SUPPORT ACTIVITIES OF THE DEPARTMENT OF VETERINARY MEDICINE (1 OCT. '81 - 30 SEPT. '82)

Principal Investigators : George S. Ward, LTC, VC
Michael R. Elwell, MAJ, VC
Markpol Tingpalapong, DVM
Jerm Pomsdhit
Pranee Hansukjariya, BSc.

OBJECTIVE : To report activities and accomplishments of the Department of Veterinary Medicine during FY 82.

LABORATORY ANIMAL COLONY ACTIVITIES :

(A) Animal Colony Section

During FY 1982 the laboratory animal colony supplied a large number of research animals to both AFRIMS investigators and investigators from other research institutions, schools and hospitals. A total of 40,258 mice, 21 guinea pigs, 185 hamsters, and 18 rabbits were supplied to AFRIMS and the following institutions : Thai Component AFRIMS, Thailand Institution of Sciences, Thailand Department of Livestock Development, Rajvithi Hospital, Faculty of School of Public Health, Faculty of School of Tropical Medicine (Mahidol), Faculty of Pharmaceutical Science (Chulalongkorn), International School, Pesticide Research Lab. Department of Agriculture, Faculty of School of Veterinary Medicine, Laboratory Animal Research Center, and Chulalongkorn Hospital. In addition 36,404 ml of sheep, goose, rabbit, calf, chicken, monkey, horse and mouse blood was issued to AFRIMS, the Thai Component, Seventh Day Adventist Hospital, Medical Unit US Embassy, and Faculty of School of Public Health. Forty two rabbits have been utilized for antibody production. During FY 82, 33 live rhesus and 24 live cynomolgus have been produced. In April an outbreak of tuberculosis occurred. TB positive cynomolgus were sacrificed. TB positive rhesus were isolated and treated with intramuscular INH and streptomycin. At termination of treatment (Dec. 82) the TB converted rhesus breeders will be regrouped into breeding cages in a wing separate from the TB negative breeding and experimental monkeys. (Weanlings and infants of Reactor dams will be utilized in antimalarial drug testing before entering a terminal study). The isolates were *Mycobacterium tuberculosis* and the probable origin was from 1 anergic cynomolgus breeder originating in Malaysia.

Inadequate daily production of suckling mice occurred throughout FY 82. Endemic disease and heat were identified as the primary causes. The decision was made to produce suckling mice in airconditioned rooms. Plans have been developed and a contract will soon be initiated to remodel 2 rooms for this purpose. After these rooms are completed, disease free ICR mice will be purchased as new breeding stock.

An adequate water system has still not been installed. Plans have been made to complete this project inhouse. A self help, facility refurnishing and

repainting program has been initiated.

Obtaining laboratory animal chow from the United States on a regular time schedule or free from mold and insects has not been successful. Extruded feed is now available in Thailand and, except for small amounts for special studies or species, feed will be purchased locally after 1983. Squeeze cages have been facricated locally and excess aluminum squeeze cages have been obtained from WRAIR. These will facilitate handling monkeys for malaria and other projects.

(B) Laboratory Section

Activities of the hematology/histopathology laboratory are summarized as follows :

Malaria parasite counts	6287
Sporozoite counts	16
RBC counts	1178
WBC counts	1829
Reticulocyte counts	18
Drugs weighed for malaria project	2037
CBCs in laboratory and domestic animals	518
Fecal examinations for parasites	133
Leptospira MAG tests : 135, cultures :	294
Histopathology : 344 cases, 1772 blocks, 5316 slides, 130 special stains, 1772 H & E stains	

(C) Research Activities

1. The Department of Virology and Vet. Med. are investigating the causes of abortion on one commercial swine operation near Pak Chong. The disease of primary interest is Japanese encephalitis. The status of future breeders is determined and those that are negative will be followed until seroconversion. Possible correlation of clinical signs with seroconversion will be studied.

2. Various animal models have been developed in collaboration with other departments and institutions. Evaluation of intrathecal Brocades attenuated rabies vaccine in both cynomolgus and rhesus has been initiated. A surgical intracerebral Japanese encephalitis primate model has been developed to aid in studies of virulence and ribavirin therapy. Both cynomolgus and rhesus have been evaluated as models for Dengue hemorrhagic fever and one case was produced in a young rhesus. Periodically surgery to creat rabbit or monkey intestinal loops for evaluation of potential diarrheal pathogens has been completed. Sereny tests are done in guinea pigs for testing virulence of various shigella isolates. A surgically prepared rhesus model has been evaluated for studies on the pathophysiology of cerebral malaria. Preinfection and acute *Plasmodium knowlsi* infection bone marrow biopsies have been obtained from rhesus monkeys to study bone marrow mitogen response. Many *P. knowlsi* infections in rhesus were induced to evaluate the metabolic and immunologic effect.