



An examination of the likelihood of imported raw peeled prawns that tested positive for White Spot Syndrome Virus (WSSV) and were mistakenly released into Australia by the Biosecurity Services Group (BSG) entering high risk pathways and of then causing WSSV to establish in Australia.

SUMMARY

Likelihood of the raw peeled prawns entering high risk pathways

There is an *extremely low* likelihood that an amount of infected prawns likely to introduce WSSV infection entered high-risk pathways from this consignment.

Likelihood of causing WSSV to establish in Australia

There is a *negligible* likelihood that WSSV would have established in Australia as a result of the release of this consignment of prawns. This finding is underpinned by the finding above that there is an *extremely low* likelihood that significant numbers of infected prawns from this consignment entered high-risk pathways.

BACKGROUND

On 28 September 2010, the Deputy Secretary, BSG and Executive Director, Australian Quarantine and Inspection Service (AQIS) requested independent advice (an Incident Review or the review) from the Interim Inspector General of Biosecurity (Interim IGB). The request was in relation to an incident involving the mistaken release into Australia by a BSG officer of a consignment of raw peeled prawns intended for human consumption that had tested positive for WSSV.

The review was conducted in two parts. This paper outlines the outcomes of part two of the review. A separate paper was prepared in relation to part one.

OBJECTIVES

To examine the likelihood of the raw peeled prawns intended for human consumption released by BSG on 3 September 2010 entering high risk pathways and then causing WSSV to establish in Australia.

AUSTRALIAN IMPORT REQUIREMENTS FOR PRAWNS

In April 2010, Biosecurity Australia introduced new quarantine requirements for the importation of prawns and prawn products. This followed an extensive public Import Risk Analysis (IRA) process culminating in the release of a report in October 2009.

WSSV was identified as a key risk in the importation of prawns and prawn products. The new policy included several risk mitigation measures for WSSV. These measures included a laboratory test for WSSV to be performed on a sample of prawns from each batch following arrival and before release in Australia.

The sampling intensity is designed to detect a batch prevalence level of 5% WSSV with a confidence level of 95%. Detailed sampling procedures are described in a specific AQIS Work Instruction “Prawn Sampling for Disease Testing”.

BACKGROUND TO THE CONSIGNMENT THAT IS THE SUBJECT OF THIS REVIEW

On 3 September 2010, BSG released to the Australian importer a consignment of 20 000 kg of prawns that had been imported from Malaysia. On 23 September during a routine process check, BSG discovered that the consignment should not have been released as the WSSV tests had returned some positive results.

The prawns in the consignment were in variously processed states according to an interpretation of the Malaysian official health certificate and other consignment documentation. Processing was consistent with Australian import requirements. These processed prawns consisted of:

- 11 110 kg of farmed prawns that were peeled, de-veined with the tail on
- 1870 kg of farmed prawns that were peeled and deveined with tail off
- 5280 kg of wild caught prawns that were prawn cutlets (peeled, de-veined with tail on)
- 1740 kg of wild caught that were prawn meat (peeled, deveined with tail off).

It is unknown if the WSSV positive prawns were from farmed or wild caught stocks that made up this composite shipment because the importer nominated that the whole consignment comprised one batch only for sampling purposes.

Acceptance by BSG of the importer’s nomination of this entire consignment as one batch for sampling/testing purposes is questionable. The Work Instructions are not emphatically clear on this but a reasonable interpretation is that farmed prawns and wild caught prawns should be distinguished as separate batches even if produced on the same date.

QUALITATIVE ASSESSMENT

Conclusions of this review are based on qualitative assessment of likelihood that takes account of balances of probabilities associated with all of the individual factors considered to be relevant in the course of this review.

Establishment of WSSV requires initial introduction of infection to Australia; however, introduction of infection does not necessarily lead to establishment.

The highest risk scenario for establishment of WSSV as a result of prawns from this consignment entering high-risk pathways would result from the direct consumption of individually infected prawns by aquatic animal host species that are susceptible to this viral infection. This risk would be highest where the prawns are deliberately used as a feedstuff for a captive host species population of an adequate size to sustain WSSV establishment.

For entry to a high-risk pathway, it is most probable that deliberate feeding of the infected prawns or any feedstuff containing parts of these prawns to captive (farms, hatcheries, research or hobby stocks) populations of decapod crustaceans would have to be involved. A deliberate use of significant quantities of these prawns as pot bait in the lobster fishery would also constitute a high-risk pathway. Deliberate use of a majority of the consignment as bait for finfish could also constitute entry to high-risk pathways in certain situations. The susceptibility to WSSV of the several Australian decapod crustacean species (which includes lobsters) is largely untested. In such circumstances, it is reasonable to assume that any such species is susceptible to infection that results in either manifest disease or an unaffected WSSV carrier state.

In undertaking my assessment, I have found that:

1. A moderate-large (20 tonnes) wholesale consignment was involved which records show has had a geographically wide dispersal to food preparation and retail outlets through at least 19 commercial wholesalers/distributors.
2. From the audit undertaken as part of this review, no evidence was found that the consignment did not fully comply with the requirement for each package to have been marked 'for human consumption only – not to be used as bait or feed for aquatic animals'.
3. Based on the laboratory test results, 4 of 13 samples (31%) taken from this consignment were positive and 9/13 samples (69%) were negative for WSSV. This is indicative that most prawns in the consignment probably were not infected with WSSV.
4. Pre-export processing removed heads, most organs and all/most of shell in which the majority of virus infected cells are found in an infected prawn from populations that are not experiencing mass mortality WSSV events; thus the residual WSSV load is probably less than would have existed in the whole prawn (Meng-Feng Tsai 1999).
5. The April 2010 import conditions developed by BSG after the extensive public Import Risk Analysis in 2009 have been designed to mitigate significant risks of entry of infected uncooked imported prawns to high risk pathways. For consignments such as this one, this includes allowing entry only to peeled (including tail-on) prawns and specifically precluding the use of imported prawns as bait in addition to testing for nominated diseases included WSSV.
6. The moderate-high commercial value of this product due to the pre-import processing and presentation that this product has been subjected to would provide reasonable confidence in the probability that it would be used for human consumption, that post-

importation waste would be minimised and diversion for use as bait would be unlikely.

7. It is reasonable to assume that any unused or spoiled prawns from this consignment would have constituted small individual quantities only due to the widespread sales distribution through the at least 19 commercial food wholesalers/distributors in Australia and thus be unlikely to be diverted for incorporation in feedstuffs for aquaculture farming or bait or berley manufacture.
8. Small amounts of waste from further processing of the prawns in the consignment after arrival in Australia possibly could have entered waterways. However establishment of WSSV would be dependent on many factors operating in conjunction including, proximity of the processing facility to an aquatic location, direct entry of uncooked prawn tissues to waters, sufficient levels of contaminated product to constitute infective doses and consumption by a sufficiently large susceptible host population to sustain establishment of WSSV.

Based on my assessment, there is an *extremely low* likelihood that an amount of infected prawns likely to introduce WSSV infection entered high-risk pathways from this consignment.

There is a *negligible* likelihood that WSSV would have established in Australia as a result of the release of this consignment of prawns. This finding is principally underpinned by the conclusion above that there is an *extremely low* likelihood that significant numbers of infected prawns from this consignment entered high-risk pathways.



Dr Kevin Dunn
Interim Inspector General of Biosecurity

APPENDICES

REFERENCES

Tsai, M-F *et al* (1999) Long-term presence of white spot syndrome virus (WSSV) in a cultivated shrimp population without disease outbreaks. *Dis Aquat Org* 38: 107-114.

NOMENCLATURE FOR QUALITATIVE ASSESSMENTS

The likelihood of the raw peeled prawns entering high risk pathways

Qualitative assessment	Description
High	It would be very likely that the prawns would enter this pathway
Moderate	It would be likely that the prawns would enter this pathway
Low	It would be unlikely that the prawns would enter this pathway
Very low	It would be very unlikely that the prawns would enter this pathway
Extremely low	It would be extremely unlikely for the prawns to enter this pathway
Negligible	Prawns almost certainly would not enter this pathway

Likelihood of then causing WSSV to establish in Australia.

Qualitative assessment	Description
High	It would be very likely that WSSV would establish in Australia
Moderate	It would be likely that WSSV would establish in Australia
Low	It would be unlikely that WSSV would establish in Australia
Very low	It would be very unlikely that WSSV would establish in Australia
Extremely low	It would be extremely unlikely that WSSV would establish in Australia
Negligible	WSSV almost certainly would not establish in Australia