Submission to Senate Rural and Regional Affairs and Transport Legislation Committee Inquiry into Revised Draft Import Risk Analysis for Bananas from the Philippines

Prepared by: Mr David Peasley, Member Risk Analysis Panel

SUMMARY

Following my appointment to the Risk Analysis Panel I attended my first meeting of the panel in January 2001. I was appointed by the panel to chair Technical Working Group 3, which comprised three technical experts covering the areas of horticulture, environment and operations. My role involved coordinating the work of the group; gathering and assessing the quality of technical information available in Australia and the Philippines; analysing banana production and handling systems in Australia and the Philippines; conducting a national survey of Australian household "backyard" bananas which was used in the risk analysis, and a preparation of papers on behalf of the working group for presentation to the panel. My input is particularly reflected in the draft IRA sections covering Production and Trade and Growing Conditions. I attended all panel meetings, workshops and teleconferences, and participated in all stakeholder workshops conducted in Australia and the Philippines.

The following paragraphs broadly outline the series of events that culminated in my submission of a minority report on second draft IRA.

At an early stage I became concerned that issues other than science could be influencing proceedings. For example, all stakeholder meetings in Australia commenced with a lengthy presentation that discussed Australia's international trade position and obligations. I communicated my concerns verbally to the then Chair, Dr S Singh, on several occasions, to the Panel during discussions and a letter to Ms M Harwood on 28 October 2001. Please refer to Attachment A and relevant diary entries.

On 5 December 2001 I received an email that indicated a workshop was being held concerning the application of import risk analysis methodology to the draft IRA. The proposed agenda of the workshop included four sessions dealing with Moko. I did not receive an invitation to attend the workshop. I responded by email and by telephone. Dr Singh informed me verbally that my attendance at the workshop was not required. Please refer to Appendix B and to relevant diary entries.

In February 2002, during discussions in Manila, Australian officials presented two requests for technical information to their Philippino counterparts and industry experts. Answers have still not been received to a number of the questions asked at that time. Please refer to Appendix C and relevant diary entries.

On 26 March 2002 in an email to Dr Singh, I questioned the methodology that would allow the preparation and distribution of an executive summary before all technical information had been submitted. I also indicated concerns about the exclusion of some technical information from the executive summary, and about the lack of opportunity for panel discussion before technical reports were released. Please refer to Appendix D and relevant diary entries.

On 3 April 2002, following discussions with two other panel members involved in the preparation of technical working group reports; a joint view was conveyed to the Dr Singh indicating concern about the role of the RAP and its methodology. Please refer to Attachment E and relevant diary entries.

On 1 May 2002, I communicated serious misgivings to Dr Singh concerning a number of discrepancies between the panel's conclusions and what was actually included in the technical report. I indicated I was unable to endorse the technical report until major areas of concern had been addressed. Please refer to Attachment F and relevant diary entries.

Following release of the first draft IRA, and the receipt of comments from stakeholders on the IRA on 11 November 2002 I prepared and forwarded a paper that responded to comments on Moko. The paper discussed a number of technical issues relating to the consequences that could occur if Moko was introduced to Australia. Please refer to Attachment G which includes photographs and relevant diary entries.

On 4 June 2003 at a RAP meeting, panel members were given copies of the proposed second Draft IRA and asked to review it and respond by the following day. I indicated that I would find it difficult to review a 378 page technical document in so short a time frame. I pointed out that I had not been invited to participate in the preparation of the document, nor had I been kept informed of developments affecting the evolving document for more than six months. Consequently I requested an extension of time in which to respond. On 10 June 2003 I discussed a number of serious technical concerns with Ms Harwood and followed up with a letter to Dr C McRae, Dr Singh's successor as the panel's chair. In the letter I outlined my concerns and indicated I could not support the draft as it stood. Please refer to Attachment H and relevant diary entries.

On 30 June 2003 I submitted a minority report on the second draft IRA to Dr McRae. The report detailed technical deficiencies contained in the draft IRA. Please refer to Attachment I and relevant diary entries.

An email received on 10 July 2003 from Dr McRae states at numbered paragraph 4 that my minority report disagreeing with the revised Moko analysis had been received. Panel members were requested to keep the minority report confidential. Please refer to Attachment J and relevant diary entries.

On 1 December 2003 I forwarded my comments on the final draft IRA to Dr McRae. I indicated that given the unlikelihood of agreement within the panel on the draft's content, and given the need for events to move on, I would support the release of the draft. I reiterated my inability to support the content of the draft. Please refer to attachment K and relevant diary entries.

Other events that gave rise to concerns about the process occurred along the way.

Throughout, I maintained a diary and recorded all events as they occurred. A summary of diary extracts is attached. Please refer to Attachment L.

Complete transcripts of more significant diary records are contained in a further attachment. Please refer to Attachment M.

Attachment A

Mary Harwood,
General Manager
Plant Biosecurity Australia

Mary

Having just completed the first full round of eight grower stakeholder workshops covering all banana growing areas of Australia, I feel that it is appropriate to make some comments on the success of the workshops and some concerns and perceptions that are emerging.

The following comments are made as a RAP member and private horticultural consultant contracted by the Commonwealth of Australia.

Firstly, there is no doubt the workshops were very well received. The open and frank discussion was very much appreciated by both the participants and the panel at every workshop, as was the decision to hold workshops in each banana growing area of Australia. The representative/host of each stakeholder group made highly favourable comments in the wrap-up session of each workshop. There is also a genuine belief that the RAP is committed to doing a thorough and sound scientific risk analysis of the Philippines Banana Import Application.

I am concerned however, at the increasing perception among grower stakeholders, that the RAP, however genuine it is in its determination to conduct the process in an objective and professional manner, and the final decision, will be compromised by broader trade/political influences within government.

The attached press clipping from the Tweed Daily News following the Murwillumbah (NSW) meeting puts the generally held position fairly well.

Perhaps the most concerning statements by stakeholders occurred the final workshop on October 25 in Darwin when one stakeholder remarked that it appeared from our presentation that it was a matter of 'when' not 'if imports would occur. Another stakeholder claimed Biosecurity Australia had a 'conflict of interest' in conducting the IRA while being bound by the broader cross-commodity trade balance issues with other countries.

The introduction to each workshop and the display boards for each presentation has contained reference to our trade obligations under the WTO agreement that 75% of Australia's produce is exported and it is in Australia's national interest to open up trade barriers. While this may be a statement of fact, it is being interpreted by grower stakeholders and industry groups that trade issues at a higher level will be the final determinant of the decision on Philippines imports, regardless of the final recommendation of the RAP panel.

I believe that it is inappropriate that the RAP panel comment on issues outside the task of the panel, that is to conduct and independent scientific and thorough risk assessment of the import application from the Philippines.

Certainly the process must be put in the context of our WTO obligations, that is, to remove unsound quarantine restrictions as a basis for excluding imports, however I seriously question the relevance or wisdom of including reference to our trade position or balance across commodities in stakeholder workshops. I also believe it is this growing scepticism, sparked by these trade compromising issues, that is contributing to the reluctance of some stakeholder groups to contribute technical information to the panel.

The inclusion of cross commodity trade issues in these workshops is undermining the ability of the RAP to conduct its task in a credible manner with stakeholders and is reinforcing the perception that trade issues will decide the outcome rather than the final recommendation of the RAP panel.

For the benefit of all RAP members and future meetings with stakeholders I think this issue needs to be fully discussed and clarified as soon as possible.

David Peasley
Horticultural Consultant
RAP Panel Member and
Chairman ofTWG3.

28 October 200I

cc. Sharan Singh and Brian Stynes

> -----Original Message-----
> From: Singh, Sharan - MAB
> Sent: Wednesday, 5 December 2001 4:08 PM
> To: Beckett, Sam - MAB; Wilson, David - MAB; Pheloung, Paul - Product Integrity; 'Cormac Farrell'; 'Ron Peterson'; 'Chris Hayward'; 'John Thomas'; Allen, Rob - SMTP; Robbins, Mike - AQISACT; Parnell, Tom - MAB
> Cc: Stynes, Brian - MAB; Magee, Bill - MAB; Edwards, Gavin - MAB; 'Bob Paton'; 'Bryan Cantrell'; Bruno Pinese (E-mail); 'David Peasley'; 'Gordon Guymer'
> Subject: Philippines bananas: import risk analysis workshop
>
> Dear Colleague
>
> Thank you for agreeing to participate in this important workshop on
> the application of Biosecurity Australia's import risk analysis
> methodology to the Philippine banana IRA.
>
> The proposed agenda is as follows. I hope you don't mind an early
> morning start because we have a lot of ground to cover and some of the
> participant may like to leave a little earlier in the afternoon to
> catch flights.
>
>
> 08:00 - 09:00 Sam and/or David Wilson will set the scene by explaining the methodology
>
> 09:00 - 09:45 Sam and Tom will provide some insight into the NZ apple IRA methodology (draft) and discussion of associated issues
>
> 09:45 - 10:30 Plenary session - Application of the risk analysis methodology to quarantine pests of Philippine bananas
>
> 10:30 - 10:45 Morning tea/coffee break
>
> 10:45 - 11:00 Consideration of Biological information for Moko with the view to select the appropriate import risk analysis method
>
> 11:00 - 11:45 Draft model for estimating the unrestricted risk of Moko introduction
>
> 11:45 - 12:00 Consideration of the practicality and efficacy of the available risk management options for Moko
>
> 12:00 - 12:45 Draft model for estimating the restricted risk of Moko introduction
>
> 12:45 - 01:30 Lunch
>
> 01:30 - 02:00 Consideration of black Sigatoka information and modelling for this disease
>
> 02:00 - 03:00 Consideration of banana bract mosaic information and modelling for this disease
>

> 03:00 - 03:30   Need for further information to support basic assumptions and professional judgements
>
> 03:30 - 03:45   Afternoon tea/coffee break
>
> 03:45 - 04:30   General discussion on the work program of Pathogens TWG
>
> Please send any comments on the agenda to Gavin Edwards with copy to
> me. Gavin, please finalise the agenda.
>
>
> With kind regards
>
> Sharan Singh
>
>
>
>
>
>

Attachment B2

Outcomes of the Philippines bananas IRA workshop (Pathogens TWG)

Canberra, 17 December 2001

Participants:

Sharan Singh	(Chair) Risk analysis panel & pathogen technical working group
Rob Allen	Risk analysis panel
Chris Hayward	Pathogen technical working group
Ron Peterson	Pathogen technical working group
John Thomas	Pathogen technical working group
David Wilson	Biosecurity development and evaluation - AFFA
Sam Beckett	Biosecurity development and evaluation - AFFA
Paul Pheloung	Office of the Chief Plant Protection Officer - AFFA
Mike Robbins	AQIS - AFF A
Cormac Farrel	Environment Australia
Chris Hillbrick	Environment Australia
Rob Duthie	*A/g* Secretariat - Plant Biosecurity

Outcomes

Sharan Singh welcomed workshop members and provided an outline of areas to be considered during the workshop.

Import risk analysis (IRA) methodology (Sam Beckett/David Wilson)

Presentations were given by Sam Beckett and David Wilson outlining the revised IRA and pest risk analysis methodology. The Draft Import Risk Analysis guidelines are available on the AFF A internet site at:

http://www.affa.gov.au/content/publications.cfm?ObjectID=85B98CC3-86DE-48AE-8A76D4A40F33245A

Discussion followed regarding the most appropriate approach for pest risk analysis. Qualitative, semi-quantitative and quantitative options for analysis were examined. It was stressed there is no "best method". The most appropriate methods to convey policy development to stakeholders should be adopted.

The group agreed The Philippines Banana IRA will use semi quantitative methods *for* pest risk analysis where possible.

New Zealand apple IRA methodology (Sam Beckettffom Parnel)

The need for a breakdown of scenarios into manageable and quantifiable components associated with the pest risk analysis for the NZ Apple IRA process was emphasized. The issue of consistency of approach *for* pest risk analysis was also raised. One major bacterial disease (Fireblight) had received detailed analysis, which has raised the issue of consistency of consideration for other pests and diseases of quarantine concern for the NZ Apple IRA. David Wilson suggested that pests and diseases of concern should be categorized and representatives from various groups should be considered in detail. It is hoped risk mitigation strategies proposed for pests and diseases considered in detail would encompass other pests and diseases not considered in detail.

Plenary session. Application of the risk analysis methodology to quarantine pests of Philippine bananas

Sharan Singh suggested semi quantitative consideration of all pests and diseases was necessary, the major diseases should be considered quantitatively if possible.

Difficulties in estimation of establishment and spread potential of diseases of concern was raised. It was stressed that the methods section of the PRA should be used to clearly define issues which will be considered when determining establishment and spread potential.

Consideration of Biological information for Moko with the view to selecting the appropriate import risk analysis method

The dichotomous nature of Moko disease in bananas with respect to epidemiology and infectivity was discussed.

It was greed by the group that Bugtok and Moko are synonymous, this distinction to be included within the Moko datasheet.

A biological information datasheet for Moko was considered and amended by the group.

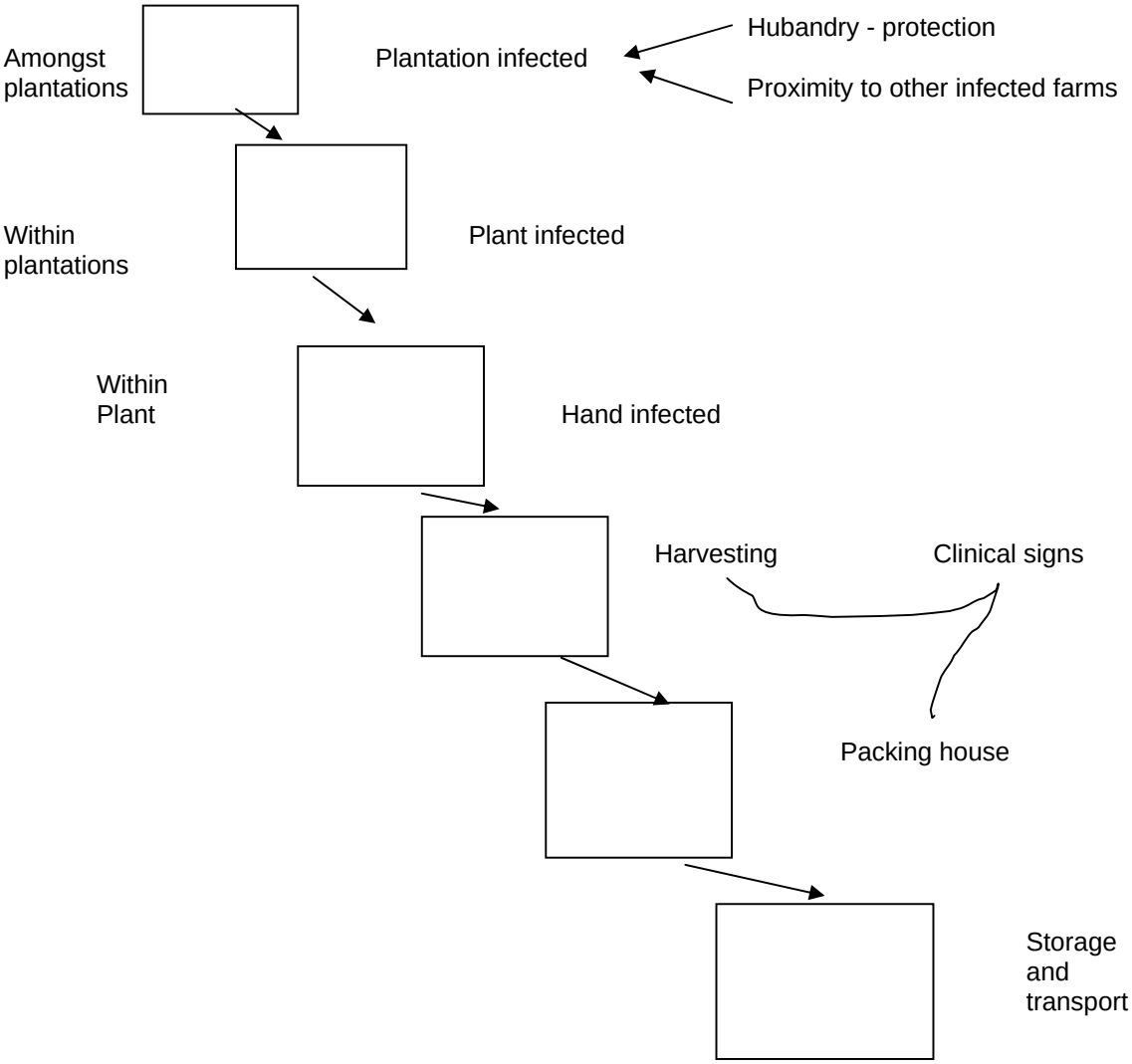
All varieties of bananas grown in Australia need to be considered with respect to consequences of Moko establishment.

Draft model for estimating the unrestricted risk of Moko introduction

A breakdown of various scenario points for Moko transmission from the plantation to shipment was developed by the group.

AGRICULTURE, FISHERIES AND FORESTRY - AUSTRALIA

Moko disease scenario 1.



The group agreed that a scenario breakdown for Moko is an effective method for detailed risk analysis due to the complex nature of the disease.

Consideration of the practicality and efficacy of the available risk management options for Moko

Latency of Moko development within Cavendish banana hands was discussed. There is no clear indication within the literature regarding the transferal of Moko from vascular tissue to the banana skin.

The feasibility and incubation period of disease establishment on banana hands needs to be clearly established.

The mode of transmission of Moko was discussed. Unsanitised machete use is known to transfer the disease readily. Insect transmission of the disease from infested plants outside of the plantation is thought to occur within the Philippines, although a gradient of insect transmission from infested areas into the plantations is not apparent.

The likelihood of an infested banana hand being harvested within a Philippines plantation was discussed. It was agreed that an infected hand, not expressing symptoms of Mo ko, might be harvested although the likelihood would be low. Scientific literature and history of past trade indicates that hands infected with Moko have not been detected.

Draft model for estimating the restricted risk of Moko introduction

A model based on management versus no management within plantations was discussed. Areas to be considered within the model were:

- The time period required for infected fruit to show disease symptoms
- If fruit is infected would bacterium levels be high enough for symptoms to express
- Previous exports of Philippines bananas have gone to none banana producing countries, therefore Moko disease, if present has not been able to establish.

A definition of unrestricted risk was developed which would incorporate current management procedures in place within banana plantations within the Philippines and other banana producing countries. Current management procedures to be broken into components and the likelihood of increasing or decreasing spread potential of Moko to be quantified. Criteria to be examined would include:

- The likelihood that an infected bunch is harvested
- The likelihood of finding an infected bunch through normal inspection protocols
- The likelihood of finding an infected hand during the bunch de-handing process
- A combination of the above probabilities to give the probability of finding an infected hand prior to shipment to Australia

The scenarios leading to an infected hand entering Australia were discussed. Several modes of an infection may be possible to lead to an infected hand:

- An infected plant produces an infected bunch - unlikely given most infected plants either
  die or are culled and do not produce bunches
- A healthy plant produces a bunch which is then infected by insect transmission - possible
  given insect transmission is thought to occur within Philippines plantations
- Disease transmission via roots to a healthy plant and bunch - unlikely for bunch

infection,
as travel time to reach the bunch through the vascular tissue from the roots would be considerable.

Given the complexity of scenarios to reach the common end point of an infected bunch it was suggested that the most appropriate starting point for analysis might be the examination of the likelihood of an infected bunch being produced. In Cavendish bananas if Moko disease is rampant, no more than 30% of bunches will be infected.

Unfortunately time did not allow for discussion and development of risk estimation models for Black Sigatoka and banana bract mosaic diseases.

General discussion on the work program of Pathogens TWG

- Draft datasheets on Moko, Black Sigatoka and banana bract mosaic diseases are to be
  examined by the group with comments incorporated into final drafts.
- The risk estimation model for Moko to be further developed essential parameters for
  consideration to be further defined.
- The model for Moko to be developed and the template to be applied to other diseases under

Attachment B3

David Peasley

From: Sharan.Singh@affa.gov.au
Sent: Monday, 19 November 2001 9:03 AM
To: peasleyhort@bigpond.com
Gavin.Edwards@affa.gov.au; Brian.Stynes@affa.gov.au; Bil'.Magee@affa.gov.au; bob.paton@agric.nsw.gov.au; cantreb@dpi.qld.gov.au; peasleyhort@bigpond.com; mike.robbins@aqis.gov.au; allenr@dpi.qld.gov.au; Sharan.Singh@dpie.gov.au; Pineseb@dpi.qld.gov.au; c.hayward@bioscLuq.edu.au; thomasje@dpLqld.gov.au; petersra@dpi.qld.gov.au; gordon.guymer@env.qld.gov.au; Mike.Robbins@aqis.gov.au
Subject: RE: Risk Assessment Workshop & Day 4 Philippines notes

Dear David

Thank you for your email. Could you keep Mike Robbins in the loop, particularly concerning policy on "hitchhikers". Could we have a look at your proposed methodology before referring it to external reviewers.

David, what I have in mind for the pathogens and arthropods TWGs is to develop an approach to the selection of methodology for pests in different risk categories; review the information on pests such as Moko and ascertain how far we can go with different methods of risk assessment; eg, can we go as far as New Zealand apples or a bit further? We will no doubt all be using the methodology proposed in Biosecurity Australia's draft import risk analysis guidelines as far as possible unless there are justified reasons to accommodate issues not covered by the guidelines.

I would like to see solid progress on specific quarantine pests of banana in the first instance. We need to "Swiss cheese" the project in order to progress various issues.

Thank you for the notes from the Philippines visit.

Regards

Sharan
---- Original Message----
From: David Peasley [mailto:peasleyhort@bigpond.com]
Sent: Sunday, 18 November 2001 8:46 PM
To: Sharan.Singh@affa.gov.au
Subject: Risk Assessment Workshop & Day 4 Philippines notes

Sharan
Thanks for the email re Risk Estimation workshop.
Gordon Guymer and I had a half day workshop at Burleigh last Friday 16.11.01 and developed responses to the environment questions answered by the Philippines. We developed a draft report format and methodology in which a risk assessment is made on environmental issues such as hitchhikers, pesticides, etc. on the Australian environment.
We planned to forward the draft format to Environment Australia for comment when it is completed.
Do you want to have our risk assessment methodology consistent with that of the pests and diseases technical working groups?
Attached are my Day 4 (Thursday August 9) - draft notes on the Philippines visit.
I hope to finish the final day (Day 5) tomorrow. I should get them to you by Tuesday.
Regards
David

Attachment C

4 March 2002

PLANT BIOSECURITY POLICY MEMORANDUM 2002/08

IMPORT RISK ANALYSIS - IMPORTATION OF BANANAS FROM THE PHILIPPINES

This Plant Biosecurity Policy Memorandum (PBPM) updates stakeholders on the Import Risk Analysis (IRA) on Bananas from the Philippines.

Since the stakeholder workshops in October 2001, the three technical working groups (TWGs) pathogens; arthropods; and horticulture, environment and operations - have been preparing draft technical reports for risk analysis panel (RAP) consideration.

The RAP and TWGs will meet in Canberra on 7 and 8 March 2002 to plan completion of the draft reports by the end of March. The draft reports will then be sent to stakeholders, who will have 30 days to comment.

The TWGs will finalise the reports, taking into account stakeholder comments. The RAP will use the reports to prepare the draft IRA report.

Stakeholder meetings

The RAP plans to meet with stakeholders in the period between the release of the draft technical reports and the draft IRA report. It intends to hold one or two meetings to discuss the technical issues of interest to stakeholders. We will advise meeting dates and venues when they are confirmed, and stakeholders will be welcome to raise any technical issues with the panel at those meetings. We would encourage stakeholders to have their technical advisers at these meetings.

Philippines meetings

Two Biosecurity Australia officials met with counterparts and industry technical experts in Manila on 18 and 19 February 2002 to discuss technical issues related to Australian IRAs on Philippine tropical fruit, including bananas.

Two requests for additional technical information relating to the Philippine Banana IRA (see attachments I and 2 to this PBPM) were discussed. The Philippines Bureau of Plant Industries has undertaken to forward the information as soon as practicable.

Biosecurity Australia has .invited Philippine technical experts to Canberra to further discuss and clarify technical issues concerning the banana IRA with TWG and RAP members. We expect this meeting will be held in the last week of March.

Information relevant to the IRA

It is important that stakeholders who have information which may be relevant to the Philippines banana IRA provide that information as soon as possible. We wish to ensure that such technical information is available to the TWG's and the RAP at this important stage in the risk analysis.

Confidentiality

Respondents are advised that, subject to the *Freedom of Information Act* 1982 and the *Privacy Act* 1988, all submissions received in response to Plant Biosecurity Policy Memoranda will be publicly available and may be listed or referred to in any papers or reports prepared on the subject matter of the memoranda.

The Commonwealth reserves the right to reveal the identity of a respondent unless a request for anonymity accompanies the submission. Where a request for anonymity does not accompany the submission the respondent will be taken to have consented to the disclosure of his or her identity for the purposes of Information Privacy Principle 11 of the Privacy Act.

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The contents of the submission will not be treated as confidential unless they are marked 'confidential' and they are capable of being classified as such in accordance with the Freedom of Information Act.

Consultation

If you wish to suggest inclusion of an additional stakeholder in our distribution list for this IRA, or if you wish to be removed from the distribution list, please provide details to Technical and Administrative Services at the address below.

Information on all IRAs being conducted by Plant Biosecurity is available on the web at http://www.affa.gov.aulplantbiosecurity.

Brian Stynes General Manager Plant Biosecurity
Contact: Address:
Technical and Administrative Services Plant Biosecurity
Biosecurity Australia
AFFA
GPO Box 858
CANBERRA ACT 2601
02 6272 5094
02 6272 3307 plantbiosec@affa.gov.au
Telephone no: Facsimile no: E-mail:

Attachment 1

RAP's request for further information from the Philippines

The Risk Analysis Panel (RAP) on Philippine bananas would like further clarification on the following questions that the Bureau of Plant Industry (BPI) responded to in October 2001 (available on the AFFA website at www.affa.gov.au/plantcra). The RAP will shortly ask the Philippines for more information for use in import risk analysis models for specific quarantine pests.

Question 4

What proportion of plants in various plantations is inspected on a weekly basis? Do specialists, e.g., entomologists, plant pathologists and agronomists accompany survey teams at each inspection?

Question 5

According to the BPI response, the Philippines use "area freedom" for managing banana pests. Please provide a list of banana pests that are managed by area freedom arrangements. Is area freedom used to control bugtok/Moko, freckle, Panama, bract mosaic, abaca mosaic and/or bunchy top? If so, please provide details of BP I procedures to achieve and maintain area freedom from these pests. Could you also provide survey and monitoring data for each pest over a reasonable period, preferably 5 years, to demonstrate the efficacy of "area freedom" arrangements in eliminating the pest from a pest free area?

The RAP would like the Philippines to provide detailed operational work plans to explain/demonstrate the use of "area freedom" as a management measure for banana pests, diseases and weeds

Question 6

The response to question 6 is at variance with the response to question 62 and also discussions between Philippine experts and the TWG Chairs, according to which at least the following pests may occur on banana fruit: freckle, diamond spot, mealybugs, whiteflies and scale insects.

Hard scales (Diaspididae) have been intercepted on Philippine bananas by importing countries and *Aspidiotus destructor* has been identified as a pest in the Philippines. However, according to Sugimoto, S (1984) the scale insects (Coccoidea:Homoptera) were intercepted on banana fruits from Mindanao (Research Bulletin of the Plant Protection Service. Japan 30, 115-121 refers). The Philippines have not listed mites as pests of bananas in the Philippines although a number of spider mites known to be present in the Philippines and exotic to Australia (e.g., *Oligonychus orthius,* o. *velascoi* and *Caryota cumingii)* are reported to infest banana and a range of other crops. Could information on mite pests affecting bananas in the Philippines be

provided?

Please provide a complete list of pests and “hitchhikers" (organisms that are normally not pests of banana fruit but may be associated with it) that have been detected on fresh banana fruit during preexport inspections in the plantations and packhouses, and interceptions by importing countries in Philippine bananas?

Please provide all information regarding the interceptions of pests, diseases and hitchhikers on Philippine bananas from all export market sources, e.g., Japan, Taiwan, Middle East, New Zealand, China, Hong Kong, Russia, Singapore, Yugoslavia, Italy, Turkey, Iran and Egypt. Also, indicate if inspections are carried out in each export destination and what is the level of inspection and reporting?

Question 7

Please provide results of surveillance/monitoring and recording/reporting referred to in the BPI response. This information would be vital for developing precise and ultimately defensible estimates in the semi-quantitative/quantitative risk analysis models.

Question 8

Please provide a complete list of pesticides used in Philippine banana plantations (see response to questions 13 and expand; please also provide trade names of the pesticides). What is the rate and frequency of application of each pesticide?

Question 12

What concentrations of chlorine and alum are used and how are these concentrations monitored and maintained? How often is "topping up" or replenishment required with these chemicals under various fruit volume throughputs, climatic conditions, etc.?

Question 13

BPI has indicated that pesticide residues are of concern and require monitoring to meet maximum residue limit (MRL) standards. The reply indicates that pesticide residues are a concern, but does not nominate them. The final section then claims that there are no detectable residues basis [?] per pesticide and market tolerances. What pesticides have exceeded MRLs stipulated in CODEX ALIMENT ARIUS in any export shipment and what levels of pesticide residues were detected?

Please provide results of pesticide residue monitoring by the Philippines and the importing countries, including a report from the USDA database if at all possible

Question 14

The reply states there is "adequate" biological pest information to support production of export quality bananas. Please specify the sources and detail of biological and pest management information for banana pests, diseases and weeds in the Philippines. Also, indicate how the term "adequate" was derived (given the heavy reliance on pesticides for the production of bananas in the Philippines.)

Please clarify if this information is included in the fact sheets provided by BPI to the RAP. Is there any additional information available and, if so, please provide such information?

Question 15

Do the data sheets include information from the Philippine private sector? The reply indicates there is unpublished data in the private sector. Do reputable researchers referee the scientific data? If this information is not in the public domain, what standards of efficacy and environmental impact are used and, does the FP A have access to the technical data from the private sector?

Question 17

The pathogens TWG understands that banana fruit can be infected with Banana bract mosaic virus. Has the Philippines recently conducted any work to demonstrate the presence of the virus in banana fruit and transmission of the virus by arthropod vectors from infected banana fruit to banana plants?

Question 18

The pathogens TWG has information from other sources that Moko infected plants can produce fruit bunches and the fruit may ripe prematurely following internal fruit infection. What is the frequency of premature ripe fruit caused by Moko in Philippine commercial Cavendish plantations?

Is there any information on the extent of rain splash dispersal of the bugtok/Moko bacterium? Can dried bacterial ooze be blown in from backyard banana plants to commercial Cavendish plantations? To what extent the bacterium can survive in or on fruit or in dried bacterial ooze?

Is it possible for the Moko bacterium to remain viable in the gum exudate when flowers are removed at bagging and remain viable but not infect the flower scar through the bunch filling and to ripening stage i.e. can the bacterium remain viable in the flower end scar tissue on banana fingers without actually invading the pulp of the fruit?

Questions 19

According to the investigations of the Pathogens TWG, there is now evidence available to the effect that bugtok and Moko isolates from the Philippines are genetically one and the same thing. Pathogenicity of bugtok isolates to Cavendish plants has also been demonstrated. From these studies, it can be extrapolated that strain B is present in the Philippines on both Cavendish and native cooking bananas, which carry the B genome (e.g. Lakatan and Saba). Work conducted in other countries has shown that B strain is highly insect-transmitted on bananas carrying the B genome and its transmission by insects to Cavendish inflorescence occurs at a relatively low rate. This situation appears to be similar to the observations in the Philippines.

In light of all the above information, it is reasonable to assume that native backyard bananas play a role in providing a source of inoculum for transmission of *Ralstonia solanacearum* Race 2 strain B to Cavendish plantations. This would also suggest that it would be extremely difficult to maintain
Cavendish plantations free from this pathogen over a long period of time due to the likely ongoing influx of inoculum by contaminated insects from infected backyard bananas, which are widely
distributed in Bukidnon, Cotabato and Davao.

Information is required to clarify how many strains of *Ralstonia solanacearum* Race 2 occur in the Philippines and at what level they are insect-transmitted to Cavendish inflorescences

Question 20

Information from other sources suggests that the Moko bacterium may survive in soil for more than two years. How long can the Moko bacterium survive in soil under favourable conditions? What data can be provided to support the claim of6-12 months survival in soil?

Question 21

Numerous species of arthropods frequent banana inflorescences. What are the arthropod species known to occur on banana inflorescences in the Philippines and which of these are capable of transmitting Moko?

The reply states there are no observed insect vectors. It is stated in the reply to Question 14 that there is adequate pest management information available. If so, what research has been done to identify insect vectors of Moko? What are the results of any such research?

The RAP has found little information in the literature on studies associated with insect transmission of bugtok/Moko disease in the Philippines. The RAP would like information from any work done in the Philippines on insect transmission of bugtok/Moko including such things as: the insects involved in transmitting the bacteria; any studies on detection of the bacteria on insects; and the period the bacteria remains viable on insects.

Question 22

Please provide a list of plant species on which the Moko bacterium may occur in the Philippines taking into account the information on the host range of this pest in other countries and work conducted in the Philippines.

Question 23

What is the evidence that bugtok does not exist in commercial Cavendish plantations? Bugtok and Moko are caused by the same pathogen. It is highly possible that the disease occurs at very low levels in commercial Cavendish plantations as compared with its high incidence in native cooking bananas. Please clarify this issue

If bugtok can infect Cavendish, and bugtok is insect transmitted and the same causal organism as Moko, does this explain the random incidence of Moko infection in many plantations? Also, it is claimed Lorsban impregnated bags control bugtok. What data are available to support this claim, as the flower ends are attractive to insects well before the bags are applied? Also, Lorsban impregnated bags are not permitted *for* use in South Cotabato for environmental reasons. How is bugtok controlled there?

Question 24

Would Moko bacterium infect banana flowers if they were not removed? If the flowers were infected, how long could the bacteria survive in infected floral parts? Would viable bacteria be present in infected floral parts at the time of harvesting bananas?

Question 28

The reply does not indicate how effective the procedures are for ensuring freedom from leaf trash and contaminated soil. Is there any data to prove these measures are effective in ensuring freedom from contaminants? What measures are taken to eliminate dust contamination of cartons, pallets, etc., in packing areas and during transport to the wharf?

Question 29

Is there any evidence that the movement of contaminated farm machinery has resulted in spread of Moko disease in the Philippines?

Question 31

Are all Philippine banana growers/plantation managers required to keep records of pest and disease occurrences and pesticide applications? If so, does BPI have access to these records and could this information be made available to the RAP?

Question 32

The reply states there are environmental concerns in the Philippines associated with the production and consumption of bananas. What are these environmental concerns/problems, e.g., pesticide residues, contamination of waterways, soil, air, waste disposal, etc.? Provide details of testing results. What chemicals are of greatest concern for environmental problems?

Question 33

Regarding the Environmental Policy for addressing environmental concerns with banana production, the reply implies that the Environmental Compliance Certificate (ECC) of the DENR is the environmental policy. Apart from the ECC is there a set of environmental standards or a policy for addressing environmental concerns with banana production?

Question 34

The reply indicates that hitchhikers are present but there are no reported cases. Please explain the reply to this question regarding the occurrence of hitchhikers of bananas in the Philippines. Provide details of all interceptions of hitchhikers prior to shipping and at the destination port inspection.

Question 35

The RAP during their Philippines visit saw feral and native banana plants in close proximity to commercial plantations. The Philippines reply states these do *not* exist in the vicinity of commercial plantations. What is the regulatory policy regarding the distance of feral and native backyard bananas from commercial plantations and how is it policed?

Question 38

Provide details of all importing countries requirements/protocols/work plans for the importation of Philippine bananas to address their quarantine concerns?

Question 39

List all quarantine concerns from all importing countries of bananas from the Philippines. What measures do they require *for* fruit flies and other pests, diseases, weeds and hitchhikers?

Question 40

Please provide detailed information, e.g., work plans, procedural manuals and/or instructions that the BPl staff are required to follow to ensure that importing countries quarantine requirements are duly met.

Question 41

Records *of* interceptions and non-compliance are being kept by the Philippines. Provide a completion list *of* interceptions and non-compliances years reported by the importing countries.

Question 42

Provide details *of* inspection procedures prior to the issuance *of* the Phytosanitary Certificate.

Question 43

The reply states the methods *of* quality management rather than the QA system. Are all potential exporters operating under a certified and independently audited QA system, for example, lSO9002?

Question 44

Has the Philippines conducted any further trials to verify the efficacy *of* fruit surface disinfestation treatments in killing surface-borne inoculum *of* black Sigatoka fungus, freckle fungus and the Moko bacterium on fruit itself? Demonstration *of* efficacy *of* the surface disinfestation treatments in commercial scale operations is required. The work should be conducted following an acceptable experimental design(s) in a manner that the results would be accepted for publication in a refereed
journal. The efficacy *of* the chlorine and alum treatment in killing the Moko bacterium in the form *of* dried ooze on the fruit surface is also required, particularly ifviable bacteria are present in the dried ooze.

Some Australian stakeholders have raised the issue *of* recontamination *of* fruit with pathogens after the surface disinfestation treatment has been applied. Are any measures used by the Philippines to address such concerns?

Question 58

Regarding the latency *of* freckle disease in banana fruit, the meaning *of* latency in the context *of* the risk analysis is the period between infection and the appearance *of* symptoms. The latency period could vary depending on climatic conditions, for example, a prolonged latency period may be experienced under cooler conditions. What is the period *of* latency for freckle disease under different climatic conditions?

Question 60

It appears this question has been misunderstood. Our understanding *of* this 'issue' is that there may be a 'problem'. The Philippines reply appears to suggest there are no problems. Have any ill effects been recorded on humans and animals exposed to chemicals used in banana

plantations and how are such health hazards managed?

Question 62

The reply has not nominated any hitchhiker *or* disease interceptions in Philippine bananas during pre-export inspection *of* bananas; please refer to text under question 6 above and provide a comprehensive response.

Question 67

The answer maybe interpreted as yes to the question *of* resistance by black Sigatoka to Calixin, though it is within acceptable levels. However, it is stated that no shift in population sensitivity has been detected. The Philippine experts advised the TWG Chairs that no resistance to Calixin has been detected. Please clarify this issue.

Question 72

According to the information from the Philippine literature, bugtok is endemic in backyard and feral banana plants surrounding the commercial Cavendish production areas. Please clarify this issue.

Question 73

Please refer to text under question 21 above and provide a response. Also, are any results available for the study mentioned in the BPI response?

Question 74

What evidence is there that the mode *of* transmission *of* the causal bacterium for Moko *or* bugtok in Cavendish banana is systemic infection and not insect transmission? The response is not consistent with the literature *on* the epidemiology *of* the B strain.

Question 75

Again, what evidence is there *of* exclusive systemic transmission *of* the causal bacterium producing Moko in Cavendish cultivars? The pattern of infection as seen from aerial inspection by the TWG Chairs would suggest a random pattern more indicative *of* insect transmission than a soil borne/or worker lapse n disinfestation of cutting tools.

Attachment 2

Critical considerations requiring further investigations

The Risk Analysis Panel (RAP) has identified critical issues that require further investigation. The RAP would appreciate Philippines assistance with resolving as many of these issues as possible. Philippines has already indicated that fumigation with methyl bromide is detrimental to the quality of bananas. This fumigant may be acceptable for vacuum packed bananas, in polyethylene bags, to address certain quarantine concerns, for example, if contamination of packing materials soil is detected during quarantine inspections. It would be desirable to obtain information on methyl bromide and its efficacy against certain quarantine pathogens.

Moko/bugtok

1. Incidence of symptomatic and asymptomatic fruit infection in banana plantations, including information on how this can be measured.
   2. Viability of the Moko/bugtok bacterium within the fruit tissue following storage and transport. 3. Presence and viability of Moko/bugtok bacteria on the fruit surface.
4. Efficacy of chlorine and alum dip in killing Moko/bugtok bacteria contaminating the fruit surface.
5. Presence of bacterial ooze on fruit surface and viability of the Moko/bugtok bacteria in the ooze. '
6. Efficacy of chlorine and alum dip in killing Mokolbugtok bacteria contaminating the fruit surface.
7. Presence and viability of Moko/bugtok bacteria in and on floral remnants.
8. Efficacy of chlorine and alum dip in killing Moko/bugtok bacteria in or on floral remnants.
9. Presence and viability of Moko/bugtok bacteria in and on leaf trash.
10. Efficacy of chlorine and alum dip in killing Moko/bugtok bacteria in or on leaf trash.
11. Presence and viability of Moko/bugtok bacteria in soil adhering pallets, cartons and banana fruit.
12. Efficacy if treatments (if available, e.g. methyl bromide fumigation) in killing Moko/bugtok bacteria contaminating the soil adhering pallets, cartons and banana fruit.
13. Presence and viability of Moko/bugtok bacteria occurring on arthropod and other hitchhikers.
14. Efficacy of chlorine and alum dip in killing Moko/bugtok bacteria occurring on arthropod and other hitchhikers.
15. Presence and viability of Moko/bugtok bacteria on seeds of alternative hosts.
16. Efficacy of chlorine and alum dip in killing Moko/bugtok bacteria occurring on seeds of alternative hosts.
17. Penetration of chlorine and alum dip into the floral end of the fruit and between fruit stalks at around the junction with the cushions? Depth of penetration of the dip into trash and cushion tissue, and effect on bacteria within the tissue so penetrated.
18. Arthropod and other vectors of Moko/bugtok. 19. Alternative hosts of Moko/bugtok, including those in which the bacteria multiply within the tissues and those on which the bacteria multiply and/or survive on the root and plant surfaces.

20. Efficacy of methyl bromide treatment in killing Moko/bugtok bacteria contaminating fruit, packaging material (cartons, polyethylene bags, plastic sheets, polystyrene pads, pallets etc), soil, trash (floral remnants, leaf material, etc.), arthropods and other vectors.

Black Sigatoka

1. Viability of spores of the black Sigatoka fungus occurring as contaminants of banana fruit, floral remnants and packaging material.
2. Effect of storage and transport conditions on the viability of spores of the black Sigatoka fungus occurring as contaminants of banana fruit, floral remnants and packaging material.
3. Efficacy of chlorine and alum dip in killing spores of the black Sigatoka fungus occurring as contaminants of banana fruit, floral remnants and packaging material.
4. Efficacy of methyl bromide treatment in killing spores of the black Sigatoka fungus.
5. Incidence of perithecia in leaf tissue remnants caught between the fingers of fruit clusters. 6.
6. Efficacy of methyl bromide in killing perithecia in infested leaf tissue remnants.

Freckle

1. Incidence of symptomatic and asymptomatic fruit infection in banana plantations, including information on how this can be measured. 2. Sporulation of the freckle fungus on infected banana fruit. 3. Viability of pycnidia, conidia, perithecia and ascospores of the freckle fungus occurring as contaminants of banana fruit, leaf remnants, floral remnants and packaging material.
4. Effect of storage and transport conditions on the viability of spores and spore bodies of the freckle fungus occurring as contaminants of banana fruit, leaf remnants, floral remnants and packaging material.
5. Efficacy of chlorine and alum dip in killing spores and spore bodies ofthe freckle fungus occurring as contaminants of banana fruit, leaf remnants, floral remnants and packaging material.
6. Efficacy of methyl bromide treatment in killing spores and spore bodies of the freckle fungus contaminating banana fruit, leaf remnants, floral remnants and packaging material.

Panama

1. Efficacy of methyl bromide treatment in killing spores of the Panama disease in soil adhering to banana fruit, soil, trash and packaging material.

Banana bract mosaic

1. Incidence of symptomatic and asymptomatic fruit infection in banana plantations, including information on how this can be measured.
2. Presence and concentration of the virus in the peel of the banana fruit.
3. Ability of the insect vectors to acquire the virus from infected fruit and transmit to banana or other susceptible host plants.

4. Effect of storage and transport conditions on the concentration and infectivity of the virus.
5. Presence of the vectors of the virus in export bananas and their ability to transmit disease following storage and transport.

Abaca mosaic virus

1. Incidence of symptomatic and asymptomatic fruit infection in banana plantations, induding information on how this can be measured.
2. Presence and concentration of the virus in the peel of the banana ftuit.
3. Ability of the insect vectors to acquire the virus from infected fruit and transmit to banana or other susceptible host plants.
4. Effect of storage and transport conditions on the concentration and infectivity of the virus.
5. Presence of the vectors of the virus in export bananas and their ability to transmit disease following storage and transport.

Fruit flies

1. Verification of non-host status of hard green bananas.

Attachment D

From: Sue & David Peasley [mailto:peasleyhort@bigpond.com]
Sent: Tuesday, 26 March 2002 7:31 PM
To: Sharan.Singh@affa.gov.au
Subject: EXECUTIVE SUMMARY REPORT - PATHOGENS GROUP

Sharan
I note your draft executive summary report for the pathogens technical working group (25.3.02). This has raised three questions in my mind.

Firstly, why is an executive summary prepared and distributed to RAP and TWG members before you have received the technical reports from members of the TWG on pathogens. I spoke to Chris Hayward today and he has not yet completed his report on Moko disease.

Secondly, why hasn't the possibility of insect transmission of Ralstonia solanacearun (the causal organism of Moko disease) addressed in your summary. I discussed a possible pathway scenario with Chris Hayward (Bacteriologist and TWG member) and Dr Rob Allen (RAP member) last Thursday in our technical workshop in Canberra and both agreed it was a perfectly plausible scenario. I understand you have also discussed this scenario with members of the pathogens TWG.

Thirdly, in our discussions for the preparation for the technical reports it was agreed that the RAP have the opportunity to discuss and comment on the technical reports before they are circulated to stakeholders.

In the interest of maintaining scientific rigour to our work I believe we really do need to gather the informaiton first before we make judgements.

I would appreciate you taking my comments into consideration.

Regards
David

Attachment E

[CONFIDENTIAL MATERIAL DELETED]

Attachment F

-----Original Message-----
From: Sue & David Peasley [mailto:peasleyhort@bigpond.com]
Sent: Wednesday, 1 May 2002 3:27 PM
To: Sharan.Singh@affa.gov.au
Cc: Robert Allen; Mike.Robbins@aqis.gov.au
Subject: Technical report comments

Sharan,
I had important commitments yesterday and was unable to spend the necessary time to review the Tech report adequately.
I have the following comments -

I appreciate the enormous effort you, Sam and Cheryl and Co have made however there are some important omissions and changes that I do not agree with. I will deal with these first.

1. The distribution flow in Australia diagram from our TWG report has been deleted as has been any reference to packaging in the pathway. We specifically wanted packaging materials to be included in the pathway.

2. We also agreed that the data sheet should be attached to the Technical report. I realise their inclusion will create a very big document however, I believe they are necessary for stakeholders to assess the quality of the information that has been included in the templates.

3. We also agreed that the panel should assess the report as a panel before it is distributed. I realise deadlines have to be met however, this should not be at the expense of being thorough.

4. Under the section on methods of estimating risk subsection 'Estimation of partial risks', the TWG3 report made a statement under the section titled 'Estimated Volume of Trade', that "Theoretically, the maximum penetration would be 100%". This statement has been turned into the statement "Banana growers in Australia believe that imported fruit could penetrate up to 100% of the Australian market". This is an inflammatory statement and unless you are prepared to provide a reference for this please delete it and insert our original text.

5. Our comment under to interstate exclusion or containment in the section on Pest Management Options (TWG3 Report) was "compliance is a problem and enforcement is often difficult to achieve". This has been replaced with "complete compliance with these strategies may however be difficult to achieve". I would prefer our original text remain, but that is something the panel should decide on.

6. The photo of the banana cluster has been deleted in figure 5. This photo is critical as it shows the crown tissue which represents a significant risk for certain pests. I would like it included.

7. The frog photo under the environment section has been deleted. I realise this takes up a lot of megabytes however, it is very important from a stakeholder point of view to include it.

8. Table 1 in TWG3 report. The tonnages in this table are ,000 metric tonnes, not just tonnes as in your table. Also, the reference is FAO 2001 not FAO 2000.

I have some other minor editorial changes but see little point in going through all of those until these major areas of concern are addressed.

I cannot therefore endorse the Technical Report in its present form until these matters are addressed.

Regards
David Peasley
Chair TWG 3

David & Sue Peasley
Peasley Horticultural Services
PO Box 542
MURWILLUMBAH NSW 2484
Phone/Fax - (02) 6677 7174
Mobile: 0427 126 245

Attachment G

Sue & David Peasley_

From: "Sue & David Peasley" <peasleyhort@bigpond.com>
To: "Cheryl Mcrae" <chery!. mcrae@affa.gov.au>
Sent: Monday, 11 November 2002 6:57 PM
Attach: responses to comments on draft IRA-MOKO.doc
Subject: Responses to comments on draft IRA - update

Cheryl

Please find attached updated version of 5.1.3.5.1 Moko consequences; The Direct impact of Moko and 5.1.3.5.2 Indirect impact of Moko. Note frequency of travel by vehicles table on page 2 and accompanying text. There are minor changes throughout the text also, so please check if you have extracted from the first draft.
Also, 5.1.3.2.8 Probability of distribution; Dist.5 for Moko. Including two headings
1. The B Genome Factor in insect transmission of Moko, page 11 and,
2. Flies as vectors for Moko, page 12.
Finally, responses to Jeff Daniels' comment No.7 page 1, on page 13, 2.4.2.1.2.1. and Topography and soil comments 2.4.2.2.2, also on page 13.
Will forward the rest when I receive the information I have requested on other areas within my area of responsibility.
Good luck,

Kind regards
David

David & Sue Peasley
Peasley Horticultural Services
PO Box 542 MURWILLUMBAH NSW 2484
Phone/Fax - (02) 6677 7174

CONFIDENTIAL draft

5.1.3.5.1 Moko; Consequences; The Direct impact of Moko.

Background to Mechanisation

The capacity to mechanise and produce bananas on an extensive scale is the major reason the Tully Valley and Innisfail areas of Far North Queensland (FNQ) have become Australia's leading banana production area over the last twenty years.

Favoured by high rainfall and year-round production potential, the extensive floodplain topography of the Tully Valley and Innisfail districts now produces around 70 percent of national banana production.

The banana industry in FNQ is now a world leader in mechanised banana production and growers have established a significant production advantage over traditional growing areas of SE Queensland and Northern New South Wales (NSW). The move to mechanise the industry resulted from the scarcity of reliable labour in the area, its relatively high cost and the opportunity to gain economies of scale from broad-acre production.

Whilst mechanisation has brought significant production advantages and cost efficiencies as well as benefits for workplace health and safety, it does however present increased risks of spreading soil-borne diseases such as Moko and Fusarium wilt, should they be introduced.

There are a number of factors/features of the management of plantations in FNQ which predispose this production area to increased risk of spread, and provide impediments to effective containment, control and eradication of soil and water-borne diseases.

These features area:

1. Length of rows, mounding and use of the inter-row for both drainage and vehicle access.
2. Frequency of travel by vehicles.
3. Difficulty in containing soil or water-borne pathogens.
4. Alternative weed hosts for the pathogen.
5. Delay or misdiagnosis of early infection.
6. Australia's experience with another soil-borne disease – Fusarium wilt.

1. Length of rows, mounding, drainage and vehicle access.

Because of the high rainfall, heavy soils, and flat topography, bananas are planted on mounded rows to achieve adequate drainage necessary for high productivity. Over the years, as field operations have become increasingly mechanised, the ideal length of rows in the plantation is 600 metres, though some are over 800 metres long. Row length is a function of the efficiencies gained in irrigation design, and the cost-

effective distance for management operations such as harvesting, spraying, monitoring, etc.

Obviously the inter-row area then becomes the drain for excess water from irrigation, rainfall (Innisfail 3585mm/year* and Tully 4074mm/year*), and flooding during periods of cyclonic or prolonged high rainfall. (**Bureau of Meteorology website and 'Rainman' software respectively).*

The inter-row drains are also the sole access for all vehicles. Mounds prevent vehicle access between rows.

Even during "dry" periods, the inter-row is constantly muddy in most plantations due to irrigation and the accumulation of spent banana stems, leaves and organic matter following harvesting, de-leafing and pruning operations.

Under such conditions, four wheel drive vehicles with specially designed tyres for traction are required. By their very nature significant volumes of mud are spread rapidly throughout the inter-row drains, headlands and access roads for most of the year.

2. Frequency of travel by vehicles.

All field operations, including de-leafing, bagging, pruning, harvesting, weed and pest spraying and monitoring, nematicide application, fertilising and irrigation monitoring, are all conducted from vehicles using the inter-row drain as the sole access through the plantation.

Every row is travelled at least three times per week, every week of the year by a variety of vehicles including 4WD motor bikes, purpose-built 4WD bagging machines, tractors, harvesting trailers, fertiliser spreaders and spray rigs. (S. Lindsay, QDPI and S. Mackay, Mackay Plantations – pers. comm.)

The following are the details of travel frequency for each operation at Mackays plantations, Tully Valley, North Queensland –

VEHICLE	FREQUENCY	REASON
4WD motor bike	At least once per week	Monitoring leaf disease, mites, irrigation, bell injection
4WD 'cherry picker'	Every week	Bagging, dusting, spraying bunches, tying bunched plants (bunch support)
4WD tractor and trailer	Every week (every 4th row)	Harvesting – crew carries bunches across 2 rows to trailer, every row every week.
Fertiliser bin and tractor	Every 4 weeks	Apply fertiliser
Tractor and spray rig	5 - 7 times/year 2 –3 times/year 1 – 2 times/year	Weed spraying Mite spraying Insecticide spraying

Note: Mackay Estate maintain a strict quarantine program for nematodes and do not apply nematicides. Most other plantations apply nematicides three times per year by machine.

3. Difficulty in containing soil or water-borne infections.

Moko would be epidemiologically competent in FNQ and to reduce in-field spread would require -

1. disinfection of all machinery and tools;
2. eradication of the inoculum source (those plants already infected).
3. remove all potential infectable sites (this could involve eradication of the entire 600 metre row).

Should a soil or water-borne disease such as Moko be diagnosed, containment or effective quarantine of the infected areas would be virtually impossible under the current situation involving long rows, no access between rows (except at headlands), constantly wet inter-rows, frequent vehicle access, rapid and significant quantities of mud being transferred throughout the plantation by a wide range of vehicles, the increasing use of contractors operating between plantations, high rainfall and significant major flooding risk. The two floods in 1999 represent a 1 in 5 year event (February) and a 1 in 2 year event (March), according to the Department of Natural Resources and Mines, Queensland, Hydrographer Alan Hooper. The March 1999 flood affected 36 plantations. The total area of bananas operated by these plantations is currently 2134 hectares. Of the 4800 hectares of bananas in the Tully banana production area, about 3800 hectares is positioned adjacent to the Tully River. This means that about 58 percent of the current production area would be at risk from the potential movement of soil or water-borne diseases from annual flood events. The flooding in the Johnstone River (Innisfail) in March 1999 was at the 1 in 5 year level and affected up to 20 percent of the banana production area. (S Lindsay, QDPI and A. Hooper Department of NR&M,Q).

Obviously this has major implications in terms of containment efforts for soil or water-borne diseases.

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 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.

The production area of Mindanao is also not a cyclone prone area, unlike FNQ where cyclones or rainfall depressions cause the Tully River and Johnstone River systems to flood large areas of the Tully Valley and Innisfail growing area.

4. Alternative weed hosts.

Weeds within plantations rows and inter-rows are usually controlled effectively, however alternative weed hosts for Moko, particularly *Bidens pilosa* and *Solanum nigrum* are abundant and ubiquitous along access road, plantation boundaries, drains and public roads.

Spread of the Moko pathogen from an infected banana plantation to alternative weed hosts or vice versa by flooding is an effective and uncontrollable method of spread.

5. Delay or misdiagnosis in detecting early infection.

Early detection of Moko is dependant on the competency and will of the surveillance team. (Pegg, pers. comm. 2002)

Being vascular wilt diseases, early symptoms of Moko, Blood disease, Fusarium wilt and Erwinia corm rot (Erwinia spp). are very similar. Also, symptoms of all these diseases will vary with prevailing environmental conditions. (Pegg pers. comm 2002).

Erwinia corm rot, the most likely disease to be confused with a Moko infection was reported in 22 percent of plantations from the 166 growers who responded to a Queensland DPI survey of FNQ growers (31.38 percent return rate of the total of 529 growers). (Banana Topics Vol. 29 June 2000).

Under such conditions, where field workers are not trained to detect Moko, it is likely that, by the time symptoms are visible and are diagnosed positively, it would be too late to contain or eradicate Moko under FNQ conditions. (Pegg pers. comm 2002).

The major reason being that once diagnosis has been confirmed the pathogen has already spread from the inoculum source. Mechanisation in FNQ would offer a ready spread of the disease.

In the Philippines, trained specialist detectors are employed to detect Moko in the field and the conditions which favour spread in FNQ, are not present.

6. Australia's experience with another soil-borne pathogen – Fusarium wilt.

Attempts to eradicate or contain the spread of Panama Disease in various parts of Australia – Northern Territory (Tropical Race 4) and South-east Queensland/Northern New South Wales (Race 1) have not been successful. Spread of the pathogen by wheeled vehicles, planting material, infected implements and in drainage or irrigation water have resulted in the loss of significant areas of productive banana land from viable production.

The Banana Industry newsletter for FNQ produced by Queensland DPI - Bananatopics Volume 29 – June 2000 lists a number of ways of moving infected soil to and from banana plantations.

Soil

- Vehicles. Any visitor to your farm has the potential to move Fusarium wilt fungus onto the plantation if their vehicle drops infested soil whilst on your property.
- People – mud on boots (mud collected from a single pair of boots has been shown to cause disease in plants in glasshouse tests).
- Farm machinery – ploughs, bulldozers, earthmoving equipment, bagging machines.
- Workers – own vehicles, backpacker buses.
- Utility companies – eg. Road works and gas mains through property.
- Agribusiness – agents, soil-sampling, delivery trucks.
- Real estate agents, builders.
- Transport companies picking up fruit, rubbish trucks.
- Fertilisers with soil component – untreated fowl manure, possibly mill mud.
- Potted plants, windbreak trees/shrubs/garden plants/fruit trees. Anything that has untreated soil as a potting medium.
- Stalls at properties can encourage excessive traffic and increase risk.
- Used pallets, bunch covers may have infested soil attached, especially in wet weather.
- Used irrigation equipment – second hand trickle systems, pipes etc.

- Animals eg. Cows, horses, pigs, kangaroos, dogs, bandicoots etc, which have, soil particles attached to hooves or feet can potentially spread Fusarium wilt.
- Fusarium wilt fungus is known to survive in soil for several decades.

Water

- Erosion expedites spread of Fusarium wilt fungus by increasing soil movement.
- Flooding
- Irrigation water pumped from dam or creek water below infested plantations.

5.1.3.5.2. Moko – Consequences – The indirect impact of Moko

(New or modified eradication, control, surveillance/monitoring)

The actual impact of mechanical production processes and alternatives to a reduction of mechanisation.

Response: RAP members inspected field operations and packhouse handling of fruit both in the Philippines and in Australia during the risk analysis process.

Production processes in FNQ have been developed to generate maximum production packout per bunch of first grade quality fruit, while keeping costs to a minimum. These efficiencies have been achieved through pest and disease and nutrient monitoring, strategic application of treatments and the extensive use of mechanisation, which has improved labour efficiency ratio to .33, workers per hectare (1 worker per 3 hectares). This compares to .8 to 1 worker per hectare in the Philippines.

Effective monitoring and applying treatments such as bunch covers and pest control at the right stage of bunch emergence are crucial to achieving maximum quality packout.

The most successful plantations in FNQ have adopted a professional technically based business approach to plantation management and have expanded their plantings to take advantage of economies of scale.

The largest, Mackay Estates for example, has almost one million banana plants in its operations. Each plant is inspected, or attended to, three times per week for a range of operations. Mechanisation is the only way such large operations can be cost competitive under Australia's wage structure.

Cost effective modification of mechanical products processes such as biological control and integrated pest management are being actively utilised by the FNQ industry which is well serviced by a number of qualified consultants and pest monitoring specialist contractors. These are used to determine the pest and disease status of plantations and recommend control measures which have minimal environmental effect and are strategically applied when necessary. They are implicit in the current production processes and integrated into the present level of mechanisation.

Modification of production processes to reduce the risk of spread of Moko disease would mean less frequent travel by vehicles through the plantation, drying out the inter-row drains and manual application of treatments for bell injection (every 3-7 days frequency of inspection for emerging bells), bagging (using a ladder carried by a worker instead of a 4WD bagging machine).

One person working from a bike can cover the same area as two 'walkers' for bell injection, and there is also less chance of the bell injector 'scouts' missing newly emerged bells since their attention is directed at the canopy as they travel the row,

rather than looking where they place their feet when walking (QDPI Agrilink Tropical Banana Information Kit, p.69).

Bagging at the right stage is critical for bunch quality. A skilled operator using a 4WD bagging machine can readily bag, spray (or dust) about 600 bunches a day. In addition the operator can tie string near the top of the plant which is later anchored for bunch support. It would generally take two people using ladders to bag an equivalent number of bunches in a day (without spraying or stringing). (QDPI Agrilink – Tropical Banana Information Kit, p.69).

Aside from the obvious cost efficiencies afforded by mechanisation, there are significant workplace health and safety issues, and reductions in handling damage to bunches are further benefits of mechanisation.

Exposure to pesticides is minimised through the use of enclosed cabs on tractors, and specially designed applicators for applying nematodes. Using chemicals, even with protective clothing on foot is both slow and potentially dangerous because of heat and humidity within the plantation. Exposure is increased as skin pores open in such conditions and heat exhaustion is also a risk in the summer wet season.

Workplace health and safety is of paramount importance in Australia and is enforced through various state regulations and accreditation systems.

Application of fertilisers through fertigation or foliar and ground based equipment such as belt spreaders eliminates the heavy lifting of bags which caused injury problems in the past.

Aerial application of fungicides for leaf disease control is conducted by contractors, eliminating any ground travel through the plantation, however, as each bunch must be individually inspected and treated at bunch emergence, aerial application is not suitable for other operations.

Use of A-frame trailers self propelled or drawn by tractors down rows has reduced the risk of injury to workers by reducing the distance of 'shoulder carry', and also the risk of bruising or damage to bunches. Use of hydraulics has also eliminated lifting in the handling process.

Mechanisation has also reduced the incidence of Weils' Disease (an infectious disease caused by Leptospirosis bacteria) in workers in FNQ. Spread usually through the feet of workers in wet field situations, the Leptospirosis bacteria is commonly carried by rodents (rats). Increasing the use of manual labour will favour an increase in this serious human health risk.

Another process now being introduced into FNQ, which has obvious benefits for waste disposal and improving environmental management is the mulching of waste fruit and stalks from the packhouse. Mulched waste is spread along the plantation rows by mechanical spreaders. In the event of Moko or other such fruit-borne vascular diseases being introduced, this practice, of obvious environmental benefit would have to be curtailed.

In summary, mechanisation of field, handling and packing operations has enabled FNQ to become a world leader in efficient banana production. Any modification of these processes would inevitably lead to a compromise on cost or production efficiencies.

Frequency of travel by vehicles and the transfer of contaminated mud or water are the major concerns over the spread of diseases such as Moko and Fusarium wilt within and between plantations. Even if significant reductions in these practices could be achieved, the effect on reducing the spread of such highly infectious diseases under high rainfall and temperatures of FNQ floodplain conditions would be negligible. The effect on the viability of banana plantations in the area however would be seriously compromised.

Just as the dairy industry can no longer return to the days of hand milking, the banana industry cannot return to more labour intensive practices, particularly when in the face of international benchmark practices developed in third world countries where most bananas are grown, Australia has a distinct comparative labour cost disadvantage.

The Australian industry has countered its high labour cost disadvantage through mechanisation and technical innovation. It cannot afford to compromise on the benefits of mechanisation.

<u>The destabilisation of transport arrangements</u>

(Response to Peter Gallagher comment No. 121 – submission page 3).

Comment: "It is asserted but not demonstrated in the report that transport arrangements would have to be changed should Moko become established".

Response: In order to reduce the spread of Moko between plantations, access by transport vehicles to and from infected plantations will be restricted during wet weather when contaminated soil and water around packhouses and access roads is a risk.

The banana industry in FNQ supplies product over 12 months of the year. Two hundred refrigerated semi-trailers per week leave this production area for southern markets with bananas. At 1500 cartons per semi – this is 300,000 cartons per week.

The benefits of backloading are significant to the whole Nth Qld economy, resulting in cheap freight rates for regional centres along the entire Queensland coast.

Conditions for spread of the causal organism Moko on the major production area of Australia, are highly favourable and the impact on banana plantations in terms of spread of onset and geographical spread of the disease is likely to be rapid due to the combination of favourable temperatures, constantly wet soil conditions and frequent flooding of large areas (58% of the plantation area every second year).

Experience with the rapid spread of Bacterial wilt in ginger in Sth East Queensland in the 1980's could be repeated under the conditions of spread by water flow particularly flood waters in the Tully Valley and lower Innisfail. (Pegg – pers. comm.).

Should the Moko organism be introduced into this area, the direct and indirect consequences are therefore highly significant at the local level and could threaten viability on the district level if substantial reductions of the volume of production were to occur.

It could therefore be expected to impact on rural communities through increased freight rates, reduced employment opportunities and higher commodity prices resulting from a reduction in volume of backloading.

The threat to the viability of producers.

Economic viability is a 'moving target', which takes into account the variables of production volume, market price and production costs.

Average production costs for FNQ's tropical banana industry of $10-12 per carton apply in an 'average' year without major drought, disease of flooding effects.

In the years where production volume is severely affected, returns per carton may be higher for growers in FNQ because the area is the major supplier to the Australian market, however returns per hectare can be reduced markedly.

These variables are addressed through grower's margin sensitivity analysis which allow for variations in price or yield. At a yield of 2200 cartons per hectare, variable costs of production per carton is $11.33. At a yield of 3800 cartons per hectare, variable costs of production are reduced to $10.29. (QDPI Agrilink Tropical Banana Information Kit, P.13).

Average monthly prices for Cavendish bananas at Sydney market for 2001 from all sources ranged from $8.68 to $17.80 per carton, averaging $13.60 per carton for the year. *Source:* C. Cope, QFVG Banana Representative, Australian Bananas, Vol. 14, June 2002, P. 21.

For producing gross margins for bananas in FNQ, the QDPI Tropical Banana Information Kit (1998) used an average price of $11.70 per carton is achieved across the season.

Depending on the volume and quality available though the year, it is clear the marginal revenues were close to variable costs of production.

Increasing the manual labour component in order to reduce the risk of spreading Moko through mechanisation would reduce margins well below the cost of production bases on the relative cost/output efficiencies of manual labour Vs mechanisation outlined in earlier in the section "The impact of mechanised production processes and alternatives to a reduction in mechanisation".

In summary, the industry in Australia's most efficient growing area of FNQ **has** restructured its costs to lead the world in terms of its mechanised production processes, rather than "maintain its current production methods supported by a prohibition of input competition". The relative disease and pest free status the

industry now enjoys is certainly to be protected from the risk of importing serious pests and diseases which are present in other producing countries. Should these pests/diseases enter Australia, the costs of control or eradication would undermine the viability of a major horticultural industry in Australia.

Regarding the comparison with Australia's dairy industry. The IRA is not involved in the issue of import competition. Australia's banana industry and the RAP is concerned over the pest and disease risk associated with the importation of fruit from a country where major pest and disease problems occur, and some can be transported on or in fruit.

The dairy industry may not face similar pest and disease risks in a milk product which is processed to eliminate contamination.

5.1.3.2.8 Risk assessments for quarantine pests; Pathogens; Moko; Probability of distribution; Dist.5.

The B Genome Factor in insect transmission of Moko

(Refer to Chris Hayward's comments on draft IRA – dated 14 October 2002, page 8 – final paragraph before references are listed)

"Several authorities have concluded that epidemic spread of Moko disease as a result of insect transmission would not occur in Australia because cooking bananas of the ABB/BBB genotype are not extensively grown as they are in the southern Philippines and in central and south America. According to Buddenhagan (pers. comm. 2002) epidemics of insect transmitted Moko disease, with the potential to spread at the rate of 100km per year have only been observed on ABB classes.

Recent work has shown that the sugar content of the male flower nectar in BB, AAB and ABB genotypes is consistently higher than in AA and AAA genotypes; the higher sugar content makes the male flower nectar more attractive to insects and increases the potential for insect transmission." (Setyobudi and Hermanto, undated).

My comments: According to QDPI planting statistics, (S Lindsay pers.comm.. 2002) there are 350 hectares of the Lady Finger variety Pome (genotype AAB) and 166 hectares of Ducasse (Pisang Awak, Kluai Namwe) (genotype ABB), planted in the FNQ banana production region from Cardwell north (18° S), including Tully Valley and Innisfail.

There are 68 Lady Finger growers and 61 Ducasse growers in this region. Whilst approx 250 ha of the Lady Finger planting is on the Atherton Tablelands, and approximately 100ha is on the coast, most of the Ducasse (ABB) plantings (150ha of the 166 total) are on the coast, all of these plantings are within 100km radius of the Tully Valley and Innisfail production areas.

It is likely that plantings of varieties other than Cavendish will increase for the expanding niche markets in Australia and possibly for export markets. (J Daniells, QDPI Nov 2001, Good Fruit & Vegetables.)

Varieties recommended by QDPI for niche markets with the G genome, include Lady Finger (AAB), Ducasse (ABB), Pacific Plantain (AAB), Goldfinger (AAAB). (QDPI Agrilink –Tropical Banana Information Kit p.26.)

Newly introduced varieties from the Honduran breeding program (FHIA) are being commercially trialed in FNQ and in the subtropics for their disease resistance and commercial production potential. Many have the B genome as a tetraploid AAAB variety, and therefore may present an increased risk of insect transmission of Moko, should they become established varieties in FNQ.

Goldfinger is a tetraploid variety (AAAB) well known as being highly attractive to bees, birds and fruit bats because of its profusion of sweet nectar at bunch emergency stage.

Steven Lindsay diagrams of 100km radius to be inserted here - ……..?Monday)

Comments: *Pilipino Banana Growers & Exporters Association, Inc., and Banana Export Industry Foundation, Inc, comment no. 291, submission page: 5*

Response:

Flies as vectors for Moko

Species of flies from the family Muscidae are likely to be efficient vectors for transmitting the Moko bacterium from banana sap or flowers.

These flies, including *Atherigonia orientalis*, breed in banana waste and frequent banana flowers in North Queensland. They are very common and are attracted to the moisture in the banana sap from wounds and flowers. Through their "suck and regurgitate" method of feeding they are likely to highly efficient vectors of sap-borne pathogens. The pattern of spread is likely to be highly dispersive, rather than the pattern of spread along rows which could be expected from mechanical transfer on equipment, tools, etc.

Responses to comments on Draft IRA

2.4.2.1.2.1 – Page 41 – Jeff Daniels. Comment No. 7, page 1.

Comment**:** *"Before the mid 1980's:"* not *"before the 1970's"*.

Response: This correction is valid. Queensland overtook NSW production and volume in 1983/84. Source ABS.

1983/84	Gross value of production	Qld	$42.7 million
		NSW	$37.5 million
1983/84	Production	Qld	67,714 tonnes
		NSW	67953 tonnes
1984/84	Production	Qld	72856 tonnes
		NSW	62665 tonnes

2.4.2.2.2 Growing Conditions; Australian conditions; Philippines conditions; Topography and soils – Draft IRA page 44.

Comment: No. 309. submission p.18

Response: The RAP acknowledges good drainage is standard practice in Cavendish banana production. The text of the Draft IRA is accurate.

The objective of the IRA comments was to distinguish between the two production areas of the Philippines – the highlands and the lowlands.

The drainage systems on the lowlands are intensive to remove excess water quickly to prevent waterlogging. Such drainage systems are not required in the highlands where well-drained basaltic soils exist on sloping topography.

Attachment H

Sue & David Peasley

From: "Sue & David Peasley" <peasleyhort@bigpond.com>
To: "Cheryl Mcrae" <cheryLmcrae@affa.gov.au>
Sent: Tuesday, 10 June 20039:21 AM
Attach: PHILIPPINESBANANASCONCERNJUNE 03.doc
Subject **:**Review of July 2003 draft IRA doc.

Cheryl

I have spoken to Mary this morning and she suggested that I send this letter of my concerns over the draft IRA to you.
I have other work commitments all this week so if you can get back to me with your response I will deal with them when I can.
Regards
David

Dayid & Sue Peasley

Peasley Horticultural Services
Box 542 MURWILLUMBAH NSW 2484

Phone/Fax - (02) 6677 7174

Attachment H2

Cheryl McRae
Chair, Risk Analysis Panel
Philippines Banana Import Application
Department of Agriculture, Fisheries &
Forestry, Australia
GPO Box 858
CANBERRA ACT 2601

Mary and Cheryl,

Since our RAP meeting last week, June 4 and 5, I have attempted to review the 378 page draft IRA document which was presented to the panel on the first day of the meeting.

I have concluded that I cannot support the draft IRA and many of the assessments, particularly in relation to Moko disease and the risk management options, but also the manner in which the risk assessments were derived.

Your will recall I expressed my concerns over a range of issues during the final session of our RAP meeting last Thursday. These concerns are still valid in my mind.

My major concerns are –

1. Regarding the concentration of inoculum required to initiate infection, (particularly for key pests such as Moko and Freckle) there is differing professional opinion within the panel over this issue.

2. The lack of scientific information over the mode of infection and mechanism of spread of the Moko bacterium, particularly by insects, and the occurrence of asymptomatic infection. The random pattern of infection as observed by air has not been explained scientifically to my satisfaction.

3. The results of the scientific experiments being conducted in the Philippines to resolve these issues have not been presented to the panel, nor has the panel been advised of progress. A range of experiments were designed following the Canberra meeting with the Philippines scientific delegation in April 2002 to generate the information required by the RAP to enable a sound risk analysis to be conducted. These experiments were to target Moko inoculation concentration levels to initiate infection, insect transmission studies, and asymptomatic infection.

4. Despite this data not being supplied to the RAP, a lengthy draft report has been presented to the Panel to make decisions on proposed revised risk assessments. Of particular concern is the revision downwards of the overall risk of Moko, a key pest with a high consequence for commercial bananas and a moderate risk to both household plants and susceptible wild or other susceptible plants. Also, the likelihood calculation for Imp 2 for Moko fell on the boundary between extremely low and very low, yet the least conservative

option (extremely low) was taken. Whilst acknowledging the risk of entry may be quite small, I don't believe a sound scientific assessment can be made without the missing information required by the panel. That was the panel's position prior to April 20 and this has not changed in my view. Unlike risk, probabilities cannot be applied to uncertainty.

To then proceed to introduce 'risk management options' which would lower the risk to within the 'Appropriate level of Protection' is not valid in my view.

5. I repeated my concern during the final session of the June 5 RAP meeting, over the one year assessment period for risk analysis. 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. Dr Rob Allen has also agreed that a 5 year risk assessment period should be undertaken.

6. I am disappointed that I was not requested to be involved in the preparation of the latest draft, nor was I advised of developments, for a period in excess of 6 months prior to the draft being presented to the Panel on June 4. I am not a plant pathologist panel member responsible for Moko, however, I am a member of the RAP with responsibility for horticultural practices associated with practical pest management and should have been informed of developments and provided input when required. I cannot be expected to endorse a lengthy complex document in two days without being involved in the process to reach the revised assessments.

7. While realising the diplomatic difficulties in 'validating' or 'ground-truthing' the information supplied by the Philippines, it has been a concern that the Panel has had to accept the data and answers supplied by the Philippines. On several occasions, the information supplied to questions was not consistent, or not forthcoming, despite repeated requests. I am therefore concerned that the compliance over conditions, which may be required by Australia to reduce the risk, may also not be strictly applied despite the proposed 'audit' process.

8. 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 ALOP that the overall risk is greater. The risk estimation matrix allows for a one pest assessment

9. I have made further comments in the text of the draft regarding my areas of disagreement. These are too numerous to detail here.

In conclusion, having now had time to briefly review the draft, I cannot support the risk recommendations of the draft particularly in relation to Moko for the reasons outlined above and I believe it is inappropriate to release the document in its present form.

Unfortunately due to work commitments this week I am unable to allocate more time to this task. However, I wish these comments to be recorded as I realise decisions are now being made regarding the future release of the IRA.

The RAP has, I believe, exhausted its analysis of the information available and there remain areas of disagreement within the panel. The panel cannot proceed to risk management options until key information is provided as the basis for a sound risk analysis.

The panel is well aware of my concerns, as I have outlined them over the period of the IRA and recorded my disagreement during the preparation of the draft IRA, eg. (May 25, 2002) regarding the potential impact of Moko.

I have not discussed these concerns with anyone outside the panel since our June 4, 5 meeting last week.

I, like the rest of the panel, would like to see the IRA concluded as soon as is possible. However, I am not prepared to support a document that is incomplete on the basic science of a key pest such as Moko, which has such a potentially high consequence for Australia. The panel should therefore adopt a highly conservative assessment until these matters are resolved.

David Peasley
Member, Risk Analysis Panel
Importation of fresh bananas from the Philippines

09 June 2003

Attachment I

Minority report to the Chair, Risk Analysis Panel for the importation of fresh bananas from the Philippines

David Peasley
Horticultural Consultant
Member of the Risk Analysis Panel

As a member of the Risk Analysis Panel (RAP), and Chair of the Technical Working Group for Horticulture, Environment and Operations, appointed to conduct the Import Risk Analysis for the importation of fresh bananas from the Philippines, I respectfully submit the following minority report of my issues of concern over the Draft IRA Report, July 2003, presented to the full RAP on June 4, 2003, for your consideration.

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.

Over the past two years the RAP has conducted an exhaustive search for available scientific information on which to base the risk analysis and included specialist expertise into the process through the three Technical Working Groups.

The Final Report is now being prepared and, after careful consideration, I cannot support the revised risk assessments as presented, particularly for the key pest Moko disease.

My main issues of concern are –

1. **Lack of scientific information about Moko.** There are significant gaps in the worldwide scientific information on Moko disease, namely -

- its mode of infection and spread under various transmission mechanisms (mechanical and insect), its rate of spread within the plant, the incubation period under a range of conditions, etc.,
- the epidemiology of asymptomatic (symptomless) infection,
- the importance of asymptomatic weed hosts in the establishment and spread, longevity in the rhizosphere, mechanisms for spread by cultivation and flooding, etc.,
- inoculation levels required to initiate infection,
- the importance of insect transmission in the spread of inoculum,
- its potential for infection and spread, particularly in the highly favourable conditions of the major growing area of Australia (Tully Valley, Far North Queensland) which are different to those in the Philippines.
- the ability of the Moko bacterium to exude from discarded fruit, waste and enter the soil environment (where it may persist for 12-18 months or longer),
- data on Moko infection incidence on all plantations.

2. **Requested Philippines experiment results not forthcoming.** Many of these missing areas of research were identified by the RAP to the Philippines Scientific Delegation in April 2002 and it was agreed scientific experiments were to be conducted in the Philippines and monitored by an Australian

scientist to provide a sound basis for the risk analysis. Results of these experiments have not been provided to the panel, nor has the panel received a progress report.

3. **Difficulty in verifying Philippines information.** Verification ('ground-truthing') of information supplied by the Philippines has been difficult. Whilst I appreciate the potentially awkward diplomatic position of persisting with requests for information, the panel should not be constrained in pursuing relevant information. On several occasions requested information has been incorrect, inadequate or not forthcoming.

4. **Australian economic impact data not supplied.** The economic impact study conducted by the Centre for International Economics (CIE) and commissioned by the Australian Banana Growers Council (ABGC) into the economic impact of importing diseases and pests into the Far North Queensland banana growing areas has been withheld from the RAP (ABGC letter 9 October 2002), despite a commitment to do so from Ross Boyle, Chief Executive Officer, Banana Industry Committee, 15 April 2002.

   The panel has therefore been unable to analyse the claims released by ABGC at the Australian Banana Industry Congress in June 2001, that the introduction of just two diseases (Black Sigatoka and Moko) would cost $918 million in lost production, increased spraying and labour costs; that long term production would be reduced by more than 20% and costs for growers would leap by $3000 per hectare per year. The economic impact study also indicates that nearly 2000 people (14% of the workforce) in North Queensland alone would loose their jobs and this would lead to major social consequences.

5. **Plausible pathway for disease spread.** A completely plausible pathway has been identified for the Moko organism to infect fruit and not show symptoms. The organism can enter the Australian environment through infected skin and crown tissue as discarded waste.

6. **Favourable conditions for infection and spread in Australia's major growing region.** The potential risk of establishment and spread and the difficulty of developing practical risk management options to contain the disease, particularly in the major production area of Australia, the Tully Valley, have been under estimated in the latest panel assessment. Highly favourable conditions exist for infection and spread, including –

- high rainfall,
- heavy soils,
- high temperatures with small diurnal range for most of the year,
- frequent and severe flooding potential of the floodplain,
- high degree of mechanisation,
- difficulty in isolating infection.

7. **Lack of information about the role of other host plants in Australia.** The panel does not have sufficient information to assess the epidemiology of spread of the Moko disease organism where there are no visible symptoms

present. It is possible for the organism to establish by attaching to the rhizosphere of alternative host plants particularly common weeds such as *Bidens pilosa* and *Solanum nigrum* which are widespread in banana production areas, backyards and roadsides of Far North Queensland, then spread to banana plants following cultivation of weeds prior to planting bananas.

8. **Risk management options developed without data or full panel.** Members of the panel have developed risk management options for Moko in the Philippines and Australia without the scientific data from the Philippines, requested in April 2002, and without the involvement of the full panel for a period of over six months. I do not agree with the proposal to establish "low disease prevalence areas" as a practical risk management option because of the difficulty of identifying consistent practical management area units on which to calculate infection rates as eligibility criteria for export.

   I also disagree with the proposal that new or modified horticultural practices for Moko are feasible on the flood plains of Far North Queensland. No modified practices are suggested in the draft IRA and I do not believe infected plants can be isolated or treated effectively under a management system with long rows (600 metres), frequent travel by wheeled vehicles and mounds (required for drainage) which prevent access between rows. A Moko infected plant could therefore effectively eliminate the whole planted row from production.

   Also, the option of 'moving the enterprise to land not affected by the disease' is not a realistic one and fails to recognise the topography and flooding potential of the major production areas of North Queensland where plantations cannot be isolated effectively.

9. **Inadequate time frame for impact assessment.** The time frame for assessing the risk and consequences to Australia has been set at one year (12 months). I do not believe this is a realistic time frame. A period of at least five years is a more appropriate time frame, particularly for assessing the impact or consequences on business operations, regional economies and the environmental impact of a new disease in the Australian environment

   Environment conditions vary from year to year and over the range of banana growing areas of Australia. Also, the behaviour of a new pest under Australian conditions is not always comparable with that experienced in other countries. The recent discovery of Wheat Streak Mosaic Virus is an example of a new disease entering the country and not being detected for a period of at least 5 years. The consequences of such an incursion are likely to be enormous for the Australian economy. The Moko bacterium could remain in the rhizosphere of susceptible host weed species, showing no symptoms and be spread during periods of heavy rain, flooding or cultivation, to banana plants.

10. **Risk of disease increases with proximity of other banana varieties.** Plantings of varieties other than Cavendish, eg, Lady Fingers are increasing in

Far North Queensland. These 'cooking' banana varieties have the B genome. Varieties with the B genome have been shown to be more attractive to insects and therefore may constitute a higher risk for insect transmission of the Moko bacterium.

11. **No disease free areas in Philippines.** Area freedom status is not possible in the banana production areas of the Philippines. This is compounded by the high rate of infection in native bananas in close proximity to commercial plantations and the random pattern of infection within the plantation.

12. **Highly conservative approach to risk assessment not taken.** The risk calculation for importation pathway No.2 (IMP 2 – The likelihood that a tonne of harvested fruit will be infected with the pest), resulted in an estimate of approximately 1.3×10^{-3}. This figure fell on the boundary between extremely low and low on the risk estimation matrix. The least conservative likelihood (low) was chosen because "each of the factors used to estimate P have already been conservatively estimated it was considered inappropriate to choose the higher likelihood category". Again, without new scientific information I do not believe there is adequate justification for changing the previously held assessment presented in the first draft IRA. As a result the overall probability of importation of Moko for a metric tonne of bananas was found to be extremely low instead of very low.

13. **Uncertainty prevents risks being established.** Without adequate information about disease epidemiology, it is not possible to assign probabilities of establishment and spread when there is significant uncertainty over important areas of the risk analysis. The draft final IRA repeatedly states that a 'highly conservative' assessment has been taken, however I do not believe an adequate body of sound information has been established to make such a statement.

14. **The issue of multiple pests close to the Appropriate Level Of Protection (ALOP) has not been addressed.** When there are several pests just below the ALOP this must increase the overall risk above that of individual pests. The risk assessment matrix makes no allowance for multiple pest assessment.

15. **Dissenting vote with panel not recorded.** The panel is aware of my disagreements on risk assessments of Moko for Imp.2 on the importation pathway in past RAP meetings and for Dist. 4 and 5 on the distribution pathway as well as the consequences both direct and indirect on plant life and the modification of horticultural practices. I requested that my dissenting vote be recorded on several occasions (May 25, June 5, 2002 and June 5, 2003). I am concerned that my requests have not been acknowledged. Also, details of my response to the comments on the draft IRA concerning the impact of Moko from a horticultural perspective were forwarded as a confidential draft to the Chair of the panel on 11 November 2002. These details related to Moko consequences, direct and indirect impact and probability of distribution (Dist.5)

16. **Direct impact of Moko not as great in Australia.** The final draft of 1 July 2003 states that Australia's experience in the management of diseases such as Bunchy Top, Panama disease and root burrowing nematode would mean that "the direct effects of Moko on Australian banana production may not be as great as its effect on small farms in other countries". Managing a soil borne disease under the highly favourable conditions for establishment and spread in Far North Queensland is not a valid comparison to make against Bunchy Top and Panama disease, which are largely diseases of the sub-tropics.

Summary

- Panel has conducted an exhaustive search for information to analyse the risks of importing Philippines bananas.

- Despite this search, significant gaps in information still exist in relation to Moko disease.

- A completely plausible pathway exists for the Moko organism to enter the Australian environment.

- Eradication of Moko would be highly unlikely to succeed under the highly favourable conditions of Far North Queensland and the management systems that are necessary to maintain viability.

- Until these key areas of uncertainty are thoroughly researched, a genuine highly conservative risk assessment must be adopted by the panel.

David Peasley
Member,
Risk Analysis Panel

30 June 2003

Attachment J

From: C McRae
To: Allen, Cantrell, Paton, Peasley, Singh, Robbins, Karunaratne
CC. Harwood
Sent: Thursday 10 July 2003 1.30pm
Attach: Minority report Banana IRA addition July 03 doc.
Subject: General update

Hi All

Just a quick update on the state of play....

1. The Philippines quarantine challenge.

DFAT informed us yesterday that they had received advice yesterday ie 9 July that the Philippines intend to request the establishment of a WTO panel on Australia's quarantine regime for fresh fruit and vegetables at the 21 July meeting of the WTO dispute settlement body. Fresh banana fruit from the Philippines is one of the products of concern. This request for a panel follows on from WTO consultations held between Australia and the Philippines in November 2002.

The agenda for the 21 July dispute settlement body meeting does not close until 11 July (am) Australian time. It is therefore possible that the European Commission may also request the establishment of a formal WTO panel at the same meeting.

At this time, the request for a panel has not been posted on the WTO website hence it is not general public knowledge. Industry representatives have been informed including Tony Heindrich.

2. Dr Chinthaka Karunaratne ("Chin") has taken on the role as secretariat for the banana IRA as Gavin Edwards has taken up a job in New Zealand - welcome Chin.

3. Chin, Sharan and I have been busy editing the draft IRA document in line with discussions from our June 4 meeting. We hope to have finished this round of edits by the end of next week.

4. However, David has submitted his minority report disagreeing with the revised Moko analysis. David's report is attached. At this stage, please keep this report confidential.

5. At the June meeting we discussed having our IRA peer reviewed. To this end, we have secured agreement from the USDA APHIS to review the document as regards the appropriateness of the analysis carried out and the conclusions reached on the basis of the scientific and other information set out in the Report. Among other things, the reviewers will be asked to comment on the scope, logic and clarity of the methodology used, and to pay particular attention to the analysis of Moko. The principal reviewer will be Dr Ron Sequeira, Director of the Plant Epidemiology and Risk Analysis Laboratory.

The IRA document will go to the US as soon as we have completed this round of edits. I will also send each of you a copy of the document.

Please note that at this stage any information regarding this peer review is confidential.

Cheers for now
Cheryl

Dr Cheryl McRae
Manager
Biosecurity Development & Evaluation
Biosecurity Australia
Agriculture Fisheries and Forestry - Australia
GPO Box 858
Canberra, ACT, 2601 Australia

ph : 61-2-62723338
fax : 61-2-62724568
email : cheryl.mcrae@affa.gov.au

-----Original Message-----
From: Harwood, Mary - MAB
Sent: Thursday, 10 July 2003 10:44 AM
To: Mcrae, Cheryl - MAB
Subject: FW: Philippines quarantine challenge

-----Original Message-----
From: Harwood, Mary - MAB
Sent: Thursday, 10 July 2003 10:11 AM
To: Wonder, Bernie - Deputy Secretary; Taylor, Michael - Secretary
Subject: FW: Philippines quarantine challenge

Just for info - a copy of DFAT communication with industry on Philippines quarantine challenge

Dear All

I said that I would keep you informed of developments regarding WTO challenges to Australia's quarantine regime. We received advice today that the Philippines intend to request the establishment of a WTO panel on Australia's quarantine regime for fresh fruit and vegetables at the

21 July meeting of the WTO dispute settlement body. This request for a panel follows on from WTO consultations held between Australia and the Philippines in November 2002.

The agenda for the 21 July dispute settlement body meeting does not close until 11 July (am) Australian time. It is therefore possible that the European Commission may also request the establishment of a formal WTO panel at the same meeting.

We will need to arrange another roundtable meeting to discuss developments. I will send out a more detailed email this Friday.

If you have any questions between now and then, please let me know.

regards
John
Agriculture and Food Branch
Office of Trade Negotiations
Department of Foreign Affairs and Trade
Canberra, Australia

Tel. +61 2 6261 1864
Fax. +61 2 6261 1858
email: john.watts@dfat.gov.au

Attachment K

Sue & David Peasley

From: To: Sent: Attach: Subject:

"Sue & David Peasley" <peasleyhort@bigpond.com> "Cheryl Mcrae" <cheryLmcrae@affa.gov.au>
Monday, 1 December 20038:15 AM
Draft IRA review November 2003.doc
Draft IRA review - Philippines bananas - November 2003

Cheryl

Please find attached my comments on the November 2003 Draft IRA. As you requested I have thoroughly reviewed the document since it receiving it on Monday November 10. Some issues were resolved during our Monday 24 November teleconference.

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 concems expressed in my minority report of June 30, 2003 remain valid.

The fax you forwarded from the Australian Government Solicitor received on 28 October 2003 has pages 6 and 7 missing. Could you chase that up please.

Thank you and have a good break.

Regards David

David & Sue Peasley
Peasley Horticultural Services PO Box 542 MURWILLUMBAH NSW 2484 Phone/Fax - (02) 6677 7174

Attachment K2

Cheryl McRae
Chair,
Risk Analysis Panel
Philippines Banana IRA
Biosecurity Australia

Cheryl,

My suggested changes are indicated in *"blue"* and my comments in *"italics"*.

EXECUTIVE SUMMARY

In **Summary of risk management measures** *there needs to be an explanation that this IRA does not cover risk management measures after the pest enters Australia, ie., the IRA only refers to managing risk up to the point of entry into Australia. (This was discussed at our teleconference).*

Draft IRA Report text

pp. 50 & 51 – *I understand there were two sets of survey results into particulate trash in bananas in Australia. The one reported in the draft is July – November 2001. Is this the only survey? I don't know the status of the other survey, I haven't seen the data, however, I recall ABGC and NSW Agriculture were involved and it reported significant contamination by particulate trash? If it is statistically sound and verifiable, it would be worth including.*

P. 51 Imp 1. - *suggest you include the words "between plantations" after*……"seasonal variation" *and before* ……"as well as variations from one year to another."

P. 52 Imp 2 – 4th dot point.
Existing text –

- "Regular application of fungicides and at least 3 fungicide sprays before covering bunches".

My comment: This is impossible, and is at variance with the August 03 draft. The Philippines claim they cover the bunch as the second hand emerges. From the emergence of the 'cob' there is only a period of about one week before the second hand is exposed. They certainly could not apply 3 sprays during this period. I don't know why the original text was changed but I suggest the original text be reinserted – "Insecticide spray of the immature bunch prior to covering the bunch".

P. 52 Imp 3. Permanent Packing Stations
First dot point –

- Bunches are lowered onto the frame(**insert** - "*or pad*") carried on the shoulder.

P. 53 Imp 4.
Second last dot point.

- carton packed to correct weight – moist air is removed using vacuum hose and polyethylene bad is "tied off "- *delete, and insert "constricted by tying or an elastic band".*

P. 56 – Last sentence of Imp 6
"Consideration will also have to given…….". *delete* "consideration" – *it is too weak a direction.*

pp. 56 & 57 – Imp 7 and Imp 10
"Optical enhancements (magnification and spot lighting) would not be used".
My comment: Without these enhancements, inspection is not effective for these pests as they are hard to detect between fingers close to the crown and peduncle.

P. 77 – Table 13.
Assessment of local, district, state or territory and national consequences.
My comment: The consequences "significant" and "highly significant" have been omitted from the 'District' and 'local' level categories. Why is this so? They were included in TIP May 2002 report.

Imp 2 – bottom of p.142, top of page 143.
My comment: If the Soguilon 2003, study showed that the incubation period of Moko exceeded 13 weeks, how can it be "assumed that the symptoms would appear within 12 weeks"?

P. 143. second paragraph.
The proportion of banana plants infected with the Moko bacterium developing symptomless infected bunches - …"whilst this proportion has not been investigated for Philippines Cavendish bananas infected with B. strain, it is expected to be no higher than the 15% reported for the insect transmitted SFR stain in Central American Cavendish bananas (Stover 1972)."
My comments: What is the scientific basis for this 15% figure, besides Stover's 1972 reference (P. 198, Banana, Plantain and Abaca diseases). How can this be extrapolated to the Philippines situation? This area was to be included in the Philippines research experiments agreed on at April 2002, PSD meeting – Canberra.

P. 143.
The proportion of fruit that is infected on a symptomless infected bunch is likely to depend on various factors such as the number of vascular bundles affected at the point of infection, time period elapsed between infection and harvest, and climatic conditions. It was assumed for this analysis that the proportion of fruit that may be infected on a symptomless bunch is unlikely to exceed 50%.
My comments: Again, how can these assumptions be made in the absence of essential scientific research results.

Also, why is the Stover (1972) statement Page 140, "bacteria may remain localised for some time before disseminating through the plant…… ." *not included or acknowledged and was it considered when assessing the figure of 50%?*

Page 143 continued – last sentence.
"This calculation results in an estimate for Imp 2 of approximately 6.7 x 10^{-4} , which falls in the extremely low category.
My comment: How can the calculated risk fall from that calculated in the August 03 draft (1.3 x 10^{-3}, when there is no sound scientific evidence to support this downgrading of risk?
The August 03 draft likelihood figure fell on the boundary between very low and extremely low. The final rating, however, was chosen as extremely low because "each of the factors used to estimate P (the likelihood that the harvested bunch will bear a symptomless infected fruit) have already been conservatively estimated, it was considered inappropriate to choose the higher likelihood category".
The latest draft November 03, has now calculated the likelihood to be within the extremely low category, by introducing an assumption of 50% symptomless fruit. There is no scientific basis for this!

P.144 Imp 3, 5, 6, 7 and 10.
My comments: If these steps are no risk, what effect would removing them from the calculations have on the result?

Imp 4.
My comments: Should include a sentence covering the risk to depletion of chlorine levels by sap and organic matter accumulation (Lindsay QDPI reference), and the undetected knife wounds to fruit where the organism may be sealed in by sap.

P. 146. Dist.3
First dot point – "Of particular relevance are:

- The persistence of the bacteria in or on fruit, in discarded waste or in the soil;

My comment: Add "or attached to the rhizosphere of susceptible asymptomatic host weeds such as Solanum nigrum and Bidens pilosa.

P. 147. Dist.3 –
Distance
Second last sentence of final dot point –
My comments: "……..plantations, *add –" attaching to susceptible asymptomatic host weeds".*

Dispersal mechanisms
Fourth dot point –
My comments: "from decaying waste" , *add –"and the rhizosphere of asymptomatic weed host".*
Add another dot point –

- *Cultivation of soil prior to planting may spread the organism from asymptomatic weed hosts.*

P.148. Dist.3. Exposure of a susceptible host
First paragraph –

…….attracted to disposed waste, or human activity involved with cultivation and pruning.

My comments: *Add "(such as wheeled vehicles damaging roots or simply spreading the organism in mud on tyres.*

P.148 – final paragraph. Dist.3
"Exposure of a susceptible host……the scenario of highest concern was considered the movement of the Moko bacterium through a relatively short distance from banana waste discarded at roadside *insert "directly"* to an adjacent commercial plantation *insert "or via asymptomatic weed hosts"*.

P.153. The direct impact of Moko
Paragraph 4.
"However, while commercial banana production in Australia may be based on smaller plantation size than the Philippines, the Australian industry has considerable experience in the management of diseases such as Bunchy Top, Panama and root burrowing nematode with the result that the impacts of these diseases have been minimised. The direct effects of Moko on Australian production may not therefore be as great as its effects on small farms in other countries."

My comments: *This is not a valid comparison using Bunchy Top, a virus disease and Panama, neither of which have been eradicated from Australia. These diseases are extremely costly to contain. The Northern Territory Banana Industry has been dessimated by Panama Tropical Race 4, and Race 2 has not been controlled in other areas of Australia on non-Cavendish varieties.*
The issue here is that if Moko were to be carried or spread to the major growing area in tropical North Queensland, the chances of early detection would be remote because of the confusion of symptoms with Erwinia corm rot which is present and exhibits similar symptoms to Moko. By the time an infected site was diagnosed, it would probably be too late to contain or eradicate because of the ideal conditions for spread (high rainfall, high temperatures, heavy soil, frequent flooding and the frequency of mechanised wheeled vehicle access.
I disagree with the overall rating of B for the direct impact of Moko and I have repeatedly requested my dissenting vote of C be recorded.

P.154. The indirect impact of Moko.
"On first detection an eradication program could be initiated ……Standing Committee".
My comments:
1. *When symptoms have developed it is probably too late to eradicate.*
2. *Confusing symptoms with the Erwinia corm rot.*

These two factors would make an eradication program unlikely to succeed.

"If an eradication program failed……of Australia."
My comments: *Has Moko ever been eradicated anywhere in the world?*

P. 264. Risk Management for Moko
Area Freedom

My comments: *It seems an unnecessary statement that if there is no disease present then the likelihood of a tonne of fruit being infected is negligible – of course it is!*

P. 265. Areas of Low Pest Prevalence

"The concept of ……SPS Agreement (Article 6)". "There is currently no international standard established by the IPPC".

My comments: *This RAP draft is using a draft standard in its determination.*

"Calculation of Moko risk assessment, Imp.2 was estimated using the equation ……calculation of P".

My comments: *The three components of P (the likelihood that a harvested bunch will bear a symptomless infection) are not scientifically sound. Firstly,* the Moko incubation period of 12 weeks *is used in the IRA despite the latest Philippines research showing it was greater than 13 weeks (Soguilon 2003). Secondly*, the likelihood that an infected plant would bear a symptomless but infected bunch (0.15*) – the Stover factor. There is a lot of extrapolation and no hard evidence to support this figure. Thirdly*, the proportion of a symptomless infected bunch bearing symptomless but infected fruit (0.5). *The stakeholders will require these assessments to be substantiated by sound scientific evidence.*

Also, the prevalence of Moko (infected mats/hectare/week) under standard Philippines plantation practise has been "estimated using data provided by BPI". *The summary table of data on Moko incidence supplied by PBGEA has not been verified with weekly data over 5-years as requested and agreed to at the PSD meeting in April 2002.*

P.266/267. Specific requirements.
Established of an area of low pest prevalence (ALPP).

1.1. Geographical description, third dot point.

"BPI would determine ……..insect vectors".

My comments: *There was ample evidence during the visit by TWG Chairs in 2001 that this requirement was not being enforced or implemented satisfactorily.*

P.268. Change in status of an ALPP

My comments: *There is total reliance on BPI for maintaining a quality control program for survey and documentation, action to delimit, contain, control or eradicate. Why is there no requirement for an external independent audit?*

Fourth dot point –

"Identification of such areas ……may include……designated area."

My comments: *Why isn't mapping of all detections within a 2-year period on the plan of the designated area compulsory? Add "will" or" must" to replace "may".*

I think the IRA needs a reality check here, I know it is not politically correct but 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.

P.270. Inspection for internal peduncle symptoms of Moko by QA staff.

My comments: *The draft needs to explain more clearly the lag period, ie., that "the organism precedes the development of symptoms".*

P. 271/273. Restricting the distribution of imported bananas.
Distribution of imported fruit.
"Movement of imported Philippines banana fruit north of the demarcation line would be prohibited unless a permit is granted."
My comments: This would be practically impossible to police or control because of the high volume of tourist traffic to the north of Australia. State government resources are not capable of an effective control of fruit movements.

"An awareness campaign……..Philippine bananas."
My comments: This is a naive proposal. The substantial leakage of fruit movement by tourists, independent distributors, secondary wholesalers, retailers, etc., has not been recognised in the draft. I strongly disagreed with the statement in the summary, Page 275, "that the restricted risk for Moko, if distribution is limited was found to be negligible. Because this satisfies Australia's ALOP, bananas could, in principle, safely be imported under this risk management option". *The words, "in principle" indicate that a particular scenario can be made to work on paper but would not be practical or effective in reality. I believe both of the feasible risk management measures – the designation of ALPP, and restricted distribution in Australia are not practical to implement effectively.*
The RAP must deal in reality.
Stakeholders will be sceptical if the measures proposed are not realistic and the measures may appear contrived.

P. 323. Quarantine conditions
Systems for monitoring and surveillance
My comments: Insert All at the start of the sentence "Banana plantations are inspected weekly for pest and disease."

P. 324. Pre import measures
Export plantations
4.1…….in the event of non-compliance *insert "and external auditing".*

4.1.3 Geographical …….numbers *insert "accurate location data such as GPS on the boundaries of approved plantation blocks".*

6. Operation of……..approved equivalent……..import conditions.
My comments: Approved by who? The equivalent should be subject to external audit.

P. 325. Low pest prevalence for Moko in a plantation.
7.1 An area of …….auspices of BPI. *Insert "and boundaries identified by precise grid references, eg., GPS and aerial photography".*

8.1 Freckle.
My comments: Refer to Moko comments above.

P. 326. Packing station measures……P. jackbeardsleyi.

10. Packing station staff…….mealy bugs.
My comments: Suggest delete "and brushing". *The only measures seen by TWG Chairs was sponging. Brushing would damage the fruit.*

15. Concentration of chlorine……..audited by BPI.
My comments: This needs to be strengthened by adding "continuous or frequent or automatically using an approved monitoring technique."

18. A lot……on a day.
My comments: 'packing station' needs to be clearly defined. The normal understanding of a packing station is one packers output from the line where they pack. Our definition is meant to refer to a packing facility or packhouse. These requirements need to be applicable to multi-destination and/or multi-client central or contract packhouses, eg., Chiquita.
Are packhouses required to pack for export to Australia exclusively in any day? And, what are the disinfestation procedures required when changing from one country and their requirements to packing to meet Australia's requirements?

P.327. Loading and transport
My comments: Add another requirement –
Pallets must be new or treated in an approved manner as defined by AQIS.

28. Cartons, containers…….practically free……regulated articles.
My comments: Is' practically free' and accepted term? If not it needs expansion and explanation.

P.329. Restricted distribution of Philippines fruit in Australia
These conditions apply only as an alternative if fruit is sourced from low prevalence areas for Moko and Freckle.
My comments: If this means that fruit from an ALPP can go anywhere in Australia and fruit outside the ALPP can only go in to the restricted distribution zone, this needs to be clarified in plain language in the executive summary and in this section.

P. 377. Moko data sheet
Soguilon reference (2003) referring to greater than 13 weeks incubation period.
My comments: This has not been included in references.

P. 378. Table 32.
My comments: The latitude of Australia's major growing area (Innisfail/Tully) is 17°S. This should be inserted into the Table to provide a reference point for stakeholders.

P. 382. Resistance to desiccation and survival in soil.
First paragraph.
My comments: How do we explain the appearance of Moko in a banana plant in a new plantation at Bukidnon in the Philippines highlands where no bananas had been planted for at least 20 years (TWG visit 2001)?

P. 383. Other sources of inoculum

My comments: *There is no reference to spread by floodwaters, only rain splash and cyclonic conditions. Why has this not been included when early references to long distance dispersal by water were included in early drafts? This has very important implications for the north Queensland industry considering its predisposition to frequent flooding and the massive population of bacterial cells contained in a single drop of bacterial ooze.*

P. 388. Table 33. Incubation period of Moko in musa.
My comments: *A question to the technical experts on the panel regarding the Stover 1972 reference which states the incubation period of 6 weeks to 3 months or more and the comment that 40% of mats showed symptoms after 70 days and 60% after 90 days. My question – does this mean 40% of plants of symptomless?*

P. 390. Soguilon (2003)
My comments: *The comments in the Table should be incorporated into the body of the text of the Moko data sheet.*

P.424. Appendix 4. Banana growing in Australia and the Philippines
Suggested changes –
Domestic consumption – *Add "commercial" to read "Australian commercial plantations".*

Alternative enterprise options – *Add "subject to pesticide residue limitations" as per original wording from TWG3 report.*

P. 425. (Appendix 4 continued)
Vehicle use within plantation – *insert original wording from TWG3 report. After"* high frequency" *insert "2 to 3 times per week".*

P. 426. (Appendix 4 continued)
Production per hectare – *The new wording* "50 to 75 tonnes per hectare" *for the Philippines is misleading as it equates to 30 to 40 tonnes of export quality fruit (fruit packout yield). The original wording of "30 to 40 tonnes per hectare" is correct and is the same for the Philippines and north Queensland as it is the packout yield not the gross yield. (See TWG3 report table and PSD 2002 minutes).*

Bunch maturation time – *For Australia insert "12 to 20 weeks in the subtropics". Delete* "more than 20 weeks" (see original wording TWG3 report).

Cropping system – *Insert "100% ratoon cropping". Insert "not" after "Annual cropping " to read "Annual cropping not practised in Australia".*
For the Philippines delete "continuous" *as ratoon is the correct term.*

P. 427. Mechanisation V's labour
Australia –*Insert "at relatively high cost" after* "Generally low availability of labour". "In subtropics" *insert "approximately .25 workers per hectare". Delete* "one worker per hectare". *See original wording in TIP Report May 2002 –"1 worker to 4 hectares".*
Insert "A high degree of mechanisation in tropical growing areas has overcome the comparative disadvantages of low availability and high costs of labour".

Philippines – *Insert "at relatively low cost" after* "labour" *as per TIP Report May 2002. Insert "High availability of labour is a production efficiency advantage".*

Staff training – *Insert after* "Variable levels of training" *"available and utilised for monitoring, pesticide application, machinery use, quality management, etc."*

Plantation security –

Australia -*Delete* "Entry to plantations is supervised".
Insert "Variable security levels – plantations generally accessible".
Philippines – "Entry to plantations is" *insert "strictly""* supervised".

Pest pressure –
Australia – "Varies with" *delete* "area" *and insert "location". The word "area" is misleading.*

David Peasley
Horticultural Consultant
Member, Risk Analysis Panel

30 November 2003

Attachment L

DIARY ENTRY DATES AND SUMMARY
RELEVANT TO PHILIPPINES BANANA IRA
David Peasley
Risk Analysis Panel
Period – 1 January 2000 to 31 December 2003

2000

11 December	Phone call – Biosecurity Australia nominating me as candidate for Risk Analysis Panel (discussed my conditions)
12 December	Faxed CV to Neil McWaters B.A.
14 December	Phone call from Neil McWaters proposing me as a member of Risk Analysis Panel Faxed details of consultancy fees Another call from Neil McWaters – accepting my fees and details of panel duties.

2001

05 February	First meeting of RAP - Brisbane – QDPI Ann St
06 February	Continue meeting – meet ABGC & QFVG reps
13 February	Prepare for RAP meeting – Canberra
14 February	Fly to Canberra for second RAP meeting
15 February	Second meeting of RAP – Risk assessment methodology and Environment Australia meeting
24 March	Check IRA Issues Paper draft – edit – suggest changes
25 March	email changes to IRA draft Issues Paper
26 March	Rang RAP Chair (Sharan Singh) re call for stakeholders to contribute information to the RAP ASAP. Rang Dr Rob Allen re Issues Paper
30 March	RAP Teleconference – 1½ hrs re Issues Paper and composition of TWG's
11 April	Drafted text of an invitation for stakeholders to submit information to the RAP – emailed to RAP Chair.
22 April	Depart for Canberra
23 April	RAP meeting – Canberra. IRA methodology, SWOT analysis, WTO obligation.

24 April	Complete SWOT analysis, communication strategy expectations from BA TWG activities calendar
26 April	Attended meeting of Banana Growers – Murwillumbah Gold Club at invitation of NSW Banana Industry Committee hosted by ABGC to discuss Black Sigatoka outbreak and Philippines Import Application.
27 April	Rang Mary Harwood (G.M. BA) re communication strategy, National Banana Congress static display for BA
08 May	Returned Mary Harwood's call re interview on ABC radio re Black Sigatoka and RAP.
11 May	Call from Sharan Singh (RAP Chair) – invitation from Philippines for RAP visit – dates proposed.
16 May	Arrange photos for BA RAP poster for Australian Banana Congress
17 May	Take photos for BA RAP poster – express to BA.
18 May	Rang Ron Gray –Coffs Harbour banana grower – BIC arrangements for RAP field visit. Drafted itinerary for NSW and Qld RAP visit.
21 May	Fly to Cairns – drive to Innisfail
22 May	Plant Health Committee meeting - Technical Group meeting Plant Health
24 May	Meet Ian Campbell, CEO, NSW BIC re arrangements for field visit by RAP to NSW.
27 May	Drive to Coffs Harbour
28 May	Field familiarisation visits by RAP – Coffs Harbour, Woolgoolga.
29 May	Field familiarisation visits by RAP. Tweed district. Fly to Cairns
30 May	To Innisfail – field visits – ABC and Pat Gallagher
01 June	RAP meeting – wrap up of NSW & Qld industry visits Planning session Ron Peterson - TWG session – Black Sigatoka.
6-9 June	National Banana Industry Congress – Cairns Report on National Banana Congress for 'Good Fruit & Vegetables' magazine.
02 July	Discussion with Dr Gordon Guymer, EPA (Qld) (member of TWG3

Environment) re IRA – TWG3 report.

04 July — Rang Guymer & Singh re RAP meeting (12 & 13 July).

11 July — Prepare backyard information – production, environment and operations for presentation to Canberra RAP meeting.
Depart for Canberra.

12 & 13 July — Canberra RAP meeting –
- responses to Issues Paper
- meet Environment Australia Reps
- Prepare T.O.R. for Philippines visit
- Meeting dates for stakeholders

16 July — Meet CEO, NSW BIC re meeting dates for RAP/stakeholders
Phoned WA Ag re RAP stakeholder meetings.

01 August — Radio interview – ABC re Philippines visit (ABC initiated)

04 August — Fly Coolangatta – Sydney – Manilla

05 August — Review responses to Issues Paper – meeting – hotel

06 August — Meetings with Philippino politicians, scientists
Entry meeting – Sulo Hotel – Discuss 43 questions proposed by IRA.

07 August — Depart Manilla to Davao (Mindanao)
Inspect -
- T.C. Lab, nursery and plantation – Dole.
- Loading dock – inspection of fruit for export.
- Plantation – Lapanday – management practices – quality control, disease identification and pest control.
- Wrap up meeting with stakeholders.

08 August — To Lapanday plantations
Inspect large scale plantations by air
Inspect Chiquita & Co-op packhouse
Inspect Del Monte laboratories
Wrap up meeting 4.30-6pm.

09 August — Fly to Bukidnon – Skyway (Dole) plantation – highlands.
Inspect management practices – pest & disease control, monitoring and treatment.
Environmental management.
Annual cropping, mobile packing stations.
Training program for detectors, OH&S training.
To Davao – pesticide residue laboratory discussions with plant pathologists and wrap up session.

10 August — Fly to Sth Cotobato.
Inspect Lapanday farm – field & packing operations, pest & disease levels in plantations.

	Exit meeting – Davao with Philippine Task Force.
11 August	Fly to Manilla. BPI – Inspect research, education & quarantine. Meet plant pathologist – Moko. Return to Sydney.
13 August	ABC radio interview re Philippines visit and press interview Compile field notes
14 August	Compile field notes. Local press article from interview published. Range BA – Harwood & Stynes – article OK. Phone call from Sharan Singh (RAP Chair) – BA not happy with my Mention of dates for completion of IRA.
21 August	Prepare information for Brisbane RAP meeting. Planning meeting of RAP – ABGC & stakeholder meeting.
22 August	RAP meeting with ABGC reps + RAP meeting – Australian stakeholders meeting.
31 August	Review and edit Philippines report of Sharan Singh (RAP) Chair Phoned and emailed draft list of 65 questions to Gordon Guymer – EPA For comment and additions.
03 September	Rang Guymer for responses to questions
10 September	Brisbane – meet Dr Gordon Guymer – EPA – discuss environmental issues – IRA
12 September	Review pest list – weeds for grower stakeholder meetings + WA Issues Paper response.
08 October	Prepare Environmental Issues Paper - phone and fax to Guymer (EPA) for comment. Email draft to RAP Chair.
09 October	RAP teleconference – Planning stakeholder meetings.
10 October	Prepare presentation to RAP stakeholder meetings To Brisbane – night meeting to prepare.
11 October	Brisbane stakeholder meeting – AQIS HQ. Fly to Innisfail.
12 October	Innisfail- NQ stakeholder meeting.
13 October	Prepare for next RAP stakeholder presentation – incorporate NQ info.

15 October Phone interview – local press – stakeholder meetings.
Drive to Coffs Harbour.

16 October Coffs Harbour – Grower stakeholder meeting – Pest risk categorisation information gathering, grower input on risk categories.

17 October Murwillumbah – Grower stakeholder meeting – as per Coffs meeting.

20 October Analyse Philippines responses to 80 questions from RAP.
Prepare for WA/NT visit.

22 October Fly to Perth – meeting with AQIS, Scientists, WA Ag., Entomologists, Plant Pathologists, Weeds experts.
Meeting with Perth agents and merchants – explain IRA and progress.

23 October Fly to Carnarvon – meet WA Ag. Staff and growers.
Inspect plantations and packing facilities, field management and Grower stakeholder workshop.

24 October Fly to Kununurra – grower stakeholder meeting.

25 October Plantation visits – inspect plantation practices, security measures, risk management.
Fly to Darwin – grower stakeholder meeting – discussions centring On trade issues compromising IRA process.

26 October Return to Brisbane

27 October Draft letter re comments on first round of stakeholder workshops
- conflict of interest with trade – BA.

28 October Email letter to Mary Harwood, GM BA re comments on stakeholder meetings.

31 October Phoned Guymer – re progress on Environmental Report for TWG3 – RAP
Returned S. Singh (RAP Chair) email re my letter re conflict of interest – BA

05 November Phoned Guymer – arrange meeting to finalise environmental input into TWG report.
Phoned RAP Chair requesting copy of Environmental Compliance Certificate and Pesticide and Environmental Regulations – Philippines.
Also, Interstate quarantine and native bananas – TWG responsibilities.

08 November Email from S Singh (RAP Chair) requesting my notes from Philippines visit – emailed to RAP Chair.

10 November Complete notes - Day 2 – Philippines visit

11 November Complete notes – Day 3 – Philippines visit

12 November Complete notes – Day 4 – Philippines visit

14 November Print and edited Philippines visit notes, Days 2 – 4 to RAP Chair.

16 November Prepare for Environmental Issues Workshop with Guymer, EAP
Half day workshop – environmental issues.
Prepare responses to Philippines replies to RAP 80 questions.
Develop format for TWG report on environmental issues.
Discuss data collected and information gaps.
Contact key people for contribution.

18 November Complete Philippines visit notes – Day 4.

23 November Compile Philippines visit notes – Day 5.

26 November Faxed to RAP Chair (email not working)

27 November Phoned Guymer – EPA re progress on environmental tasks agreed on at November 16 workshop.
Draft email to WA Ag, Rod Randall – weeds expert seeking weeds list.
Phoned WA Ag.

28 November Faxed ABGC news release and my covering letter to RAP Chair (Singh) and GM, BA (Harwood) – expressing my concerns over external issues being brought into the IRA process.

29 November Phone call form RAP Chair (Singh) – concern over my invoice for compiling my field notes from Philippines visit (original field notes illegible – need to be typed and compiled.
Phoned TWG members – Robbins (AQIS) and Guymer (EPA) re Progress on TWG reports – operations and environment.
Request from RAP Chair to categorise major pests into ratings risks for the Australian environment.

06 December Phoned Robbins (AQIS) re TWG operations report

07 December Phoned Dr Rob Allen re Black Sigatoka outbreak update NQ.
Phoned RAP Chair to advise my questions to the Philippines would be supplied ASAP.

09 December Complete my responses to Philippines replies to 80 questions put by the RAP.

10 December Emailed Guymer (EPA) re questions to Philippines.

11 December Phone call from Lachlan Dobson – Kimberley Produce WA asking about progress on IRA and obtaining copy of draft IRA before RAPS next visit.

18 December Phoned Guymer 9EPA) re progress on environmental section of TWG report

29 December Work on Technical Report – Horticulture – Executive summary draft.

31 December Work on Technical Report – compile table of comparison - Philippines and Australian production stats.

2002

01 January Work on Technical Report – Horticulture
Phoned WA growers re production stats.

02 January Work on Technical Report – Horticulture – NSW, NT, NQ, SEQ, production stats.
Phoned RAP Chair re progress on TWG Report

04 January TWG3 Technical Report – Horticulture – production & handling systems

05 January Type and check draft.

06 January Email production section of TWG3 report to RAP Chair – hard copy & graphs & tables by post.

07 January Prepare budget estimate for RAP work to end of June 2002.
Work on TWG 3 Technical Report.

15 January Work on 'unrestricted pathway' for RAP.

16 January Work on " " "

17 January Work on " " "

18 January Phoned RAP Chair re edit of Philippines visit by TWG Chairs report as requested by RAP Chair. Suggested including clarifying comments re our observations.

19 January Prepare unrestricted pathway diagram

20 January Finalise unrestricted pathway diagram

21 January Email unrestricted pathway diagram to RAP Chair.

24 January Review extra questions to the Philippines as proposed by RAP Chair.

25 January Review further questions to Philippines.
Phone responses to RAP Chair.
Review RAP meeting notes – meeting 2, 3 and 4 - comments to BA.
Phone discussion with GM BA (Harwood) re my concerns over RAP/BA trade issues.
Phoned Guymer – EPA re International Standard for Environmental assessment

28 January Work on Production Growing Systems comparison table – Aus/Philippines.

05 February	Field visit with Ivan Buddenhagen – Panama and Moko discussions also with Ken Pegg and Dr Suzy Bently.
11 February	Work on TWG3 report. Phoned Singh, Robbins & Guymer – RAP issues – press article and progress on interception data.
13 February	Phoned GM BA (Harwood) re concerns over publicity from Philippines re IRA
14 February	Start reviewing 'Quantitative Risk Analysis' and draft questions to Philippines as requested by RAP Chair.
15 February	Input into 'Quantitative Risk Analysis' draft paper. Phoned comments back to BA. Phoned Guymer (EPA) – reminder – progress on funding table for Risk Assessment for environmental issues.
25 February	Study Draft IRA Template (request of RAP Chair). Phoned banana retailers re supply source of bananas.
02 March	TWG3 – Technical Report preparation
03 March	TWG3 - " " "
04 March	TWG3 " " "
05 March	TWG3 " " " Phoned RAP Chair re Environment sections of TWG Report Guymer not attending Canberra workshop March 7 & 8.
06 March	Prepare notes & report for Canberra RAP meeting. Phoned Guymer x 2 for environment report for Canberra meeting.
07 March	Present Progress Report (Horticulture) to RAP – comments made to GM BA re: meeting frequency of RAP & lack of urgency & synergy in IRA to date – need to proceed quickly without compromising quality of IRA.
08 March	Technical Report meeting.
11 March	Phoned QDPI plant health inspectors re banana plant populations backyards & rural + NSW Ag Inspectors for TWG Report.
12 March	Phoned QDPI NQ (Lindsay) re banana plant populations - backyard and rural.

13 March Phoned Guymer (EPA) re environment report.
Continue survey – banana plants in g rowing areas.
Add background info on soil types and flooding frequency (NQ & Nthn NSW) to Moko Data Sheet – consequences and impacts.

14 March SEQ Banana plant population survey – (Phone QDPI)
Continue backyard banana survey report.

18 March To Canberra

19 March RAP meeting (Canberra). TWG3 report preparation.

20 March RAP meeting TWG3 Environment report – pathway diagram.
Meet Environment Australia re progress on Environment Assessment For Technical Report.

21 March RQP meeting (Canberra).
Identified possible pathway for Moko organism from native bananas in Philippines to Australia banana plants – Discussion with Dr Chris Hayward (Bacteriologist).

22 March RAP meeting (Canberra).
Prepare Technical Report – pathway diagram for Moko, collate climate Data for all growing areas.

24 March TWG report - Moko pathway
Emailed to Chris Hayward
Email from Mike Robbins – requesting my horticulture report and packing Diagram.

25 March Prepare Horticulture Report – climate data for Philippines.
Phoned Woolworths Business Management re waste disposal.
Prepare drafts on consequences and management options & waste disposal.

26 March To QDPI Brisbane (Dr R Allen – RAP)
Prepare TWG3 report
Review RAP Chair Exec. summary for pathogens TWG.
Send fax to RAP Chair re my concerns over content, timing and omissions and lack of scientific rigour.

27 March Prepare TWG3 report.
Discuss with RAP Chair re draft summary report and my concerns over Content and timing.

28 March Phoned Robbins (operations) and Guymer (environment) re progress on their sections – Hort. section completed.
Review operations draft.
Confirmation of discussion with David Henning, Woolworths Business

Manager (Food Safety).

29 March — Phone interview with local press concerning Minister Truss press release re trade-offs for Philippine bananas.
I stated such comments were not any business of the RAP. Article published And faxed to BA 31/03/2002.

30 March — Download emails for Ron Peterson – TWG1 re Freckle.

01 April — Finalise draft – 'Growing Conditions in Banana production areas'.
+ Pest management options and prepare list of references for TWG3 report.
Photograph susceptible – asymptomatic weed hosts + banana fruit
Components for TWG3 report.

02 April — Tech. Report TWG3
Edit operations draft tables
Analyse interception data from NZ.
TWG3 planning session – with Guymer (EPA).
Phoned ABGC (Boyle) requesting copy of Economic Impact Study by CIE on Moko and Black Sigatoka on Nth Qld – (Boyle) required the Request be made in writing.
Review Philippines answers to questions of 08 March 2002 (received on email today).

03 April — Sent email to ABGC (Exec Officer Boyle) requesting copy of CIE report on Economic Impact of Moko and Black Sigatoka.
Dr Allen and Peasley prepared individual responses to their replies then Produced a joint response – emailed to RAP Chair.
My concerns over process outlined.

04 April — Phoned RAP Chair (Singh) re qualitative judgements on risks on likelihood of entry, establishment and spread being included in Tech reports as it was not what stakeholders were told at meetings.

05 April — Phoned (Allen) QDPI requesting draft progress report be emailed to Sam Beckett (BA) as requested.
Communication problems with RAP Chair and BA.
Download and edit draft TWG3 report and review responses to RAP questions by Philippines.

07April — Prepare documents and edit papers onto disc.

08 April — Review Moko Data Sheets and Import Risk Analysis.
Met with Ross Boyle (BIC/ABGC) in Murwillumbah BIC office to Repeat my request for a copy of the CIE report on Moko/BS economic Impact. Reasons given for not releasing report yet.

09 April — Canberra RAP meeting.
Discuss new protocol – Beckett, Stynes, Harwood
Present progress report for TWG3.

	Test run of new protocol on Moko. Dinner – Philippines scientific delegation (PSD).
10 April	RAP meeting with PSD technical committee. Develop protocols for research on Moko to be conducted by Philippines.
11 April	Meeting with PSD – present TWG3 report indicating areas of clarification and confirm tech. Information and gaps. Post PSD meeting discussions with BA (Stynes) re the need for data on insect transmission of Moko & etiology of spread within the plant. Areas of responsibility under WTO Rules.
12 April	RAP meeting –Canberra (post PSD). Guymer (EPA) arrived, new protocol explained. RAP Chair commented that the Philippines Ag. Attaché had complained to BA Re my questions on labour costs comparisons between Australia & Philippines. I explained the reason for the question to Stynes and Harwood.
15 April	TWG3 report – Brisbane QDPI. Hayward, Allen, Guymer – Moko disease – new protocol Emailed progress report to GM BA – Harwood as requested by RAP Chair And completed Moko protocol sheet.
16 April	Update reference list. Review RAP Chair changes to Moko protocol report.
17 April	Collect reference list for BA (Beckett).
18 April	Work on TWG3 report
19 April	Work on TWG3 report. Prepare Executive summary, scan photos & incorporate environment – weeds and interception data into report – Guymer present + Allen.
20 April	Edit draft report and reference list TWG3 report. Work on unrestricted pathway – field to wharf.
21 April	Finalise reference list & unrestricted pathway, email to Rob Allen (RAP)
22 April	TWG3 Tech. Report – include references into text, make edit changes. Cheryl McRae called re formatting & progress of report. TWG3 Technical Report completed – emailed at 4pm to Singh & McRae
01 May	Review Tech. Report Draft from BA (349 pages) Make comments of TWG3 report and BA input Concern over text changes and omissions – phoned BA, Beckett, McRae & Singh – no-one answering. Prepared email to RAP Chair – can't endorse the report until key issues are addressed.

	Phoned Allen & Guymer (QDPI) – in agreement with my comments.
02 May	Call from Harwood & Stynes, Beckett & McRae – conference phone re my comments in my email of 1/5/02 re Tech Report edits. Many points discussed – omissions, changed wording, premature release of report before RAP endorsement, etc. Details in diary.
03 May	Teleconference 4pm – 5.30pm BA Canberra. (RAP & TWGS)
20 May	Prepare list of likely guests for stakeholder meetings.
21 May	Type guest list for Cheryl McRae (new RAP Chair)
22 May	Drive to Brisbane
23 May	RAP meeting – Brisbane (AQIS) – draft IRA preparation (Arthropods)
24 May	RAP meeting – Brisbane (AQIS) – (Pathogens)
25 May	RAP meeting – QDPI – Summary session – Risk Analysis Disagreed with risk assessments for Moko – asked my dissenting vote be Recorded on impact and consequence of Moko in Australia.
04 June	Depart for Canberra – RAP.
05 June	RAP meeting – Canberra – prepare risk assessments.
06 June	RAP meeting – prepare draft IRA – Fly to Sydney
07 June	Fly to Coffs Harbour – NSW stakeholders meeting. Present TWG3 report to growers – 40 growers attending Detailed notes in diary and meeting notes. Concern over lack of time to review Tech report – complex language Difficulties (Punjabi). ABGC agrees to provide CIE Economic impact Report to RAP. RAP evaluation session (2 hours)
10 June	Drive to Brisbane airport – depart for Cairns
11 June	NQ stakeholder meeting – Innisfail (QDPI) – 57 growers, radio interview (ABC). Details in meeting notes.
14 June	Rang Cheryl McRae (new RAP Chair) re next steps in IRA Restricted pathway analysis for 3 pests (IMP 1 & IMP 2) Phoned Robbins (RAP AQIS) to arrange format and direction for IRA Input, restricted pathway. Phoned Senator John Cherry's office (at his invitation at NQ stakeholder meeting) Re contact for web site for stakeholders – information re frogs.
15 June	Work on Draft IRA.

17 June
Phoned Rob Allen (RAP) discussed risk mitigation options
Phoned Cheryl McRae (RAP Chair)
Phoned Edwards (BA) – sent ABGC response, section 2 by priority mail (inaccessible by internet).
Phoned Robbins re position on risk management options.
Downloaded info on frogs – Senator Cherry's web site
Review responses to technical report.
Prepare risk management options – general – Moko, B5, and Freckle.

18 June
Prepare risk management options draft, fax to Allen and Robbins for comment.
Phoned McRae (RAP Chair) re frogs issues *& her fax of 18/6
Advised to follow up comments from stakeholders.
Review comments on TIP from stakeholders.

19 June
Phoned Michael Tyler (Ass. Prof. Env. Biology, Adelaide University) and Stand Orchard – National Coordinator Frogs Program – WWF for Nature.
Faxed ABGC submission for their comments.
Finalise & email draft of risk management options for Mike Robbins.
Collected ABGC document. Review comments on Moko.

20 June
Returned call from Michael Tyler re destinations of Philippine bananas.
Reviewed draft minutes of Coffs Harbour & Innisfail stakeholder meeting at request of Chair RAP.

21 June
Review information supplied by email – various contacts re amphibians.

23 June
Download email form RAP Chair (McRae) re contaminants (sent 1.23pm Sat 22)
Watch ABC Landline TV re Philippine Banana Imports – NQ protests.
Work on containments section – Draft IRA – weeds & amphibians.

24 June
Review containments paper + Mike Robbins (AQIS RAP) – Risk management measures, first draft – provide comments & second draft – provide comments
- assess whether these measures will lower risk.

Review Ag. White (NQ growers), Daniells, BIC, ABGC, submission on Tech. Report.
Phone Lindsay (QDPI - NQ) re chlorination tests – commercial banana dipping
Prepare list of issues for discussion at RAP teleconference.
Lindsay draft paper arrived by email – emailed to RAP Chair, Rob Allen, Singh & Robbins + covering note.

25 June
Phoned Allen (RAP) re chlorination paper by Lindsay for comment – concerns over non-use of Alum in trial.
Phoned McRae (RAP Chair) re comments by Pegg (QDPI) pathologist
- panama. No response from Tyler (frogs). Further work on chlorination Lindsay + chemist, incorporation of risk mitigation measures into draft text.

26 June
Phone call from communications manager (BA) John Wilson, re briefing for industry leaders on draft IRA before release. Requested me to nominate industry leaders on draft IRA before release. Requested me to nominate industry leaders for

briefing by phone Monday.

27 June — Download draft IRA – review draft – make editorial changes and comments
- track changes – email changes to RAP Chair.

28 June — RAP teleconference (1½ hrs) to discuss status of draft IRA and discuss the implications of the 'area freedom' request I proposed as a risk mitigation measure, for Moko, BS and Freckle.
Conflict over 'yes, but' and 'no, until' approaches.
My concerns over information gaps for Moko – support the 'no, until' decision.

30 June — Reviewed email of Exec. Summary from RAP Chair – discussed my suggested changes, Stynes & Harwood.

01 July — Final Draft IRA emailed by BA – unable to download, too large.
Phoned RAP Chair – couldn't read on screen. RAP Chair assured me my Suggested changes had been incorporated into final document & suggested I agree with the final document – fax sent 10am.

03 July — Phone call from Ross Boyle, CEO, NSW BIC, asking whether further research would be conducted by BA to assist the Philippines application.
I replied survey work may be conducted in New Zealand on containment (frogs) if required.
Phoned Harwood (GM BA) passed on comments.

05 August — RAP Chair phoned requesting availability of teleconference – August 8.

08 August — RAP teleconference (no comment in diary – at farm).

04 September — IRA documents – not arrived by post – phoned RAP Chair.

07 September — First scan of submission on draft IRA.

09 September — Phoned RAP Chair re teleconference.

10 September — Review responses and submission on draft IRA.

11 September — Review " " " " "
+ 10am RAP teleconference.

03 October — Review responses to draft IRA and prepare my responses

10 October — Review ABGC response to Philippines submission and letter from ABGC (Heidrick) to BA (Harwood) (request for information – CIE report).

15 October — Analyse responses to draft IRA.
Prepare comments for RAP meeting (October 17 & 18).

16 October — To Canberra – prepare comments for meeting.

17 October RAP meeting – review responses to draft IRA, discussion re risk estimations.

18 October RAP meeting – continued.

28 October Rang Lindsay (QDPI) re mechanisation on NQ plantations.

30 October Phoned Stephen Mackay (NQ grower) & Stuart Lindsay (QDPI) re mechanisation in bananas.

31 October Phoned Mackay, Pegg (QDPI pathologist) & Lindsay re direct and indirect effect of Moko – prepare draft response.

02 November Prepare draft – direct consequences of Moko – typing and editing.

04 November Faxed 'draft for comment' to Pegg (QDPI Pathologist). Commence work on 'Indirect Consequences – Moko'.
Phoned Lindsay (QDPI) re flooding frequency data – Tully Valley.

05 November Prepare responses to comments – Moko – Indirect effects
RAP Chair phoned re progress with 'Responses to comments" in IRA draft.
Told RAP Chair I had sought verification of my comments with Stephen Mackay (NQ grower) from whom I had requested information on various Plantation management issues relating to the transmission of Moko/ soil borne diseases.
RAP Chair not comfortable with this – should send to RAP for comment First. I disagreed – professional judgement – get facts right first under Confidentiality. However, I emailed draft to RAP Chair, then sent in its 'cleared' form to Mackay.

06 November Emailed typed draft on Moko consequences – direct and indirect 5.1.3.5.1. & 5.1.3.5.2. to RAP Chair for comment.
RAP Chair phoned back re feedback on draft.
Not to send to Mackay – can extract sections relating to his input only
- 'may compromise the integrity of the IRA fact.

08 November Prepare response – B. genome in insect transmission of Moko
Rang Lindsay (QDPI NQ) re data & map of location of B. genome Plantations in FNQ.

11 November Phoned Lindsay re production info.
Prepare responses to comments – Moko consequences & distribution.
The B. genome factor in insect transmission of Moko.
Daniells comments re NSW & QLD production.
Topography and soils – Philippines + review first draft.
Type changes to first draft and add the above items – email to RAP Chair

12 November Rang RAP Chair re section on "Field Conditions" for each growing area (Australia & Philippines). RAP Chair requested I draft comments and data – rang and present by phone.
Asked RAP Chair if I was still required to work on fruit distribution

Pathways within Australia (as agreed at Canberra RAP meeting).
RAP Chair advised – 'not critical' and not to proceed.

10 December BA Admin concerned of consultancy cost.
RAP Chair – being addressed.

11 & 12 Dec RAP meeting – Brisbane
Reviewing progress on key pests – BS and Moko.
Strong disagreement with Moko risk downgrading by Sharan Singh and
Quoting selected references – when he hadn't completed his literature
Review required for the meeting.
Details of my concerns detailed in diary notes.
My tasks were completed by Nov 6. (mechanisation consequences for
Moko in Australia and industry practices – direct and indirect consequences).

2003
– No contact till…

16 April Rang RAP Chair (on leave) – left message (answering machine) with
Mary Harwood (GM BA) re ABC radio interview – Boyle (BIC) and
Heidrick (ABGC) – concern over delay of release of final report
BA overturning its decision of first draft.
I am concerned also over no contact with BA since December 2002.
I had rung RAP Chair in early March to check progress – RAP Chair
Working on weeds section.

06 May RAP Chair rang to organise RAP meeting to finalise Final Report
She preferred end of May. I suggested 28-30 May (but not early June
- Australian Banana Conference and I was to report for Good Fruit & Vegetable Magazine_
RAP Chair said delays in the IRA were due to Australia being taken to the
World Trade Court and that had taken time.

16 May Meeting date of 4 & 5 June proposed by RAP Chair. I agreed but explained the
conflict with Aust. Banana Industry Congress & my agreement to report for
GF&V magazine. Dates confirmed – 4 & 5 June – disappointed at missing
National congress.

26 May Range ABGC Executive Officer (Heidrick) - apology for not attending
National Congress.

30 May ABGC (Heidrick) range re final IRA – decision and date of release.
Advised him I did not know. We were having next RAP meeting on
June 4 & 5. He was concerned over a reversal of decisions from
first draft.

04 June RAP meeting re Risk Management Options presented by Sharan Singh
printed in draft IRA. Significant downward adjustments in risk
assessment for many steps in pathway.
Establishment of low pest prevalence areas.

05 June pm. Session with Stynes and Harwood (BA).
I explained my disagreement with the revised risk assessments, lack of Commitment of the panel in the formulation of the draft and numerous Other matters - (details in diary notes).

06 June ABGC (Heidrick) rang to find out progress of IRA (during National Banana Industry Congress) and advise of industry impatience with BA Told him I could not make comment – all comments by BA (Harwood) Rang GM BA (Harwood) to advise of this call. Discussed my concerns Expressed at June 5 RAP meeting. Still uneasy about draft and would Study the draft and respond with issues/changes, etc.

07 June Review Draft IRA document – prepare responses

08 June Review " " " " "

09 June Review " " " " "

10 June Rang GM BA (Hardwood) – discussed my concerns over Draft IRA. She preferred the issues to be resolved within the panel – suggested I send my letter of concern via email to RAP Chair. Email sent 9.20am

11 June RAP Chair range re my letter of concern over July 2003 Draft.
90 minutes of discussion – I reaffirmed my concerns and said I could not agree with the revised assessment. (Details in diary notes).

18 June RAP Chair forwarded papers explaining the background and operation of Australia ALOP.
Reviewed papers on ALOP.

19 June RAP Chair rang re progress on my position on Draft IRA. She offered to forward copy of Sth Australia Economic Report on Banana Industry showing findings contrary to ABGC commissioned report.
RAP Chair leaving for Geneva next day (20/6/03).

[CONFIDENTIAL MATERIAL DELETED]

28 June Work on Minority Report for RAP Chair

29 June Completed Minority Report for RAP Chair.

30 June Minority Report emailed to RAP Chair 8.25am

10 July Emailed additional comment on Minority Report – interim No. 15 relating to my report to RAP 11 November 2002.

14 July Received "Australian Bananas: industry magazine – article by Imports Committee Chair (Collins) – appears key elements of my minority

	Report had been sourced or read. Rang Collins to check where he sourced info. I did not disclose my Minority report to him.
24 July	Received fax from BA (Chin Karunaratne) re Philippines research results Sogiulon April 2003 – "Asymptomatic or sub-clinical infection of Cavendish banana fruit". Fax not complete – request re-send.
08 August	Teleconference – Philippines scientific experiments – comments from panel on results.
12 August	Hard copy of IRA Draft had not arrived at Post Office, due 1/8
14 August	Rang Tony Heidrick – ABGC to chase data on Moko incidence (held by ABGC according to press release (6-9 cases/ha/yr).
6&7 Sept	Review Sequeira comments on draft Review ABGC response to research on Moko (conducted by the Philippines).
09 Sept	Review Sequeira & ABGC comments, prepare for RAP meeting 10 & 11 September.
10 Sept	RAP meeting Canberra
11 Sept	Discussions by RAP on Risk Management Options – low pest prevalence and restricted distribution in Australia.
23 October	Rang Cheryl McRae – re progress on IRA – time frame for release 1 week to review and release for comment.
12 November	Provide referee list to BA – BA did not have a copy of the T.I.P.!???
13 November	Review table – Appendix 4 – Banana Growing in Australia and the Philippines – record changes suggested.
15 November	Review November draft IRA – pp 0-62
16 November	" " " - pp 62-83
17 November	Received email from Cheryl McRae – rang her back re progress in reviewing November draft.
18 November	Cheryl McRae rang to arrange teleconference dates. I expressed my concerns about the delay.
24 November	Teleconference RAP to discuss content & release of Draft – focus on risk management measures.

25 November My concerns detailed.

28 November Request from AFFA for documents – Jeff Maldon due Friday 5 December.
Prepare changes to text of November IRA.

04 December Rang Jeff Maldon – re FOI documents.

Attachment O

NON-CONFIDENTIAL
RELEVANT DIARY TRANSCRIPTS

2002

07 March — Canberra RAP meeting + TWG's–
After introduction by Mary Harwood she asked how things were going with the RAP and TWG reports – any problems?
I replied that I felt we had wasted both time and money by not meeting more regularly as a panel to keep everyone on the job and going in the same direction – missing out on "synergy".
Also, growers were hurting while the decision was pending. It was in everyone's interest to complete the IRA as soon as possible without compromising quality.
Bill McGee agreed as did the panel and Mary. (BA)

21 March — RAP meeting Canberra. 2-3pm. Pathway for Moko identified.
Discussions with Dr Chris Hayward
re possible pathway for Moko organism to move from native bananas in Philippines to Australian banana plants via insect vector to Cav. Plantation

- through injury site (bract dehiscence, de-belling)
- peduncle → crown of hands
- to Australia
- disposal of skin + crown as waste
- soil
- host weeds – bidens pilosa and Blackberry nightshade (symptomless carriers) + heliconias.
- → soil movement during flooding/heavy rain to land to be planted to bananas
- → banana plants

03April — PM. Discuss concerns over process of TWG reports with Rob (Allen) and Bryan Cantrell. We believe the task is to gather all technical ' information and release it to stakeholders at this stage rather than making value judgements on risk before we have a sound basis for making those judgements.
This is what we agreed to do in the Issues Paper and to make assessments of risk if premature and will leave the RAP open to challenge.
Secondly, there are a number of issues that will require further research to clarify the facts. These will take time (months). We should circulate these issues (eg, Moko insect transmission pathway) with stakeholders before we proceed with the draft IRA.
I believe the RAP is putting templates before process and we are getting ahead of ourselves in the rush to meet deadlines which are now unachievable without sacrificing scientific rigour.

02 May

Phone call from Mary Harwood, Bryan Stynes, Sam Beckett & Cheryl McRae re my comments in the email of 1/5 on the Tech. Report. Discussed each point – they agreed to –

- attach data sheets
- change the wording back to TWG 3 report on market penetration "theoretically up to 100%".
- Change wording back to TWG 3 report "compliance is a problem and enforcement difficult to achieve".
- Include photo of banana cluster.

We agreed that the frog photo be deleted on the grounds that we had no Information on frogs in Philippine bananas and it was not defensible insinuating there is a problem when there is no proof. .

I expressed my concern about the panel not meeting to discuss the report before it is released. They said it was not possible to meet the time deadline if it was delayed further. I said as long as stakeholders understand the Tech. Report is the collection of information we have at this point and we are not yet drawing conclusions. They can judge the quality/gaps in our information. I still replied I was uncomfortable with this.

Mary said she didn't think the panel fully understood the importance of meeting the deadline for the IRA in political terms + WTO.

25 May

Summary Session – Brisbane RAP meeting. (Following meetings on 23 & 24 May.)

After today's meeting I am starting to feel concerned over the progress and direction of the IRA. I had to register my dissenting vote on two occasions over Moko disease – IMP-2 – likelihood and the national consequence of Moko if it entered Australia. I believe we don't have enough information on insect transmission of the RS (Moko) organism to make a judgement at this stage and this should be as far as we go – however the Chair ruled we had to make a judgement. I said we should therefore be conservative because of this information gap. The panel said we were being conservative at the likelihood ratings given. On consequences I believe the potential loss of a major horticultural industry and the loss of critical mass (Tully, Innisfail) 70% of Australia's industry – central packhouses, transport – backloading, inputs – fertiliser – equipment, etc – <u>impact on rural towns is a national issue</u>.

I voted for a national impact – the rest of the panel voted not discernible at the national level. My dissenting vote was recorded, (though this did not appear in the minutes of the meeting).

28 June

Cheryl McRae rang 10.50am requesting a teleconference at 11am to discuss the status and completion of the draft IRA – Cheryl, Mary, Bryan Stynes, Sam Beckett, Sharan Singh, Rob Allen. Discuss the implications of area freedom requirement I proposed as a risk mitigation measure – problem of 10km zone – no scientific evidence to support that distance – only my statement that 10km was recognised generally as the flight distance of many common insects – bees, wasps,

flies, etc. This was a "yes, but" approach in which the requirements could not be met (a backdoor no) – rather we should adopt a stronger stance and say "no, until" – explaining that there were too many gaps in information on the symptomless infection of Moko to make a scientifically sound judgement.
For Black Sigatoka and Freckle the concept of area freedom is to be further explored though I expressed my strong doubts that area freedom could be achieved given the ubiquitous spore load in Mindenao of these 2 diseases.

12 November Rang Cheryl McRae re section on field conditions for each growing area in Australia and Philippines to complement the table on comparisons between Australia and Philippines industries.
I asked Cheryl if she wanted me to work on the fruit distribution pathway within Australia – as was agreed in Canberra RAP meeting – it would have been a significant job in time and cost – she said it was not critical and for me not to go ahead – I agreed (not to go ahead).

2003

16 May Email reply to Cheryl McRae re proposed meeting date for RAP, 4 & 5 June. I agreed but said the dates clashed with the Australian Banana Congress.
Tony Biggs (Editor, Good Fruit & Vegetables Magazine) then rang asking if I would cover the Congress, prepare a feature article for Good Fruit & Vegetables magazine. I said I would check with Cheryl to see if the dates (for the RAP meeting) were confirmed. Rang Cheryl, dates confirmed. I explained I had the offer to do the Congress feature.
Rang Tony Biggs to say I could not do Congress feature.
I am disappointed that, after nominating the dates I was available at the end of May to Cheryl last week they have chosen 4 & 5 June when the Australian Banana Industry Congress is on. They should have been aware of this event because the BA General Manager Mary Harwood was on the program to address the Congress on the Philippines import application.
After a period of 6 months since our last RAP meeting – with no contact by BA to me except to respond to some of my calls, they now organise an important final RAP meeting for the same dates as the National Congress.
Not only do I miss the Congress but the consultancy fee for covering the Congress. I indicated in my email to Cheryl that the finalisation of the IRA was the highest priority ASAP.
A bit of good planning and communication wouldn't go astray in BA.

04 & 05 June RAP meeting, Canberra.
Discussion of Risk Management Options – presented by Sharan Singh for Moko and Freckle – the 2 pests now above the ALOP (as of yesterday 4 June).
These were already printed in the draft final report for discussion.
There are significant adjustments to the risk assessment for many steps

in the pathway as a result of the risk mitigation measures proposed. The risks were reduced by the risk mitigation measures sufficiently to put them within the ALOP. They included establishing low pest prevalence areas – Moko 1 in 10 ha ($1/10^{th}$ of present average infection rate of 1/ha, buffer zones, destruction of plants within 10m radius + restricting the distribution of imported bananas (in Australia) – not considered feasible.
After lunch Mary Harwood and Bryan Stynes joined the Panel. I registered my concerns on several matters –

1. I have not been involved or contacted for input since December 02 meeting.
2. Insufficient time over these 2 days to analyse and digest the new information (378 pages) of the draft.
3. I didn't agree with the assessment on Moko as there are too many unknowns.
4. I don't agree with the time period over which the risk assessment is made (1 year) - I said 5 years was fairer and reflected normal business planning (5-10 year time frame). The risk should be calculated over the 5 year period – not 1 year, and the volume of trade factored in – ie., 80,000 tonnes +.
5. I didn't understand the complex calculations in the "black box" (computer program which calculates risk) and felt uneasy about adjusting risk assessments to see where they fit – above or below the ALOP. I understood the biology, technical and practical aspects of the assessment but not the complex calculations ie., multiplying risks along the pathway.
6. I am sceptical about the accuracy and reliability of Philippines data on which our assessments are based. I said I had been frustrated in trying to verify this data – "the Panel has to accept their data".
7. I am sceptical about the accuracy of disease detection data that will be supplied if exports are allowed to Australia. The pressure on field staff to minimise disease levels on paper to comply with the export conditions.
8. In summary, I thought it best to release the final report ASAP (after it is checked) and let it be judged on its merits – it was obvious I was not going to change the outcome despite my efforts over the past 2 days. To delay it further would mean updating information and we would never have it finalised and I felt the Panel had completed its technical assessment albeit without me for the past 7 months.
9. The option of another draft release was put as an alternative with a scientific review by Dr Ron Sequiera (USA) ASAP prior to its release. This was favoured over the final report release because of "political reality".
10. We have not received the results of research trials conducted in the Philippines as a result of our April 2002 meeting on the concentrations of inoculum required to cause infection of Moko, and the insect transmission studies.

Wednesday night – tried to read the draft document, got too tired to continue – 10pm.

10 June — Rang Mary Harwood am. Discussed my concerns over the draft IRA with Mary, she said that she would like to resolve the issues within the Panel rather than have the Panel divided or me not in agreement. I asked how she wanted me to send my letter of concern. She suggested an email to Cheryl McRae and she would discuss it with Cheryl and get back to me. I said I had a few other work commitments this week but would try to respond when I had time.

19 June — 4.15pm. Call from Cheryl McRae re progress on my thoughts on concerns over draft IRA. I thanked her for forwarding the information on the ALOP enquiries, etc. and requested a copy of the South Australian Economic Report on the banana industry (that Cheryl advised me of - $300m gain for Australia against $60m loss if the Australian banana industry was not here). She is leaving for Geneva tomorrow – not back for 8-10 days. I said I had been busy with work commitments and hadn't had a chance to thoroughly examine the draft IRA as yet but would do so over the next week to 10 days. 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.

01 July — Minority report emailed to Cheryl McRae 8.25am.

08 August — Teleconference re IRA re comments from Panel on Philippines scientific trials on Moko –
1. Chlorine and Alum
2. Asymptomatic infection

Research shows –
1. The Moko organism could enter Australia through symptomless fruit.
2. 'Though Philippine trials showed that all of the plants showed brown vascular discoloration in the peduncle it shouldn't be relied on as a detection measure that all infected bunches not showing vascular discoloration are clear of the organism (Bob Paton). Some hands and cushion may be infected and not the peduncle – organism will be present before vascular browning occurs.

Experiments had less replicates (15) than we specified (50) – no Australian Scientist present.

Frequency on infection in the field is the issue.

BA had sent draft IRA by post to me over a week ago – I had not received it by 7.8.03 (yesterday). Sent by ordinary mail, should have been sent registered post.

05 September Rang Cheryl McRae to see if the review by the US Expert (Dr Sequeira) had arrived and if the meeting was still on. The last meeting was postponed because the material had not arrived. I haven't received anything – wonder about time to review the paper before the meeting on 10 & 11.
Email from Cheryl McRae arrived 7pm.

24 November Teleconference RAP to discuss content and release of draft IRA.
Focus on risk management measures.
Agreed with Bob Paton that the restricted distribution option would be increasingly difficult to gain compliance over time and be impractical.
ALPP (areas of low pest prevalence) – I said we need precise grid references (possibly GPS) to accurately define the ALPP.
Shifting the boundaries of the ALPP could create a nightmare for auditing (shifting target) and open to abuse.
I also insisted on the use of aerial photography to verify data.
Rather than go through my 20+ pages of editorial changes/disagreements Cheryl suggested I collate them and forward to her within 10 days

- Discussions re release timing – agreed not to release before Christmas – "bad karma" – but get it polished and released with Apple IRA at end of January with 60 days for comment – not the 120 days as requested by industry.

Conclusion. I said everyone was aware of my views and I of theirs – there was no point in discussing the outcome further – let's get it completed with editorial changes and get out to stakeholders ASAP.
I requested my objection [be recorded] to the calculation of Moko IMP2 – P components in the formula not based on sound science or verifiable data. I asked why the risk management measures for diseases once they entered Australia weren't included in our risk management measures section especially for Moko. Bryan Stynes said that that was not part of this IRA "another part of Government handles that under incursion management plans".

04 December Rang Jeff Maldon, Manager, Project Analysis and Coordination, Market Access and Biosecurity re request for documents relating to IRA. – letter of 24.11.03 received 28.11.03. Asked Jeff what documents are required (publications, etc), anything public not required, only my emails, reports of meetings, field visits, etc, and No. of days diary entries. I said I would try to comply by 5/12 (date requested). He said next Tuesday would be OK (9/12).