# *Import risk analysis:* avian paramyxovirus type 1 in hens' hatching eggs

**REVIEW OF SUBMISSIONS**

**Biosecurity Authority**
**Ministry of Agriculture and Forestry**
**Wellington**
**New Zealand**


**18 December 2001**

Ministry of Agriculture and Forestry
Te Manatu Ahuwhenua, Ngaherehere
ASB Bank House
101-103 The Terrace
P O Box 2526
Wellington
New Zealand

Telephone: +64 4 474 4100
Facsimile: +64 4 474 4133
Internet: http://www.maf.govt.nz

Animal Biosecurity
Biosecurity Authority

# *Import risk analysis:* avian paramyxovirus type 1 in hens' hatching eggs

## Review of submissions

18 December 2001

Approved for general release

Derek Belton
Director Animal Biosecurity
Biosecurity Authority

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# EXECUTIVE SUMMARY

In March 2001, MAF released an import risk analysis on avian paramyxovirus type 1 in hens' hatching eggs.

MAF received four submissions on the risk analysis - two from within New Zealand, one from Australia and one from the United States of America.

None of the submissions disagreed with the conclusions and recommendations of the risk analysis.

# INTRODUCTION

The completion of the risk analysis on avian paramyxovirus type 1 in hens' hatching eggs was notified in the MAF publication *Biosecurity,* issue 26, dated 15 March 2001. The deadline for submissions was initially set as 30 April 2001, but this was extended a further two months following requests from several stakeholders who for various reasons had difficulties making submissions within the normal 6-week period.

MAF received submissions from the following:

| | |
|---|---|
| N.H. Christensen, AVIVET, Christchurch | 20 March 2001 |
| Poultry Industry Association of New Zealand (PIANZ) | 6 April 2001 |
| United States Department of Agriculture (USDA) | 30 April 2001 |
| Agriculture, Fisheries and Forestry Australia (AFFA) | 23 May 2001 |

The current document summarises the issues raised in all submissions, and presents the MAF responses to each point in turn.

# SUBMISSIONS

# 1.N.H.Christensen

**From:** "avivet" <avivet@xtra.co.nz>
**To:** <pharoh@maf.govt.nz>
**Date:** 20/03/2001 14:35:06
**Subject:** PMV1 change of address

Dear Howard

Thank you for your PMV1 risk analysis. It is great to see the issues summarised in such a succinct manner.

One or two points
2.1.2

In many countries, (I have personal experience of Malawi) especially in the past where SPF eggs were not available, the isolation of NDV was carried out in ordinary hatching eggs from vaccinated, and probably naturally challenged birds. The presence of maternal antibodies certainly did not detract from the ability of the virus to grow in eggs.

What surprises me about this issue is the dearth of research on the issue Capua's 1993 paper seems to be trotted out whenver the issue is raised. I suspect that in many countries whether mesogenic or lentogenic viruses (to use the old terms) are present in eggs is not relevant if the chicks are gouing to be sprayed with ND vaccine at day old!

section3 Windborne ND
The windborne spread issue is similarly bedevilled by a lack of recent research. In my Risk Analyses I haave been criticised for not quoting recent research - most of the references refer to the 1970s outbreaks in the UK and others at that time in USA. The 1984 pigeon virus outbreak was a special case in that it was poorly contagiousand could be controlled relatively easily.

At the November 2000 AVPA conference in Melbourne Mike Alcorn the vet for O'Kane Poultry in Northern Ireland gave a very interesting talk about the relativities of control of the 1973 (this was second hand from Brian McFerran) the 1992 pigeon PMV1 outbreak and the extensive 1997 outbreak, wheer he was convinced of the importance of windborne spread, not over 48km, but 2-3 km. It would be worth contacting him _ I don't have an e-mail but you could find one by faxing the co. Fax is 01266 658 498, tel 01266 41111

Is it significant that the practising vets e.g Cliff Stuart, Mike Alcorn are more concerned with airborne spread than the academics?

Please can you update the MAF records on my address , tel etc. I am now operating a specialist avian practice from Palmerston North

N.H. Christensen
39 Hillcrest Road
RD10
Palmerston North

ph 06 3269 982
fax 3269 983

email avivet@xtra.co.nz

2. POULTRY INDUSTRY ASSOCIATION OF NEW ZEALAND

**Poultry Industry Association of New Zealand (Inc)**

1st Floor, 96D Carlton Gore Road, Auckland, New Zealand.
Telephone 64-9-520 4300, Fax 64-9-520 1553
Mobile 025 929-438, E-mail bobd@pianz.org.nz

6 April 2001

Howard Pharo
National Adviser, Risk Analysis
MAF
PO Box 2526
WELLINGTON

Dear Howard

**IMPORT RISK ANALYSIS: avian paramyxovirus type 1 in hens' hatching eggs**

I am pleased to advise that the Poultry Industry Association supports the findings of the above Risk Analysis and the recommended controls which the Risk Analysis advocates.

There is still some individual contention regarding the significance or otherwise of the Newcastle disease virus spread via the airborne route but we believe the controls advocated will cover all issues.

Yours sincerely

R J Diprose
**Executive Director**

## 3. UNITED STATES DEPARTMENT OF AGRICULTURE

USDA 202 332 4309

United States
Department of
Agriculture

Marketing and
Regulatory
Programs

Animal and
Plant Health
Inspection
Service

Washington, DC
0250

APR 30 2001

Dr. W.T. Jolly
Counsellor, Veterinary Services
New Zealand Embassy
39 Observatory Circle, NW
Washington, DC 20008

Dear Dr. Jolly:

Thank you for the opportunity to review the document ***Import Risk Analysis: Avian Paramyxovirus Type 1 in Hens' Hatching Eggs***, from the Biosecurity Authority, New Zealand Ministry of Agriculture and Forestry.

Our reviewers feel that in general the conclusions are accurate and reflect an objective evaluation of the available literature on the subject. However, our statisticians do offer one suggestion with respect to section 3, "Risk Management": It might be helpful to mention that, in order to achieve a 99 percent probability of detecting infection if the prevalence level is less than 5 percent, a considerably larger sample size would be required.

We commend the authors for generating a fine document based on scientific observations. Again, thank you for the opportunity to comment.

Sincerely,

Alfonso Torres
Deputy Administrator
Veterinary Services

APHIS - Protecting American Agriculture

An Equal Opportunity Employer

## 4. AGRICULTURE, FISHERIES AND FORESTRY AUSTRALIA



**From:** <David.Buckley@affa.gov.au>
**To:** <PharoH@maf.govt.nz>
**Date:** 23/05/2001 15:55:22
**Subject:** Comments on the NZ document "IMPORT RISK ANALYSIS: avian paramyxovirus type 1 in hens' hatching eggs

Howard,

My apologies for the late arrival of these comments. I have had an extended period away from the office on leave, and on duty inter-State, and then I have been ill for a week after arrival back at work. I hope the attached is useful, and not too late to be of assistance. In addition to these formal comments, there are a number of issues relating to the general philosophical approach to IRA and to the imposition of testing requirements etc, that I would like to discuss at some time. These are perhaps more the subject of intellectual discussion rather than international review and comment. (some of the comments included here, in relation to individual steps in release and exposure pathways, and the effects of particular risk management measures on overall risk, perhaps also fall into this category)

Look forward to catching up with you sometime soon.

Cheers
David Buckley
A/g Manager (Avian and NAQS)
Animal Biosecurity
Biosecurity Australia

<<drb NZ ira ND 010523.doc>>

Comments on the NZ document "**IMPORT RISK ANALYSIS: avian paramyxovirus type 1 in hens' hatching eggs.**"

### *Release assessment:*

I accept the general conclusion that hatching eggs could serve to introduce avian paramyxoviruses more pathogenic than those already in NZ into that country. The risk is expressed qualitatively as "*low*" in the Executive summary, but does not appear to be quantified elsewhere in the document. There appears to be no attempt to define "*low*" risk in the document. In the absence of such definition, it is difficult to comment on the likelihood estimate, but I would have thought that the evidence presented suggested that an unrestricted risk estimate would be higher than "*low*".

### *Exposure assessment:*

In the section on airborne spread, (and the supporting appendix) there is strong criticism of the concept of long distance airborne carriage of virus, as expressed in existing Australian policy. The IRA claims that the likelihood of airborne spread has been consistently overstated in the past, and that Australia has been (at least) guilty of non-critical acceptance of the overstated risk. We have been previously asked to comment on this work. A reply was sent by David Banks to Stuart MacDiarmid (referenced in the NZ IRA at Appendix 2, para 2.1)) stating that Australia is currently undertaking a number of IRAs during which the evidence relating to airborne spread on NDV will be re-assessed. At first reading, the NZ arguments against long distance airborne spread appear to be sound.

### *Consequence assessment*

There appears to be no attempt to assess the likelihoods of various outbreak scenarios.

The IRA includes the statement:

> "*Regardless of the pathogencity, any introduction of exotic virus would adversely impact on the small but expanding export trade in poultry products and genetic material.*"

This statement is unsupported by reasoning as to how the introduction of non-virulent ND ($0.16 < ICPI < 0.7$) could have this effect.

### *Risk estimation*

There appears to be no explicit attempt to combine the various likelihood estimates with the consequence estimate to provide the overall risk estimate. There also appears to be no attempt to explicitly compare the risk estimate with NZ's ALOP.

However, the risk estimation concludes that sanitary measures are required to manage the risks. There is no argument with this overall conclusion.

### *Risk Management*

There appears to be no attempt to explicitly relate the proposed risk management measures to the particular steps in the release or exposure scenarios, nor to recalculate the risks after the application of the sanitary measures, in order to allow assessment of "least restrictive" measures. There also is no listing of appropriate risk management options, but simply a statement of the measures that are intended to be applied.

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# REVIEW OF SUBMISSIONS

Dr Christensen of AVIVET pointed out that in his experience the presence of maternal antibodies did not interfere with APMV-1 growth in eggs, implying that it would not be reasonable to argue that eggs from infected flocks should be considered to be risk-free because of such antibody. Dr Christensen expressed surprise at how little information is available in the literature on the likelihood of APMV-1 viruses being present in eggs, and he also expressed frustration over the lack of recent research with regard to airborne spread of APMV-1.

Dr Torres, Deputy Administrator of USDA Veterinary Services, agreed with the conclusions of the risk analysis and commended MAF for the quality of the document.

Mr Diprose, Executive Director of PIANZ, advised that PIANZ agreed with the findings and recommendations of the risk analysis.

Dr Buckley, Acting Manager (Avian and NAQS) of Animal Biosecurity in AFFA, noted that the likelihood of hatching eggs being infected or contaminated with vaccination or field strains of APMV-1 could well be higher than "low". Dr Buckley noted that the New Zealand arguments against long distance airborne spread appeared to be sound. Although Dr Buckley considered that the section on consequence assessment was limited, and that the risk estimation section neither presented an overall risk estimate nor compared that explicitly with New Zealand's ALOP (appropriate level of protection), there was no AFFA disagreement with the conclusion that safeguards were required to manage the risk. With regard to the process followed by MAF in carrying out this risk analysis, Dr Buckley noted that in proposing risk management measures, MAF did not relate the measures to particular steps of the release or exposure scenarios, and that MAF also did not "recalculate" the risk after the application of the sanitary measures, which would theoretically be necessary in order to ensure that the proposed measures were "least restrictive". In his covering email, Dr Buckley considered that these procedural matters were rather more a potential subject of future intellectual discussions rather than criticisms of this risk analysis.

# CONCLUSION

None of the submissions disagreed with the conclusions and recommendations of the MAF risk analysis.