

General Discussion on Bovine Viral Diseases

Chairman, Inaba, Y. (Japan): I would like to ask the delegates from abroad to describe the situation of viral diseases of cattle in Southeast Asia.

Sudana, G. (Indonesia): In Indonesia the following diseases are observed: (1) Foot and mouth disease: In Bali, the disease has been eradicated by massive vaccination for 3 years consecutively and by controlling the movement of animals from East-Java where the situation is improving. In Bali, since 1973, no cases of foot and mouth (FM) disease have been reported. (2) Bovine malignant catarrhal fever is observed sporadically in East-Java, the eastern islands of Indonesia and Sulawesi. Bali breed cattle are the most susceptible cattle in Indonesia. (3) Jembrana disease: The causal agent is not precisely known although Rickettsia have been isolated. A viral agent could be possibly incriminated. (4) Bluetongue, dengue, Japanese B encephalitis, Ibaraki disease (serological diagnosis). (5) Ephemeral fever observed in 1978. Isolation of the virus has not been achieved yet, although serological test is being investigated.

de Alwis, M.C.L. (Sri Lanka): The only established disease in Sri Lanka is foot and mouth disease (0, C types; 0 type being more widespread). Vaccine covers both types. Sporadic outbreaks of diarrhea both in young calves and adult cattle have been incriminated. The disease pattern suggests the involvement of a virus (not confirmed). There is histopathological and serological evidence of viral involvement in calf pneumonia.

Srihakim, S. (Thailand): In Thailand, in addition to FM disease, rabies and listeriosis, there is a disease which may be related to viral infection in cattle. It has been tentatively called malignant catarrhal fever. It is characterized by a meningoencephalitis affecting buffaloes and cattle. Sheep may be the reservoir of the organism (virus?). The autopsy shows the presence of brain vasculitis with peri-vascular cuffing.

Rahman, A. (Malaysia): In Malaysia we observe the following diseases: (1) Malignant catarrhal fever seen in cattle in the north of Peninsular Malaysia, in close association with sheep raising. Foot and mouth disease occurred in 1973 (type A 22-like virus strain). It was eradicated by slaughter policy. Another outbreak occurred in 1978 (type 0). Eradication was achieved by slaughter and vaccination. (2) Bovine viral diarrhea: serological diagnosis only. (3) Bluetongue virus: serological evidence. (4) Ephemeral fever: clinical diagnosis only. (5) Rotavirus: in areas with intensive cattle raising, calf diarrhea of unknown etiology is often observed.

Gupta, B.K. (India): In India, we have rinderpest which continues to be number one viral disease in bovine. There is also foot and mouth disease (A, O, C and Asian types) as well as other viral infections such as infectious bovine rhinotracheitis and para-influenza 3. Serological evidence of the presence of bovine leukosis virus has also been reported.

Gatapia, S.L. (Philippines): In the Philippines, foot and mouth disease affects cattle, carabaos and swine (types A, O, C). The A type affects the three species, C affects carabaos and O swine. The Government places emphasis on the control of the disease.

Chairman: Are there any questions or comments on the papers presented by Drs. Takahashi, Snowdon and myself?

Sonoda, A. (Japan): According to your report, antibodies relating to bluetongue virus (BT 20) have been demonstrated in cattle and buffaloes whereas no evidence of infection was detected in sheep in field investigations. On the other hand, clinical signs were observed in sheep only in the inoculation experiments of BT 20 virus. I would like to ask you about the susceptibility of Australian native animals to BT virus.

Snowdon, W. (Australia): Under field conditions, BT disease is not observed in either group of animals. Prevalence of infection under field conditions is greater in cattle, buffaloes than in sheep. This is perhaps related to the vectors of BT disease. For example, *C. brevitarsis* is mostly found in the northern part of Australia where cattle, buffaloes and goats occur whereas sheep are not found. The virus which can replicate in the vector occurs only in the northernmost part of Australia and antibodies (serum neutralizing) to BT 20 virus are prevalent in cattle and buffaloes

but only rarely found in sheep. Furthermore, *C. brevitarsis* shows a definite preference for cattle and buffaloes and not for sheep.