

BODY OF REPORT

SEATO Medic Study No. 86 Epidemiological Survey - Anthrax

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S. E. Asia

Task 01: Military Medical Research Program
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Subtask 01: Military Medical Research Program
SEASIA (Thailand)

Reporting Installation: US Army-SEATO Medical Research Laboratory
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 Division of Medical Research Laboratories

 Department of Veterinary Medicine

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Objective: The objective of this study is to determine the prevalence and distribution of *Bacillus anthracis* in Thailand and to compare the virulence of organisms recovered.

Description: Anthrax is a peracute disease characterized by septicemia and sudden death with the exudation of tarry blood from the body orifices. The disease is world wide in distribution and persistence of infection is most commonly encountered in tropical and sub-tropical countries. Clinical manifestations closely approximate those of Hemorrhagic septicemia (*Septicemia pasteurellosis*) a widely distributed disease which produces very high mortality rates in cattle and buffalo in South East Asian countries. To determine the prevalence and distribution of the causative organism and relate this with mortalities incurred with hemorrhagic septicemia, soil specimens from suspected locations were coll-

ected for culture.

Progress: One hundred and forty (40) soil specimens were collected initially from locations where animal deaths with symptomatology suggestive of the disease had occurred in seventy one (71) provinces of Thailand. Each location was documented with a description of the site, symptomatology and date of death of the animal/animals. The specimens were then sent to the Communicable Disease Center, Atlanta, Georgia, for isolation and identification. Bacillus anthracis was recovered from four (4) of one hundred and ten (110) specimens submitted. Positive cultures were obtained from locations in Burirum, Prae, Nan and Mae Hongson Provinces. Additional soil specimens were obtained from locations in proximity to these original sites to define the extent of soil contamination. The following specimens were positive on this survey.

- 42 - Village No. 2 Najvan District, Amphur Muang, Burirum Province.
- 69 - Mae Sarieng, Mae Hongson Province, abattoir in town.
- 76 - Village No. 3 Banpathong Silapetch, Nan Province.
- 80 - Village No. 3 Huayma District, Prae Province.

Results obtained from the additional soil specimens are forthcoming.

Discussion: The causative organism is responsible for animal deaths in Thailand and has been incriminated in human infections. Outbreaks of the disease in both humans and animals have occurred sporadically. Investigations indicate that several humans have been infected by consuming raw or partially cooked meat from infected animals.

The disease in animals presents a problem to provincial officials because of the similiarity of symptomatology with hemorrhagic septicemia. Vaccination of animals is practiced in endemic areas however, fund limitations curtail country-wide use.

Summary: Anthrax is a peracute disease characterized by septicemia and sudden death with the exudation of tarry blood from the body orifices. Soil samples collected from suspected locations in seventy one (71) provinces were sent to Communicable Disease Center, Atlanta, Georgia, for isolation and identification. Results received to date indicate that this organism is prevalent around slaughter houses, hide storage areas and produces a high mortality in the domestic animals population in Thailand.