

**AUSTRALIA'S QUARANTINE REQUIREMENTS  
FOR THE IMPORTATION OF COOKED  
CHICKEN MEAT (G/SPS/N/AUS/72)**

Submission by Thailand

1. Australia's quarantine requirements for the importation of cooked chicken meat have caused grave concern to Thailand. There are reasons to believe that the proposed core temperature/time treatment, specified in sub-clause 3.2(v) of the document, is beyond the extent necessary to protect human or animal life or health. Though the proposed requirements are based on scientific principles, they appear to constitute a disguised restriction on international trade.
2. The above comment is based on the following justifications:
  - (a) **Faulty interpretation of the scientific data bases**
3. Although Australia claimed that their proposed requirements were based on scientific data, which had been studied by Dr. D.J. Alexander from the Central Veterinary Laboratory (CVL) at Weybridge, United Kingdom, on behalf of the Australian Government, *such data cannot represent or reflect the reality of Infectious Bursal Disease (IBD) infection in all cases.*
4. Several scientific research works on IBD with various degrees of virulent virus strains have been published world-wide. The results of these studies were consistent with each other both on the dissemination of IBD virus through the tissues of chicken and the heat inactivation of the virus. According to the studies, IBD virus is unable to be detected in tissues and organs beyond 14 days post infection (references 1, 2, 3, 4). The virus can also be inactivated at 80°C in 10-15 minutes (references 5, 6, 7, 8)
5. In Dr. Alexander's previous experiment using IBD virus strain 52/70, *infected bursa homogenates* with different degrees of heat treatments, the virus was inactivated by heating at 70°C for 60 minutes, 75°C for 45 minutes and 80°C for 10 minutes (Chettle and Alexander, unpublished data). Dr. Alexander further recommended an appropriate temperature/time of heating at 100°C for 1 minute as that of Newcastle disease virus. It might be argued that Alexander's bursa homogenates contained very high titres of virus, and that bursal tissue is unlikely to be included in chicken meat products.
6. In Dr. Alexander's 1997 experiment using IBD virus strain CS88 *tissue homogenates*, the IBD virus survived at high temperatures for an unexpectedly long period of time, i.e. 70°C in 300 minutes and 80°C for 90 minutes. When comparing both experiments, the earlier work was undertaken on a clarified aqueous suspension of the virus, while his latest study used an unclarified suspension of infected tissues. After heating for periods of 60 minutes at 70°C and 15 minutes at 80°C, the particulate matter in the suspension became coagulated, which may have protected the virus to at least some extent. Moreover, the titre of virus in the homogenate used in this study was more than  $1 \times 10^{22}$  higher than in the previous one. That experiment was conducted by using the 52/70 strain of virus which has a lower virulence than the CS88 strain used in this study.

7. In natural infection caused by highly virulent IBD virus such as strain CS88, the mortality rate of birds in infected flocks would be high (90 per cent) within a few days. Should there be a serious evidence of such critical infection, these contaminated birds would be prohibited for exportation and local consumption, since only healthy birds would be permitted to enter the approved slaughterhouses. All poultry farms licensed for exportation are obliged to report their raising program/plan to the Department of Livestock Development (DLD) regularly in advance. DLD's veterinary authorities assigned to specific approved poultry slaughterhouses conduct routine inspection of documents produced by the original farms accompanying the poultry to the slaughterhouses. Records of raising details starting from day-old chicks to the last day at the farms must be provided in the documents. The information also includes number of chicks entered, number of deaths, causes of death, etc. On the assumption that there is an outbreak of any serious infectious disease, such as highly virulent IBD, poultry raised in the infected farm shall be embargoed up to the time that any unclear cause is known.

**(b) Overlooking the effective preventive measures of the exporting countries**

8. As mentioned elsewhere, the flocks infected by highly virulent IBD virus strains such as CS88 would have high mortality rates of 90 per cent (Chettle et al 1989, Vet Rec 125:271-272) within a few days (reference 9). IBD virus replication initiates in gut-associated macrophages and lymphoid cells within 4-5 hours after infection (reference 10). From there, virus spreads via the portal vein and main bloodstream to various organs and tissues especially the bursa, the target organ for IBD virus. Virus cannot be detected in blood after 72 hours post infection and in bursa after 14 days post infection (reference 1). With the occurrence of circulating IBD antibodies, IBD virus can be rapidly eliminated. Muscle is not a target organ for IBD virus. That is a reason why the virus is rarely found in muscle. Dr. D.J. Alexander's latest research demonstrated that the IBD virus strain CS88 was detected in all samples, except skeletal muscle in which virus was not found at 24 hours. He concluded that IBD virus is widely disseminated throughout the tissues and organs of chickens in at least 96 hours after infection by a highly virulent strain of the virus (CS88). However, he did not report the results of testing beyond 96 hours. Definitely, all chickens must already be dead. He did not use only highly virulent virus strains in his studies but also very high titres of virus in the homogenates. The studies of Edgar and Cho in 1976 demonstrated persistence of virus from 24 hours to 21 days post infection. This finding proves that the outbreaks caused by highly virulent strains will lead to higher mortality rates than that of lower virulent ones. Beyond the 14<sup>th</sup> day of post infection virus can be rapidly eliminated.

9. If the chicken is derived from the source flocks for the proposed export of chicken meat preparations, where effective preventive measures for all infectious poultry diseases of concern (including IBD) are undertaken, the risk of having IBD contaminated chicken is extremely low.

**(c) Constitution of too specific standards which are theoretically possible but practically impossible**

10. Australia's proposed core temperature and time requirements for cooked chicken meat and meat products at 74°C in 165 minutes or 80°C in 125 minutes, are not viable for commercial manufacturing. High temperature and time requirements would result in an unacceptable texture and appearance of the products. The requirements would also increase the production cost burden of producers and would thus adversely effect competitiveness of foreign products. These measures would lead to discrimination and unfair trade practices.

**(d) Demand from Thailand for OIE to establish a new reliable scientifically-based standard on IBD for the facilitation of international trade**

11. The Office international des épizooties (OIE), being recognized by the WTO as a relevant body for the establishment of standards with scientific-based principles that would promote a transparent and safe system for international trade of animals and animal products, has set up the International Animal Health Code (mammals, birds and bees) for member countries.

12. According to the Code, IBD is a disease classified in List B. This is the list of diseases which do not pose a potential threat for serious contamination and rapid spread of animal disease nor a major cause of impediments to international trade such as those contained in List A.

13. If it is agreed that additional standards and requirements for chicken meat and meat products are further required, OIE should be the sole body to conduct research and studies necessary to establish a set of proper heat treatments for such commodities. The research protocol and interpretation should be transparent in order to facilitate member states to conduct their international trade.

References:

1. Edgar and Cho, 1976: *Develop. Bio. Standard.* 33:349-356
  2. Mackenzie and Spradbrow, 1981 : *Aust. Vet.J.* 57:534-535
  3. Kaufer and Weiss, 1980 : *Infection and Immunity* 27:364-367
  4. Ide, 1975 : *Canad.J.comp. Med.* 39:183
  5. Faragher, 1972: *Vet.Bull.* 42:361-369
  6. Landgraft et al., 1967: *Dtsch Tieraerztl wochenschr* 74L:6-10
  7. Alexander D.J., 1988: Data obtained by courtesy of the NZ Ministry of Agriculture and Fisheries
  8. Chettle and Alexander (unpublished date)
  9. Chettle et al, 1989: *Vet. Rec* 125:271-272
  10. Muller et al, 1979: *Vet Med B* 26:345-351
-