

International Symposium on Infectious Diseases of Livestock

Sponsored by

Tropical Agriculture Research Center, Ministry of Agriculture, Forestry and Fisheries
and held jointly with

National Institute of Animal Health, Ministry of Agriculture, Forestry and Fisheries

November 5 -10, 1979, Tsukuba, Ibaraki



The objective of the Symposium was to exchange the latest information on problems pertaining to infectious diseases of livestock to enhance international research cooperation, in particular in the tropics, for improving the productivity of the livestock and of their by-products. Several researchers from Southeast Asian countries and Australia were invited to discuss the research problems of the diseases in their respective countries at the symposium held at the National Institute of Animal Health from 5th to 10th November and also to observe Poultry Hatchery, Dairy Cattle Farm, Beef Cattle Farm and Poultry

Branch Laboratory of NIAH in Gifu Prefecture. The subjects of the papers presented were Brucellosis, Hemorrhagic septicemia, Avian viral diseases, Bovine viral diseases and Swine viral diseases. During the symposium, animated discussions and comments were exchanged on each presentation. The program of the symposium and the names of the speakers are listed as follows.

Opening address:

Shiro Okabe, Director, Tropical Agriculture Research Center.

Welcome address:

Saburo Ueda, Research Councillor, Agri-

culture, Forestry and Fisheries Council Secretariat.

Takehiko Shimizu, Director-General, National Institute of Animal Health (Chairman of the Organizing Committee of the Symposium).

Chairman of General Discussion:

W.A. Snowdon, CSIRO Division of Animal Health, Australian National Animal Health Laboratory.

Closing Remarks:

Takehiko Shimizu.

1. Brucellosis

K. Hashimoto (Japan)

Diagnosis of Brucellosis

S. Srihakim (Thailand)

Brucellosis in Thailand

R. S. Carlos (Philippines)

The incidence of Brucellosis among cattle and carabaos in the Philippines

Y. Isayama (Japan)

Classification of *Brucella* genus

P. G. Joseph (Malaysia)

Animal Brucellosis in Peninsular Malaysia

2. Hemorrhagic septicemia

T. Taniguchi (Japan)

Pathogenicity of *Pasteurella multocida* isolated from myna birds against chickens

M. C. L. De. Alwis (Sri Lanka)

Hemorrhagic septicemia in Sri Lanka

S. Namioka (Japan)

Serological studies on *Pasteurella multocida* especially on O-antigenic analysis of the organism

B. K. Gupta (India)

Research on Hemorrhagic septicemia in India

3. Avian viral diseases

I. Yoshida (Japan)

Present status of the practical researches on Marek's disease in Japan

M. Hanafi (Indonesia)

Newcastle disease problem in Indonesia

Y. Nomura (Japan)

Vaccination program for Newcastle disease control in Japan



H. Kawamura (Japan)

Pathogenicity for baby chicks of a newly isolated picornavirus "Avian nephritis virus"

A. Rahman (Malaysia)

Avian viral diseases in Malaysia

4. Bovine viral diseases

E. Takahashi (Japan)

Research on bovine viral diarrhea

W. A. Snowdon (Australia)

Some arthropod-borne viruses infecting livestock in Australia

Y. Inaba (Japan)

Akabane disease: Epidemic congenital arthrogryposis-hydranencephaly syndrome in cattle, sheep and goats caused by Akabane virus

5. Swine viral diseases

S. L. Gatapia (Philippines)

Hog cholera in the Philippines

S. Kongsamak (Thailand)

Swine fever in Thailand

Y. Shimizu (Japan)

GP vaccine for control of hog cholera in Japan

J. G.W. Koh (Singapore)

Aujeszky's disease in pigs previously immunized with an inactivated vaccine.

Each session will be briefly reviewed as follows.

Brucellosis is a very important disease from the view-point of both animal health and public health. Various results on serological survey and bacteriological examination of samples collected from dairy cattle, beef cattle, buffaloes, pigs, and dogs were reported by the speakers of several countries. Japan is the first country in the world which eradicated the disease in cattle by applying the "Test and Slaughter Method" extensively and strictly. In addition to the classical types of *Brucella*, isolation of *Brucella canis* was reported by the Japanese speakers. The reports in this session indicated many problems which have to be solved in tropical countries. It has been thought that various kinds of antibodies appear according to the process of the disease, and preparation of the antigen is one of the important factors in serum tests. Continuous efforts are requested to study and control the disease in the tropical countries.

Hemorrhagic septicemia of cattle has been known as one of the most serious bacterial diseases in the tropical region. In the present symposium, significant and interesting information and precise discussion on epizootiology, prophylactic measures and vaccine preparation were reported by the speakers of India and Sri Lanka. The incidence and the status of the carrier animals are believed to be most informative for the countries where similar problems are very common. Alum precipitated vaccine and Oil adjuvant vaccine have been used in most of the countries in the tropical region. Cooperative research and field trials of those vaccines have been requested among the countries. The most important and urgent problem in this disease is the development of an effective vaccine. It is hoped that the production of such vaccine will be achieved as early as possible. The disease affecting myna birds was also reported in this session. Much

concern must be paid to some pet birds, because of the severity and wide-spread nature of the disease.

During the presentations of Avian diseases in this symposium, emphasis was placed on the prophylactic measures. Efforts have been made to seek and select some effective vaccination programs in each country for the control of the diseases, for example, Newcastle disease and Marek's disease. Decisive factors for the programming are remarkably different in every country owing to the difference in type of poultry industry, namely, rearing systems, labor supply, environment surrounding chicken raising, and maternal immunity, health conditions, variety of chicken, and kind of vaccine. Therefore, the most profitable vaccination program should be designed in each field trial. Also, pathogenicity of a newly isolated picornavirus ("Avian nephritis virus") was reported by a Japanese speaker.

The knowledge obtained in the session of bovine viral diseases on ecological aspects of Akabane disease and Bovine ephemeral fever including the problem of the vectors is still insufficient. Moreover, the mechanism underlying the transmission of these viruses under various climatic, environmental conditions as well as that of the survival of these viruses under natural conditions should be elucidated. The Japanese speaker reported on the studies of bovine viral diarrhea, namely, Neonatal calf diarrhea caused by rotavirus and Epizootic diarrhea of adult cattle caused by coronavirus-like agent. In future, it is hoped that cooperative research work on bovine viral diseases will be conducted in the tropical region too.

Incidence of Hog cholera in the tropics appears to be a serious problem. Studies and experiments on the diagnosis and vaccine production have been reported. After the development and application of GP vaccine in 1969, no outbreak has been recorded in Japan since 1975. It is expected that the control of the disease in the tropics will be successful. Pseudorabies is one of the serious diseases difficult to eradicate once endemic. The report of Dr. Koh from Singapore suggested

that one should be careful in using inactivated vaccine in piglets because the vaccinated pigs might suffer from typical severe disease when infected later. In future, special efforts should be made for the development of effective control measures for this disease.

In conclusion, large number of participants discussed actively problems pertaining to the

diseases listed above during the symposium. Consumption of animal products has remarkably increased worldwide. Recently, in addition to the infectious diseases of livestock, there are many problems to be solved in the field of animal health research. Future research cooperation among the regional countries would be most desirable.