BIOSECURITY: AN IMPORTANT MECHANISM IN THE CONTROL OF FISH DISEASES

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Abstract

Aquaculture in Malaysia has developed tremendously since 1920’s. It has become an important sector in food security and export revenue through increasing local production. However, intensive aquaculture systems lead to disease outbreaks that threaten to impede the development and production of aquaculture. More and more disease outbreaks were reported in many aquaculture countries, including the emerging and re-emerging diseases. Thus, disease control has become a crucial issue in aquaculture.

There are three mechanisms in animal disease control. They include prevention, eradication and vaccination against diseases. While prevention is the most effective mechanism of disease control, it proved to be most expensive and difficult to implement. On the other hand, vaccination is the least effective but relatively cheaper and easily implemented. Nevertheless, disease prevention must be prioritized at all time, which includes selection of suitable location for fish farm, introduction of fish from disease-free sources, quarantine and disease screening and the biosecurity.

Biosecurity encompasses all measures designed to prevent diseases from occurring and spreading. Thus, the most important issue in biosecurity is isolating, as much as possible, fish farm populations from external contamination or environment. For this reason, non-recirculated aquaculture systems are more difficult to implement biosecurity than closed water systems. Nevertheless, effective biosecurity successfully prevents introduction and spread of diseases into the farm or country.
CURRICULUM VITAE

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3. Field of Specialization
Veterinary Pathology

4. Research Interest
- Ruminant diseases
- Fish diseases

5. Academic Qualification
DVM (UPM); PhD (Liverpool)

6. Professional Duties
- **Editor-in-Chief**, *Pertanika Journal of Tropical Agricultural Science*, Universiti Putra Malaysia; 2015-2018
- **Chief Editor**, *Jurnal Veterinar Malaysia*, Journal of the Veterinary Association Malaysia; 1997 - 2000
- **Chief Pathologist**, Faculty of Veterinary Medicine; 1997 – 2002; 2012 to date
- **Editorial Board Member**, *Journal of Animal Health and Production*; Nexus Publication; 2013- date
- **Editorial Board Member**, *Journal of Animal Health and Production*; 2012 – date
- **Panel Member**, MQA Program Accreditation
- **Panel Member**, Malaysia Veterinary Council for Accreditation of Veterinary Programs
7. **Research Activities**

7.1 Studies on the treatment of sarcoptic mange in goats
7.2 *Brachiaria decumbens* toxicity in small ruminants
7.3 Studies on contagious ecthyma of sheep and goats
7.4 Pathogenesis of pneumonic pasteurellosis of sheep and goats
7.5 Incidence of jaagsiekte retrovirus in sheep pulmonary adenomatisos
7.6 Improvements of the pasteurella spray vaccine of sheep and goats
7.7 Characterisation and pathogenesis of equine herpesvirus (EHV1 and EHV4) infections in horses and ponies in Malaysia
7.8 Alternative Control of Haemorrhagic Septicaemia in Cattle
7.9 Characterization of the male reproductive system of lesser mousedeer
7.10 Development of rearing protocol for Boer breeder goats in Sabah
7.11 Improvement of performance of buffaloes in Sabah
7.12 Pathology and immune response of goats infected with *Brucella melitensis*
7.13 Pathogenesis and control of streptococcosis in tilapia
7.14 Life feed and live feed vaccine for tiger groupers
7.15 Epidemiology, pathogenesis and control of vibriosis in seabass

9. **Recent 5-year Publication**

[*Supervision of student*]


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40. Mohammad Noor Amal Azmai, Mohd Zamri Saad, Siti Zahrah Abdullah, Zulkifli Abd Rashid (2012). Water Quality Influences the Presence of Streptococcus agalactiae in Cage Cultured Red Hybrid Tilapia, Oreochromis niloticus x Oreochromis mossambicus. Aquaculture Research. Accepted for publication

