalence (ALPP), and if the low prevalence required to satisfy an ALPP regime is considerably lower than the reported prevalence (which it is), it does not matter if the actual prevalence is higher than the reported prevalence. What does matter is the reliability of the regime for guaranteeing that the required low pest prevalence provisions are met.

3.25 The Committee shares Dr Fegan's concerns over the other steps used to estimate the probability that a tonne of harvested fruit will be infected. This is relevant even if an ALPP regime is adopted, since these steps are subsequent to proving low pest prevalence; hence, if they are changed, it could change the prevalence needed to compensate.

3.26 The Committee shares the ABGC's concern that the assessment of consequences has been changed, apparently with no new information.[22]

Banana bract mosaic virus

3.27 Banana bract mosaic virus (BBrMV) reduces the health of infected plants and causes production losses. According to Professor Dale, symptoms are variable and not obvious to the untrained eye. The aphids that transmit the virus are widespread and common in Australia. There is no cure.[23]

3.28 The IRA assessed the risk of BBrMV as follows:

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21 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - Addendum to revised draft IRA report of February 2004*, June 2004, p.38.

22 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.

23 Submission 6, ABGC, p.19. Submission 8, Prof. J. Dale, p.[3]

Banana bract mosaic virus	June 2002 draft	Feb 2004 draft	June 2004 addendum
annual probability of entry, establishment & spread	extremely low	low	moderate
consequences	very low	low	low
unrestricted risk	negligible	very low	low

3.29 A 'low' unrestricted risk does not satisfy Australia's Appropriate Level of Protection (ALOP) and would require risk management measures. The IRA (as amended by the June 2004 addendum) suggests that bananas could be sourced from areas of low pest prevalence in the Philippines, or distribution in Australia could be restricted to areas where commercial bananas are not grown. Risk management measures are discussed from paragraph 3.51.

3.30 The main point of dispute in evidence was the likelihood that a tonne of harvested fruit will be infected. It appears that the IRA panel gave considerable weight to the fact that 'Philippine authorities report that BBrMV is now rarely encountered…'

> Overall, variation about incubation period and expression of visible symptoms of disease, in conjunction with the report that BBrMV is rarely seen in commercial Cavendish plantations in the Philippines, led to the consideration that the likelihood of infection within a tonne of export fruit was **very low.**[24]

3.31 Professor Dale, an Australian expert on BBrMV, argued that 'this is a very unsafe conclusion', since:

- similar viruses in similar situations have proved almost impossible to eradicate;
- the virus was very widespread ten years ago;
- the Philippines have provided no evidence to support their assertion that the virus is now rarely encountered;
- reliance on visual surveys to identify infected plants is 'unsafe' since symptoms are variable and the ability to identify infected plants is usually quite specialised.

24 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.120.

3.32 Professor Dale believes that more than 10 per cent of banana plants in Mindanao could be infected, and the likelihood that a tonne of harvested fruit will be infected is more likely to be 'moderate' or 'high' than the IRA's 'very low'. [25]

3.33 Biosecurity Australia, commenting on this issue, quoted from the website of the Cooperative Research Centre for Tropical Plant Protection: 'Banana bract mosaic disease symptoms are usually very distinctive.'[26] However, read in context, this is a reference to distinguishing BBrMV from *other viral diseases* in a plant which has already been noticed as diseased. It is not a statement about how easy it is to distinguish a diseased plant from a healthy plant in the field.[27]

3.34 The June 2004 addendum changes the annual probability of entry, establishment and spread to 'moderate'. This changes the unrestricted risk to 'low', which does not satisfy Australia's ALOP. Risk management measures would be required. This could be done, as for Moko, by sourcing bananas from areas of low pest prevalence, or by restricted distribution in Australia.[28]

3.35 This change, like other changes in the June 2004 addendum, resulted from a recalculation to correct an error in a spreadsheet. It was not a response to Professor Dale's arguments.

Black Sigatoka

3.36 Black Sigatoka is a leaf spotting fungal disease. The means of possible entry to Australia, according to the IRA, is in leaf trash trapped between banana fingers. The IRA also considered the possibility of free spores travelling on fruit or packaging surfaces, but did not consider this to be a significant risk.[29]

3.37 The IRA assessed the risk of Black Sigatoka as follows:

Black Sigatoka	June 2002 draft	Feb 2004 draft	June 2004 addendum
annual probability of entry, establishment & spread	high	extremely low	extremely low
consequences	low	low	low
unrestricted risk	low	negligible	negligible

25 Submission 8, Prof. J. Dale, p.[3-4]. Submission 6, ABGC, attachment 9. Mindanao is the proposed source of exports to Australia: Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.13.

26 Ms M. Harwood (Biosecurity Australia), *Committee Hansard* 16 June 2004, p.7.

27 CRC for Tropical Plant Protection, correspondence 16 February 2005.

28 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - Addendum to revised draft IRA report of February 2004*, June 2004, p.9,88-9.

29 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.178-9.

3.38 The ABGC argued that changing the annual probability of entry, establishment and spread from 'high' to 'extremely low' represents a 1700-fold reduction in the probability, which 'is not based on any advancement in the understanding of the biology or epidemiology of Black Sigatoka.'

3.39 The ABGC questioned what it called 'the assumption… that infected leaf trash will not be trapped between banana fingers'. This appears to be a reference to the IRA's statement that 'it was considered very unlikely that any particular bunch would contain trash particles.' The ABGC questioned the IRA relying on a 'one page' study by NSW Agriculture. The ABGC argued that the IRA had ignored information from the Western Australian Dept of Agriculture 'which records that 102 pieces of leaf trash were identified in banana cartons from New South Wales and Queensland, and that four of those pieces of leaf trash were infected with fungus.'[30]

3.40 The ABGC also questioned the IRA's position that 'free spores will either be removed from fruit through the cleaning action of washing and brushing, or be killed by the solution of chlorine and alum in the de-handing and flotation tanks.' The ABGC argued that 'the IRA Team reached that conclusion in the absence of any direct evidence as to the efficacy of chlorine treatment for bananas [for Black Sigatoka] under **commercial conditions** anywhere in the world.'[31]

3.41 In light of these concerns the Committee considers that BA should obtain suitably qualified, high level internationally recognised expertise in considering the disputed risk factors.

Freckle

3.42 Freckle is a leaf and fruit spotting fungal disease. Possible means of entry to Australia are symptomless infection of fruit, and in leaf trash.[32]

3.43 The IRA assessed the risk of freckle as follows:

Freckle	June 2002 draft	Feb 2004 draft	June 2004 addendum
annual probability of entry, establishment & spread	high	high	high
consequences	low	low	low
unrestricted risk	low	low	low

30 Submission 6, ABGC, p14. Similarly Mr L. Collins (ABGC), *Committee Hansard* 13 April 2004, p.12. Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.179; similarly p.57.

31 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.178. Submission 6, ABGC, p.14.

32 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.163.

3.44 A 'low' unrestricted risk does not satisfy Australia's appropriate level of protection (ALOP) and would require risk management measures. The IRA suggests that bananas could be sourced from areas of low pest prevalence in the Philippines, or distribution in Australia could be restricted to areas where commercial bananas are not grown.

3.45 The ABGC's concerns about freckle related to the adequacy of the proposed risk management measures, discussed below.

Mealybugs

3.46 Mealybugs feed by sucking sap. They can damage plants directly and cause indirect damage by transmitting plant viruses. The scenario of concern is mealybugs being carried in protected spaces between banana fingers.

3.47 The IRA assessed the risk of mealybugs as follows:

Mealybugs	June 2002 draft	Feb 2004 draft	June 2004 addendum
annual probability of entry, establishment & spread	high	high	high
consequences	low*	low	low
unrestricted risk	low*	low	low
* see paragraph 3.49			

3.48 A 'low' unrestricted risk does not satisfy Australia's Appropriate Level of Protection (ALOP) and would require risk management measures. The February 2004 draft suggests sponging and washing. The June 2004 addendum adjusted the annual probability of entry, establishment and spread to a small degree which did not change the risk category, but does imply that risk management measures should be stricter, as discussed below.

3.49 The ABGC was concerned that the IRA had reduced the consequences and unrestricted risk between the first and second drafts 'without any adequate explanation or new science.' This comment presupposes that the June 2002 draft ought to have shown the consequences as 'moderate' and the unrestricted risk as 'moderate', on the following grounds:

- In the assessment of consequences, the verbal description of 'international trade effects', when rated according to the guidelines, leads to a rating of D, not C as shown;
- This leads to an overall rating of 'moderate' consequences, which combines with 'high' probability to give 'moderate' risk. [33]

33 Submission 6, ABGC, p.17; correspondence 4 March 2005.

3.50 The ABGC's other concerns related to the proposed risk management measures, considered below.

Risk management measures

3.51 Where assessment shows that 'unrestricted risk' (risk in the absence of any special protective measures) is higher than Australia's appropriate level of protection (ALOP), the analysis must then consider whether there are risk management measures that would bring the risk down to within Australia's ALOP.[34]

3.52 The revised draft IRA issued in February 2004 (as amended by the June 2004 addendum) identified risk management measures as follows:

- For Moko, freckle and banana bract mosaic virus, acceptable risk could be achieved either by sourcing bananas from areas of demonstrated low pest prevalence, or by restricting distribution within Australia to areas where commercial bananas are not grown. The IRA recommended using areas of low pest prevalence in the Philippines on the grounds that this would be easier to establish than restricted distribution in Australia.
- For mealybugs, a combination of targeted inspection and targeted sponging and brushing between banana fingers and an insecticidal spray or dip treatment would make the risk acceptable. [35]

3.53 Concerns about the risk management measures are discussed below.

Sourcing bananas from areas free of the pest

3.54 The IRA describes 'area freedom [from the pest]' as a risk management measure:

> Area freedom would require, among other things, systems to establish, maintain and verify freedom, including assurance that the pest was absent at the time of harvest and that it had not been reported within a specified period prior to harvest. A buffer zone may also be required…[36]

3.55 The June 2002 draft IRA regarded area freedom as a feasible risk management measure for freckle, but not for Moko, because of the problem of symptomless infection and presence of infection in nearby susceptible host species.

3.56 The February 2004 draft said of Moko (and of freckle in almost the same words):

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34 Biosecurity Australia, *Guidelines for Import Risk Analysis*, draft September 2001, p.158.

35 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.17-18; *Addendum*, p.58ff.

36 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.270.

> While the principle of area freedom is theoretically available as a risk management measure for Moko, delimitation, establishment and maintenance of a pest free area would need to be relevant to the biology of Moko, including its survival potential and means of spread, as well as the characteristics of production places/sites. The epidemiology of Moko is such that it might be difficult to meet the requirements of ISPM 4 and 10. As such, this measure may not be a technically feasible option in the current circumstances in the Philippines.[37]

3.57 On this basis the February 2004 draft turned to other measures which were considered to be technically feasible: sourcing bananas from areas of low pest prevalence, and restricted distribution in Australia.

Sourcing bananas from areas of low pest prevalence

3.58 The February 2004 draft, in relation to Moko and freckle, considered sourcing bananas from 'areas of low pest prevalence' (ALPP). The June 2002 draft had not considered this.

3.59 The February 2004 draft said: 'The concept of 'area of low pest prevalence' is accepted internationally by phytosanitary experts, and is a recognised pest management measure under the SPS Agreement (Article 6).' Ms Harwood said that the concept of low pest prevalence has been used by Australia for many years, including in situations where Australia is the exporter.[38]

3.60 The draft details the proposed requirements for proving an area of low pest prevalence. The Philippines would have to prove to Australia's satisfaction that the requirements were met.[39]

3.61 The February 2004 draft proposed that for Moko the required low pest prevalence would be one case per four hectares per year:

> This LPP level would be demonstrated by weekly surveys over a minimum period of 2 years immediately preceding harvest of fruit intended for export to Australia. If the prevalence of Moko exceeded the set LPP level, the affected area would be suspended for a minimum period of 2 years.[40]

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37 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - draft IRA report*, June 2002, p. 14,.245-7; February 2004, p.271,284.

38 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.271. Ms M. Harwood (Biosecurity Australia), *Committee Hansard* 8 March 2004, p.27.

39 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.272ff.

40 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.17,271ff.

3.62 The June 2004 addendum makes the required low pest prevalence for Moko more stringent: one case per seven (instead of four) hectares per year.[41] This may be compared with the actual incidence of Moko in the Philippines of about one case per hectare per year.[42]

3.63 The IRA (as amended by the addendum) suggests that the maximum prevalence of freckle should be one case per hectare per week; for banana bract mosaic virus, three cases per hectare per year.[43]

3.64 The ABGC argued that 'an area of low pest prevalence regime is identical to an area freedom regime except that it would require export bananas to be sourced from plantations that have a low rather than no incidence of Moko.' The ABGC argued that the reasons which, in the panel's view, made area freedom unacceptable also make areas of low pest prevalence unacceptable as a risk management measure. It argued that the same considerations apply in relation to freckle. [44]

Auditing compliance with ALPP provisions

3.65 The ABGC also 'strongly rejects' the use of any quarantine measure that relies upon monitoring and inspection by Philippines authorities:

> The area of low pest prevalence regime recommended for Moko requires weekly inspections of Philippine plantations. The Council has no confidence that the Philippines Government will strictly manage and enforce the inspection requirements, particularly as the Philippines does not have a culture of quarantine and graft and corruption is widespread in the Philippines.[45]

3.66 Mr Collins of the ABGC expanded on this in evidence:

> I have visited the farms in the Philippines. I do not believe inspections will be carried out correctly. Banana jobs are well sought after in the Philippines, and there are many people after those jobs. I cannot see a plantation worker coming forward and recording that they had found another case of moko that is going to put that farm in a position of not being allowed to send to Australia anymore. I just do not believe it would be recorded. There is no culture of quarantine in the Philippines….
>
> The big plantations have their own scientific research and do everything internally. They keep all those records internal to their companies. They are

41 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004: Addendum, June 2004, p.3.

42 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.159.

43 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - addendum to revised draft IRA report of February 2004*, June 2004, p.87-8.

44 Submission 6, ABGC, p. 3,12,16.

45 Submission 6, ABGC, p.12

> very protective of them. I do not believe that the BPI will have access to them on an ongoing basis.[46]

3.67 Mr Peasley, commenting in November 2003 on the draft as it stood then, said: 'I think the IRA needs a reality check here…'

> … it was pretty obvious that the large banana companies run their own race despite the BPI. I question whether BPI has the necessary independent authority to effectively enforce these requirements.[47]

3.68 Biosecurity Australia argued that 'we make a pragmatic judgment of the capacity of the exporting country to actually do what we are prescribing and, by the presence of AQIS and BA and at start-up, we make sure that the actual conditions we are prescribing are what happen in the real world.'

> We do take exports of horticultural produce from China, Thailand and other places, and we have in place arrangements to assure ourselves that the quarantine conditions that we consider necessary to deal with risk are in fact being applied to our satisfaction.

3.69 This could include a presence of BA and AQIS at startup and 'over time', including by random audits.[48]

Restricted distribution in Australia

3.70 Restricted distribution would mean banning imported bananas from the tropical and subtropical areas where commercial bananas are grown.

3.71 The June 2002 draft IRA thought that restricted distribution was impractical:

> Movement controls would necessitate State and Territory border and airport checkpoint controls. These are expensive to operate and may lead to substantial disruption of trade in places of high cross-border traffic.
>
> The administration of movement controls on bananas would require auditing and control on the distribution of bananas in Australia by supermarket chains, presumably including a requirement that fruit and cartons retain labelling to the point of sale.
>
> Movement controls may disrupt markets for domestically grown product, and may lead to indirect impacts on Australian banana producers.[49]

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46 Mr L. Collins (ABGC), *Committee Hansard* 13 April 2004, p.16.

47 Submission 7, Mr D. Peasley, attachment K2, p.5.

48 Ms M. Harwood (Biosecurity Australia), *Committee Hansard* 10 March 2040, p.16, 24 May 2004 (hearing into Budget Estimates), p.116, 16 June 2004 p.9.

49 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - draft IRA report*, June 2002, p.247.

3.72 The February 2004 draft proposes restricted distribution as a possible risk management measure. It does not explain why the problems quoted above are no longer regarded as persuasive. In evidence BA commented that 'there have been some developments since 2002':

> Firstly, there has been more use made of restricted distribution regimes in Australia since 2002, including on the movement of bananas from banana growing areas in Queensland during the black sigatoka problems. In the light of that and in the light of the fact that the practicalities were demonstrated to some extent by those controls and their application the panel looked at the administrative, legal and other arrangements that would be necessary for a restricted distribution regime to apply. They still came to the conclusion that it would be very complex, that there were legal, administrative and operational complexities in doing it, but they also came to the conclusion that it was feasible. They identified low pest prevalence as essentially a more feasible means or a less trade restrictive means…[50]

3.73 The February 2004 draft suggests an east-west demarcation line so that the restricted area would include all of Queensland and Northern Territory, Western Australia above latitude 26 degrees, and New South Wales above latitude 32 degrees 30 minutes). It also suggests:

- An awareness campaign to inform the community about the restrictions: 'This campaign would particularly focus on participants in the distribution chain (wholesalers and retailers) and seek their co-operation';
- A requirement that imported fruit cartons are appropriately labelled; as well '…it may be necessary to identify imported Philippines banana fruit so that they could be readily distinguished…'[51]

3.74 Witnesses were concerned about the practicality of restricted distribution. Mr Paton, an IRA panel member, said, 'I have a very strong problem with this idea of restricted distribution…':

> I guess my position on restricted distribution is the experience I have had since I joined New South Wales in terms of interstate movements of produce. Certainly through eastern Australia there are essentially unrestricted movements. In the sense of being able to police those movements there are no road blocks between Queensland, New South Wales and Victoria…. Understanding the market systems which are out there, it would be very difficult to see how, in the longer term, you could actually control that movement. The theory is that by this restricted distribution, very little of that material will move into production areas in

50 Ms M. Harwood (BA, *Committee Hansard* 10 March 2004, p.13. Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.282.

51 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.17.

> Queensland. If you were to put that into the wholesale system in Sydney, I would not give any guarantees that you would have any control on it at all.[52]

3.75 Mr Peasley, an IRA panel member, said: 'I made it very clear to the panel that I did not regard [the proposed risk management measures] as practical or enforceable…'

> You have no control over secondary wholesalers and independents about where the bananas go.[53]

3.76 Dr Curll of NSW Agriculture argued that 'the wild card in all this is the consumer…':

> Whilst you might have a very tight quality control process for major retail sources, once the person at the shop has picked the fruit up, put it in their bag, put it in their car and driven 300 or 400 kilometres in one direction or another, you will have a situation like we have with fruit fly. It is a real, tough ask to expect that disease not to get into areas where it should not be.[54]

3.77 Dr Curll said that New South Wales would certainly not have sufficient resources to enforce a restricted distribution measure. [55]

3.78 Biosecurity Australia stressed that restricted distribution is not the preferred measure: the preferred alternative is sourcing bananas from areas of low pest prevalence in the Philippines.[56]

Sponging, brushing and insecticidal treatment

3.79 The June 2002 draft considered that insecticidal treatment would reduce the risk of mealybugs to an acceptable level. The February 2004 draft IRA considered that insecticide alone would not be adequate. It considered that the least trade restrictive risk management measure would be 'a combination of targeted inspection of the spaces between banana fingers by quality assurance staff and targeted sponging and brushing between banana fingers by packing station staff'.[57]

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52 Mr R. Paton, *Committee Hansard* 13 May 2004, p.2,5.

53 Mr D. Peasley, *Committee Hansard* 13 April 2004, confidential evidence p.1 (quoted with his consent)

54 Dr M. Curll (NSW Agriculture), *Committee Hansard* 13 May 2004, p.7.

55 Dr M. Curll (NSW Agriculture), *Committee Hansard* 13 May 2004, p.8.

56 Ms M. Harwood (Biosecurity Australia), *Committee Hansard* 16 June 2004, p.7.

57 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - draft IRA report*, June 2002, p.256. *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004, p.18,292ff.

3.80 The ABGC argued that 'the proposed risk management measures for mealybugs are laughable…':

> Mealybugs are small insects that hide in the safe crevices between banana fingers, where they are protected from inspection and washing and brushing. Immature mealybugs called crawlers are microscopic and would evade any inspection regime. This is demonstrated by the fact that live mealybugs were detected in 36 of the 82 consignments of Philippines bananas imported to New Zealand between 11 January 2001 and 21 March 2002 despite those consignments having already been inspected for mealybugs in the Philippines prior to export…
>
> Even assuming that those measures would be effective (which they wouldn't), does the IRA Team really expect that Philippine packing station workers will diligently inspect and sponge and brush between the fingers of every single cluster of bananas (estimated at 79,000,000 per year) which will be packed for export to Australia?[58]

3.81 Mr Paton also thought that sponging and brushing was not sufficient.[59]

3.82 The June 2004 addendum, based on a recalculation of probabilities to correct an error discovered in a spreadsheet, found that the unrestricted likelihood of mealybugs entering Australia was higher than previously thought. It recommended adding insecticidal dip or spray treatment to bring the risk within Australia's ALOP.[60]

Comment on risk management measures

3.83 The Committee agrees with concerns about auditing compliance with an area of low pest prevalence regime in the Philippines. On the evidence given, the Committee does not have confidence that the integrity of areas of low pest prevalence could be assured in the longer term.

3.84 The Committee has serious concerns about restricted distribution in Australia as a risk management measure. Considerations are:

- the June 2002 draft argued against restricted distribution;
- the February 2004 draft did not explain why it no longer regarded those arguments as persuasive;
- at least two IRA panel members continued to question its practicality;
- the Committee does not regard BA's evidence on developments since 2002 as persuasive.

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58 Submission 6, Australian Banana Growers Council, p.17-18.

59 Mr R. Paton, *Committee Hansard* 13 May 2004, p.5,11.

60 Biosecurity Australia, *Importation of Fresh Bananas from the Philippines - revised draft IRA report*, February 2004: Addendum, June 2004, p.66.

3.85 As well, the Committee has concerns about restricted distribution as a matter of principle. Plant movement controls already exist in Australia, but they should not be increased if it can be avoided. Australia's large size and scattered population makes internal border controls costly and of uncertain long-term reliability.

3.86 In the Committee's view Australia should affirm that its first, simplest and safest quarantine barrier is the sea. It should not accept any general duty under the SPS Agreement to restrict the free movement of Australians and their goods within Australia.

Chapter 4

Issues: administrative matters

Perception that the IRA process is subject to free trade pressure

4.1 There are clearly perceptions that BA's IRA process is or may be improperly biased by free trade considerations. The Queensland Dept of Primary Industries and Fisheries was concerned about 'the potential influence of the current international trade agenda on Biosecurity's decision-making process.' The concern is implicit in complaints by the Australian Banana Growers' Council (ABGC) that between the June 2002 and February 2004 drafts risk assessments have been downgraded allegedly without new scientific information.[1] Mr Collins of the ABGC said:

> We believe that they have a predetermined outcome that they want to arrive at.[2]

4.2 Mr Peasley submitted that 'At an early stage I became concerned that issues other than science could be influencing proceedings':

> …at the beginning of every stakeholder meeting in Australia, Australia's trade position and WTO obligations were stressed at length. While everyone involved in the process acknowledges that Australia has to meet international obligations, this emphasis on non-scientific issues had an adverse effect on the panel's ability to effectively communicate with stakeholders.[3]

4.3 Such perceptions may have been fostered by the fact that BA has also been involved in negotiating market access conditions for Australian exports.[4] This may have led to perceptions that BA was motivated to maximise overall trade benefits, considering both imports and exports, rather than simply assessing import proposals independently on their scientific merits according to the IRA guidelines.

Comment

4.4 It is regrettable that such suspicions should arise. It would be even more regrettable if they were well-founded. It appears that such concerns have contributed to the poor relations between BA and key stakeholders during the banana IRA.

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1 Submission 14, Qld Department of Primary Industries and Fisheries, p.2. Submission 6, ABGC, p.4.

2 Mr L. Collins (ABGC), *Committee Hansard* 13 April 2004, p.12.

3 Mr D. Peasley, submission 7, p.1. *Committee Hansard* 13 April 2004, p.45.

4 Ms M. Harwood (Biosecurity Australia), *Committee Hansard* 8 March 2004, p.1.

4.5 The Committee notes the recent initiatives by the Minister to reassure the community of the probity and independence of BA's process, by establishing BA as a prescribed agency independent of the Department, and by appointing a group of eminent scientists to assess stakeholder comments on IRAs.[5] The Committee will continue to take an interest in reviewing the effectiveness of these new arrangements.

Whether IRA panel members represent their organisations

4.6 The banana IRA team comprises two people who are officials of Biosecurity Australia, two who are officials of the Queensland Department of Primary Industries, one who is an official of NSW Agriculture, one who is an official of AQIS, and one who is self-employed.

4.7 In a situation like this there may be some uncertainty about whether IRA panel members are appointed in the capacity of expert individuals, or as representing their organisations.

4.8 The Primary Industries Ministerial Council recently considered this and affirmed that 'scientists involved in the IRA process are independent and are not representing their jurisdictions'. The Queensland government in its submission to this inquiry agreed.[6]

Comment

4.9 The Committee agrees that IRA panel members should be regarded as independent experts, not as representatives of organisations which they may happen to work for. This reflects the fact that IRA reports are meant to be independent expert opinions, not statements of policy.

Need for appropriate records of panel deliberations

4.10 It appears that the IRA panel had no orderly procedure for minuting decisions or recording action plans.

4.11 According to Mr Peasley, some IRA panel meetings were minuted at the beginning of the panel's operation, but not later, and minutes were not brought back to the next meeting to be agreed to.[7]

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5 Hon W. Truss, Minister for Agriculture, Fisheries and Forestry, *New measures to boost confidence in* IRAs, media statement 15 July 2004. *Government commitment to independence of Biosecurity Australia delivered*, media statement 1 December 2004. See also discussion of the role of the eminent scientists at hearing of the Committee's inquiry into IRA on apples from New Zealand: *Committee Hansard* 9 February 2005, p.8-9.

6 Primary Industries Ministerial Council communiqué, 19 May 2004, p.2. Submission 14, Queensland Government, p.2.

7 Mr D. Peasley, *Committee Hansard* 13 April 2004, p.48-9.

4.12 BA supplied summary notes of the panel meetings. These take the superficial form of minutes (list of participants; 'the chair welcomed members…' etc), but are extremely brief, and do not record debate, decisions, or action plans in any detail.[8]

4.13 Ms Harwood explained:

> **Ms Harwood**—Once the panel has a draft risk assessment document and they are working on estimates of likelihood and the treatment of risk in their work, their working document is the actual draft risk analysis report or parts of it. They do not keep a record of 'A said ... B said ... D said ...' …
> **Senator McLUCAS**—But there must be a tracking of progress or some system that your operation puts in place that is fairly standard: 'This is what we've decided; this is what we've yet to decide.' All sorts of bureaucracies have these sensible, ordinary management systems.
> **Ms Harwood**—It is actually a group of scientists working together to review particular issues and to form a considered and collective view on how to bring the science to bear on estimating likelihoods, risks et cetera through the different stages of the importation pathway. They record where they are up to in an up-to-date version of the draft import risk analysis report. That document evolves through time.[9]

4.14 The lack of clear minutes is relevant to the apparent confusion over whether the panel agreed to the contents of the draft IRA report, or merely agreed that it should be released. Mr Curll of NSW Agriculture commented:

> I guess in the absence of any agreed set of minutes or record of panel meetings, it is difficult to determine what may have been agreed to and what consensus was arrived at.[10]

4.15 It is also relevant to the lack of clarity over dealing with minority or dissenting opinions on the panel, as discussed below.

> **Mr Peasley**—I did ask on at least two or three occasions that my disagreement with the panel's decision on risk assessment be recorded.
> **CHAIR**—Was it?
> **Mr Peasley**—I saw it being written down but I did not ever see anything published.[11]

Comment

4.16 In the Committee's view the lack of clear minutes of panel proceedings is not satisfactory.

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8 Biosecurity Australia, answers to question taken on notice, 31 May 2004, attachment 1.

9 Ms M. Harwood (Biosecurity Australia), *Committee Hansard* 8 March 1004, p.6.

10 Dr M. Curll (NSW Agriculture), *Committee Hansard* 13 May 2004, p.2.

11 Mr D. Peasley, *Committee Hansard* 13 April 2004, p.48.

4.17 The panel's deliberations are not merely a scientific discussion: their outcome closely influences government decisions with potentially far-reaching consequences for the community. They should be recorded with the propriety needed for normal public service accountability. This does not necessarily mean there needs to be a verbatim transcript of a two day conference. It does mean there should be reasonable minuting of subjects discussed, lines of argument, resolutions, dissenting voices and further action needed. BA should provide secretariat services to ensure that this happens.

Recommendation 4

4.18 BA should provide appropriate secretarial support to ensure that IRA panels keep adequate records of proceedings.

Need for clear procedure for dealing with minority opinions

4.19 There appears to be some lack of clarity in BA's approach to dealing with minority or dissenting opinions on IRA panels.

4.20 In the case of the banana IRA it is clear that BA greatly desired a unanimous or consensus report. At the hearing of this Committee on 8 March 2004, BA described the 'job' of the panel as 'to develop a consensus report…

> **Ms Harwood**— They keep at it until they have an agreed position, which they will record in the report…
>
> **Senator McLUCAS**—… there must be points in the deliberations where there are different points of view.
>
> **Ms Harwood**—That is correct.
>
> **Senator McLUCAS**—Is that ever documented?
>
> **Ms Harwood**—No, because they keep working on the issue until they have a consensus position on how that issue will be handled…. We expect our expert panels to continue until they are, together, satisfied that this is their collective and unanimous assessment of risk.[12]

4.21 In November 2003 BA avoided Mr Paton's suggestion that the IRA report should make it clear that not all panels members agreed with risk management by restricted distribution:

> I got the impression at the meeting that others were not too enthused about this restricted distribution option either.… I said that I thought the report should have a statement which said that not all members of the committee agreed with that management option.
>
> **Senator McLUCAS**—Did you get a response to that email?
>
> **Mr Paton**—I think what happened from that was that the text of that particular section was modified to reflect that this was going to be an

12 Ms M. Harwood (Biosecurity Australia), *Committee Hansard* 8 March 2004, p.10,15.

> extremely difficult option to pursue from a practical point of view. Other than that, no.[13]

4.22 BA avoided revealing to this Committee that Mr Peasley and Mr Paton disagreed with parts of the IRA, as discussed below.

4.23 Between the 1998 AQIS import risk analysis handbook and the 2003 BA handbook, there was a change in the reference to how disagreements should be treated. The 1998 handbook said:

> The AQIS risk analysis team or the RAP is expected to present its recommendations on the basis of consensus. If consensus is not achievable, differences of view will be clearly identified.[14]

4.24 There is no similar reference in the current import risk analysis handbook. The Committee asked BA why this had changed. The answer did not explain *why* it had changed, but commented:

> The 2003 Handbook no longer contains a specific requirement to achieve consensus or to report departures from consensus, although both are implicit in the current requirements. Importantly, the revised Handbook does not remove the right of IRA team members to express individual views… In essence, the policy has not changed, although it is expressed differently.[15]

General comment on minority opinions

4.25 The Committee does not see why there should be any sensitivity about the existence of minority or dissenting views on IRA panels. Panel members are appointed as expert individuals, and it is to be expected that their professional judgments may sometimes differ.

4.26 All views are grist to the mill for the stakeholders who wish to comment and for the eventual decision-maker. In the Committee's view the decision-maker is quite capable of making a decision on the totality of evidence. It cannot be argued that concealing minority opinions increases the quality of information available to the decision-maker.

4.27 In discussing this Ms Harwood seemed to draw a distinction between draft and final IRA reports. She seemed to suggest that a final IRA report ought to flag any minority views, but a draft report need not do so:

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13 Mr R. Paton, *Committee Hansard* 13 May 2004, p.3.

14 Australian Quarantine and Inspection Service, *The AQIS Import Risk Analysis Process - Handbook*, 1998, p.18.

15 RRAT Budget estimates *Committee Hansard* 24 May 2004, p.96. AFF portfolio answers to questions on notice, budget estimates 24-25 May 2004, Q. MAB 05.

> That document is not a decision, it is a draft regime deliberately released for public comment, for people to make technical comment on every aspect of it. It is several hundred pages long. As I said earlier, at the final report stage, I would expect that the panel would work through to a unanimous report. If they could not do that, we would identify differences of view.[16]

4.28 This implies that the decision-maker on the final report would have information (concerning existence of minority views) which is withheld from the stakeholders at the public comment stage.

4.29 The Committee does not agree. There is no logical difference between a draft and final IRA report in this matter. If anything the reverse would be true: it is more important that differences of opinion are disclosed at the draft stage, as this will inform stakeholder comments.

4.30 The Committee also notes Ms Harwood's comment:

> In all of our IRA reports, if there is a matter on which there is a difference of view or uncertainty on the science, such as PMWS, that is dealt with in a transparent way in the document. It would refer to different scientific viewpoints and then say 'on balance the judgment is' or 'this issue at this point is this because of' whatever.[17]

4.31 This is not enough. 'On balance' leaves it ambiguous whether the matter is one where all the panel agree it is a line-ball decision, or one where panel members have firm but differing views and 'on balance' reflects the majority view.

4.32 **The Committee recommends** that the IRA handbook should have a procedure for handling minority or dissenting opinions on panels and reflecting them appropriately in IRA reports and draft reports. This is not a matter that should be left to individual IRA panels.

Recommendation 5

4.33 The IRA handbook should have a procedure for handling minority or dissenting opinions on panels and reflecting them appropriately in IRA reports and draft reports.

4.34 The Committee suggests that a likely role for the eminent scientists' group in reviewing IRA's would be to focus on any areas of disagreement among the panel.

Mr Peasley's minority report

4.35 BA's reluctant approach to minority views is shown by its treatment of Mr Peasley's minority report.

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16 Ms M. Harwood (Biosecurity Australia), RRAT Committee budget estimates *Committee Hansard*, 24 May 2004, p.165. Similarly p.135.

17 Ms M. Harwood (Biosecurity Australia), *Committee Hansard* 8 March 2004, p.14.

4.36 In June 2003, when a draft of the revised IRA was with IRA panel members for comment, Mr Peasley made it clear that he disagreed with significant parts of it. In contemporaneous diary notes he recorded a conversation with the panel chair, Dr McRae, thus:

> Cheryl said we would have to decide how we articulate my concerns - as a dissenting report or minority report. My concerns would have to be clearly articulated and presented to BA. She said it would not be fair to me or the Panel for my original email letter (of 10 June 2003) to be made public. I am to formulate my concerns as a minority report over the next 7-10 days.[18]

4.37 On 1 July 2003 he submitted what he explicitly called a 'minority report.'[19]

4.38 There was conflicting evidence to this Committee as to what the intended fate of his minority report was. Ms Harwood of BA said:

> In the case of Mr Peasley, he had given an outline of his minority views to the chair and he was asked whether he wanted those included. I asked him if he wanted them published with the report and he said he did not….
>
> I said to him, 'I'm quite happy to publish your minority report with the document when it goes out, so that people can see it,' and he said: 'No. Put the report out as it is. Let us have public comment on essentially the single report, the revised draft IRA report. Let that be the basis for consultation and for moving forward.'[20]

4.39 Mr Peasley denied this:

> The Risk Analysis Panel last met in Canberra on 11 September last year. This was the only time I could have been asked about whether I wanted my minority report to be included with the draft IRA report. I have no recollection of any offer being made on this occasion, and my diary does not contain any reference to any offer of this nature. As you will appreciate, this is a significant point, because I kept detailed diary notes of all meetings and teleconferences…
>
> At the 11 September meeting I recall being asked what I wanted to do about my minority report. This is not the same thing as being asked whether I wanted the minority report to be included in the draft IRA. I indicated I wished to *review the next draft report* before making any decision about the minority report. [emphasis added][21]

4.40 BA supplied a file note of 12 September 2003, which contradicts the point italicised just above. In it Dr McRae said:

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18 Submission 7, Mr D Peasley, attachment O, diary transcripts, 19 June 2003.

19 Submission 7, Mr D Peasley, attachment I.

20 Ms M Harwood (BA), *Committee Hansard,* RRAT Estimates 24 May 2004, p.92.

21 Mr D. Peasley, correspondence 12 May 2004.

> David told the meeting on 11 September that he does NOT want a report that he sent me… on 10 July 03… made public because his 10 July report does not represent his thoughts/ positions… David also told the meeting that his plan is now to leave making a decision about whether he will or will not even submit a minority report until *after the revised IRA document is released for stakeholder comment.*[emphasis added] Further, at the meeting, he agreed that the revised IRA report should be released as a document from the RAP with no reference to it representing a minority or majority report.[22]

4.41 Mr Peasley's recollection of this episode continued:

> I received the next draft on 10 November, and after reviewing it thoroughly forwarded detailed comments to the RAP chair on 1 December. In my covering [email] letter I stated:
>
> 'It is obvious that there are areas of disagreement on several key issues within the panel, particularly the risk assessment for Moko disease, however, these are not going to be resolved unanimously. I therefore support the release of the Draft IRA for stakeholder comment, hopefully with consideration of my suggested changes, in order that the Import Risk Analysis be resolved to a final recommendation as soon as possible. The concerns expressed in my minority report of June 30, 2003 remain valid.'
>
> I do not recall any further question being asked about the fate of my minority report, and certainly did not request that it be kept confidential. Again, my diary does not contain any later record of an offer by Biosecurity Australia or of any response on my part.[23]

Comment on evidence about Mr Peasley's minority report

4.42 The Committee prefers Mr Peasley's evidence on this matter. The Committee notes the following points:

- Mr Peasley's minority report of 1 July 2003, though nominally addressed to the chair of the panel, does not have the character of a document addressed to panellists in order to persuade them to change their minds. It has the name and character of a document addressed to the world at large in order to record a dissenting view after persuasion has failed. In this it contrasts with his letter of 10 June. [24]
- Mr Peasley's email of 1 December 2003, quoted above, confirms this: he retains the hope of influencing the panel with certain 'suggested

22 Biosecurity Australia, answers to question taken on notice, 31 May 2004, attachment 1.

23 Mr D. Peasley, Submission 7, attachment K. Correspondence 12 May 2004.

24 For example his minority report, by contrast with his letter of 10 June, includes formal introductory matter which would be pointless in a private letter : 'I was included as a member of the RAP in February 2001 because of my knowledge and experience in horticultural aspects of banana production in Australia over a period of 30 years…' Submission 7, Mr D Peasley, attachment I.

changes' (9 pages of attached detailed comments and text edits[25]); by contrast, he has abandoned the hope of changing the panel's mind on 'several key issues'; but he stands by his separate minority report which dealt with these issues, including many matters not mentioned in the detailed text edits.

- It is unlikely that the writer of such a document would want it to be permanently confidential. In that case it would have no purpose.
- Mr Peasley's comment about his 'detailed diary notes' is corroborated by the 12 pages of relevant diary transcripts covering two years which he submitted to the Committee.

4.43 As noted above, other evidence makes it clear that BA greatly desired a unanimous or 'consensus' report, or at least the appearance of it. On 8 March 2004, in answer to precise questions from the Committee, BA concealed the existence of Mr Peasley's minority report.[26]

4.44 The discrepancy between recollections of the 11 September meeting (paragraphs 4.38-4.39 above) may have been a genuine misunderstanding. If so, Mr Peasley's email of 1 December should have shown BA that there had been a misunderstanding, and should have made BA seek clarification of what he wanted done with his minority report.

4.45 In the Committee's view it is most likely that after 1 December 2003 Mr Peasley did not press the question of what would be done with his minority report, and BA took advantage of this to let it drop out of sight. The Committee hopes that this would not have happened if the panel had had better secretarial support.

Discussion of BA's evidence on this matter

4.46 At the hearing of 8 March 2004, when the Committee did not know about Mr Peasley's minority report, in response to unambiguous questions BA concealed its existence:

> **Senator BOSWELL**—So the document was unanimous, the IRA was unanimous?
>
> **Ms Harwood**—It is a consensus report…. 'Consensus' means that all persons present agreed to the report being released, that it is a reflection of their scientific judgment and that it reports accurately their outcome.
>
> **CHAIR**—What I have here is a consensus report by Lower Balonne water users that three out of 25 people entirely disagreed with, but they agreed to agree just to get the report out. We do not know if that goes on in this IRA committee.

25 Submission 7, Mr D Peasley, attachment K2.

26 Ms M Harwood (Biosecurity Australia), *Committee Hansard* 8 March 2004, p.14,15.

> **Ms Harwood**—That is not the sort of consensus that I am talking about here. This panel genuinely agreed as a group of seven scientists that this report represented their judgment…[27]
>
> **Dr McRae**—Perhaps as the chair of the IRA team I should answer this. There were seven members of that team and, as I said, I chaired it. The report was unanimous. In other words, every one of those seven people agreed that we should release the document with the text as written.
>
> **CHAIR**—Yes, but that is not saying they agree with it.
>
> **Dr McRae**—Every single word of that text should be released.
>
> **CHAIR**—You are still evading the question. What you just said does not mean that they all agreed with everything that was in it. They agreed to release the text as it was, but that does not necessarily say that they as individuals agreed with everything in it.
>
> **Senator BOSWELL**—Did they sign off as agreeing with the report?
>
> **Dr McRae**—Yes….
>
> **Ms Harwood**—Everyone agreed with the report and with its release.[28]

4.47 At a hearing on 13 May 2004 Mr Paton, an IRA panel member, said: 'I can tell you quite categorically that I agreed to the release of the report but I did not agree to the full contents of that report.'[29]

4.48 At later hearings, after the Committee had the benefit of Mr Peasley's minority report and Mr Paton's statement just quoted, Ms Harwood and Dr McRae explained themselves firstly, by conceding that some of their earlier evidence 'could be read as giving the [wrong] impression':

> **Ms Harwood—**...On rereading the Hansard of 8 March, preparing for this hearing, I could see a couple of instances where my responses could be read as giving the impression that all members agreed with the entire contents. Some members held minority views.[30]
>
> **Dr McRae—**...On reading the Hansard of 8 March, I can see that there are a couple of instances where my answers could be read as giving the impression that all members of the expert panel agreed with the entire contents of the revised draft IRA report.[31]

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27 Ms M. Harwood (Biosecurity Australia), *Committee Hansard* 8 March 2004, p.14.

28 Dr C. McRae & Ms M Harwood (Biosecurity Australia), *Committee Hansard* 8 March 2004, p.16.

29 Mr R. Paton, *Committee Hansard* 13 May 2004, p.5.

30 Ms M. Harwood (Biosecurity Australia), RRAT budget estimates *Committee Hansard* 24 May 2004, p.129.

31 Dr C. McRae (Biosecurity Australia), *Committee Hansard* 16 June 2004, p.1.

4.49 As well, Ms Harwood seemed to argue that they had been motivated by the fact that *the panel itself* had not wanted its disagreements to be known:

> Mr David Peasley held a different view, but *I was operating on the basis that they had made a collective and very conscious decision* to release a single report. [emphasis added][32]

> We genuinely attempted to answer the questions in good faith and, as I said on 24 May, *to respect and reflect the agreement of the panel* and the wish of the panel that the report be issued without minority or majority views. [emphasis added][33]

Comment

4.50 By concealing the existence of Mr Peasley's minority report, Ms Harwood and Dr McRae seriously frustrated the Committee's deliberations. The Committee acknowledges that they may have done this 'to respect the panel's wishes'; however, the panel's feelings cannot possibly override the officials' duty to give full and truthful answers to a parliamentary committee. Their actions wasted the Committee's time, and might be regarded as a contempt but for their belated clarifications.

4.51 The Committee notes that at hearings three weeks apart Ms Harwood and Dr McRae answered questions on this matter in almost identical words (see paragraph 4.48). The Committee regards coached evidence as unacceptable.

4.52 The Committee draws attention to relevant sections of the government's guidelines for official witnesses:

> 2.19 …Officials should be open with committees and if unable or unwilling to answer questions or provide information should say so, and give reasons….

> 2.45 …Also, if a witness believes, after perusing the record, that he or she has omitted some relevant evidence, the witness should, having consulted with the Minister (or departmental Secretary), seek leave of the committee to lodge a supplementary statement or to give further oral evidence.[34]

4.53 The Committee suggests that appropriate BA staff could profitably attend one of the Senate's courses for government officials to refresh their understanding of their responsibilities in relation to these matters.

4.54 The Committee notes that the new Interim Chief Executive of BA, Mr Cahill, has been quick to clarify points in evidence where, on reading the transcript, he felt

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32 Ms M. Harwood (Biosecurity Australia), RRAT budget estimates *Committee Hansard* 24 May 2004, p.135.

33 Ms M. Harwood (Biosecurity Australia), *Committee Hansard* 16 June 2004, p.11.

34 Department of Prime Minister and Cabinet, *Government Guidelines for Official Witnesses before Parliamentary Committees and Related Matters*, November 1989.

that there might have been some misunderstanding.[35] The Committee welcomes this responsible and open attitude and trusts that it will continue.

35 Mr J. Cahill, Interim Chief Executive, BA, correspondence 25 February 2005.

Chapter 5

Conclusions

Comment on the administration of Biosecurity Australia

5.1 In the Committee's view Biosecurity Australia's administration of the banana IRA has been less than ideal. The Committee refers to the lack of clear minutes of proceedings, and the lack of a clear procedure for dealing with minority opinions on IRA panels.

5.2 The Committee suggests that stakeholder perceptions that BA has been influenced by free trade pressure have contributed to poor relations with stakeholders.

5.3 Stakeholders' suspicions were increased by:

- BA's reluctance to admit that there were minority opinions on the panel, at a time when others suspected it;
- BA's apparent lack of concern about risks considered over the longer term;
- BA's handling of the public relations problem created by the spreadsheet mistake which eventually led to issuing the June 2004 addendum.

5.4 The Committee welcomes the Minister's recent initiatives to reassure the community of the rigour and independence of BA's procedures, by establishing BA as a prescribed agency independent of the Department, and by appointing a group of eminent scientists to play a key role in assessing stakeholder comments on IRA's.

5.5 The Committee hopes that these initiatives will flow through to the administration of BA as necessary.

Comment on import of bananas

5.6 The Committee does not have the expertise to comment on the scientific arguments in any detail. However the Committee considers that Dr Fegan's concerns about the assessment of Moko (paragraph 3.11ff), and Mr Peasley's concerns about the impracticality of controlling Moko on the highly mechanised farms of Far North Queensland (paragraph 3.20), need to be addressed more fully.

5.7 The Committee is sympathetic to the ABGC's general concerns about places where the February 2004 revised draft downgraded probabilities or risks apparently without any new information.

5.8 Most of the concerns relate to pests for which the IRA (up to the June 2004 addendum) does in fact find that the unrestricted risk is unacceptable (the exception is

Black Sigatoka). Thus the focus of concern turns to the adequacy of the proposed risk management measures (paragraph 3.54ff).

5.9 The Committee agrees with concerns about auditing compliance with an area of low pest prevalence regime in the Philippines (paragraph 3.65ff). On the evidence given, the Committee does not have confidence that the integrity of areas of low pest prevalence could be assured in the longer term.

5.10 The Committee has serious concerns about restricted distribution in Australia as a risk management measure, for the reasons given at paragraph 3.84ff. Plant movement controls already exist in Australia, but they should not be increased if it can be avoided. Australia's large size and scattered population makes internal border controls costly and of uncertain long-term reliability.

5.11 The scientific arguments about the steps leading to the assessed unrestricted risk, and the concerns about risk management measures, do interact in this way: if a certain factor affecting risk is actually higher than was thought (for example, the prevalence of Moko in the Philippines), then the consequences of any breakdown in the risk management regime become potentially more serious.

5.12 For these reasons, but mainly because of concerns about the proposed risk management measures, the Committee does not think the case to allow import of Philippine bananas has been made out.

Senator the Hon. Bill Heffernan

Chair

Appendix 1

List of Submissions

1. Mr FJ Hartridge
2. Mr Jim Turnour

2A Mr Jim Turnour

3. Mr Rob Williams
4. Dr Chris Hayward

4A Dr Chris Hayward

5. CRC for Tropical Plant Protection
6. Australian Banana Growers' Council Inc.

6A Australian Banana Growers' Council Inc.

7. Mr David Peasley
8. Professor James Dale
9. The Hon. Bob Katter MP
10. Mrs VD Burnett
11. Murray Goulburn Co-Operative Co. Limited
12. W.B McDowall
13. Mr Marc Jackson
14. Queensland Government

Appendix 2

Witnesses who appeared before the Committee at the Public Hearings

Monday, 8 March 2004
Parliament House, Canberra

Department of Agriculture, Fisheries and Forestry
Mr Paul Morris, Executive Manager, Market Access and Biosecurity

Biosecurity Australia
Ms Mary Harwood, Executive Manager
Mr William Magee, Senior Manager
Dr Cheryl McRae, Senior Manager, Biosecuirty Development and Evaluation

Wednesday, 10 March 2004
Parliament House, Canberra

Department of Agriculture, Fisheries and Forestry
Mr Paul Morris, Executive Manager, Market Access and Biosecurity

Biosecurity Australia
Ms Mary Harwood, Executive Manager
Mr William Magee, Senior Manager
Dr Cheryl McRae, Senior Manager

Tuesday, 13 April 2004
Parliament House Brisbane

Australian Banana Growers' Council
Mr Leonard Collins, Chairman, Imports Committee
Mr Tony Heidrich, Chief Executive Officer
Mr Marc Jackson, Banana Grower
Dr Ian Muirhead, Consultant
Mr Richard Piper, Consultant
Mr David Pullar, Consultant

Professor James Dale (Private capacity)

Mr David Peasley (Private capacity)

Cooperative Research Centre for Tropical Plant Protection
Professor John Irwin, Chief Executive Officer
Dr Mark Fegan, Lecturer

Dr Chris Hayward (Private capacity)

Thursday, 13 May 2004
Parliament House, Canberra

NSW Agriculture
Dr Michael Curll, Deputy Director General
Mr Robert Paton, Policy Officer (Market Access), Entomology

Cooperative Research Centre for Tropical Plant Protection
Mr John Herbert, Chairman, Governing Board

Department of Agriculture, Fisheries and Forestry
Dr William Roberts, Executive Manager, Special Projects, Product Integrity, Animal and Plant Health

Note: Relevant evidence was also given at the Committee's hearing on budget estimates on 24 May 2004.

Wednesday, 16 June 2004
Parliament House, Canberra

Biosecurity Australia
Ms Mary Harwood, Executive Manager
Dr Cheryl McRae, Senior Manager, Biosecurity Development and Evaluation

Department of Agriculture, Fisheries and Forestry
Mr Bernard Wonder, Deputy Secretary
Mr Paul Morris, Executive Manager, Market Access and Biosecurity
Dr Brian Stynes, General Manager, Plant Biosecurity

Wednesday, 9 February 2005
Parliament House, Canberra

Biosecurity Australia
Dr David Banks, Prinipal Scientist
Mr John Cahill, Interim Chief Executive
Dr Brian Stynes, General Manager, Plant Biosecurity
Mr Bernard Wonder, Deputy Secretary

Appendix 3

Additional information

Additional information accepted as public evidence of the inquiry:

A. Answers to questions put by the Committee
C. Miscellaneous further comment
H. Submitted during hearings

date	type	from	topic [Hansard page reference]
13/4/04	H	Australian Banana Growers Council	opening statement; two emails concerning Dr David Jones [p2,4]; 'Two sides of pork: scientific dispute over import risk kept under wraps', *Sydney Morning Herald*, 3/4/04; correspondence concerning IRA panel minutes [p2,4]; 2x photos of infested bananas
13/4/04	H	CRC for Tropical Plant Protection	Supporting documents [p21]
13/4/04	C	Mr D. Peasley	non-confidential diary transcripts [p44]
13/4/04	H	Qld Dept of Primary Industries	correspondence 13/4/04 [p55]
14/4/04	A	Dr Chris Hayward	meetings of technical working group
19/4/04	A	Dr Chris Hayward	insect transmission of Moko
5/5/04	A	Dr Chris Hayward	various
5/5/04	C	Dr David Jones	Dr Jones ABGC consultancy
7/5/04	C	Australian Banana Growers Council	Dr Jones ABGC consultancy
7/5/04	A	Australian Banana Growers Council	new references in February 2004 IRA
31/5/04	A	Biosecurity Australia	various
4/11/04	A	Biosecurity Australia	various
1/2/05	A	Biosecurity Australia	various
16/2/05	C	CRC for Tropical Plant Protection	website reference to BBMV
3/3/05	A	Biosecurity Australia	various
4/3/05	C	Australian Banana Growers Council	mealybugs