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Dr. Phillip Warren
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Agency for International Development
Washington, DC 20523

RE: Grant No. DPE-5542-G-SS-4026-00
Proposal No. 310177-1
"New Approaches to the Control of Bovine Babesiosis"
Progress Report #1: Period Ending June 30, 1984

The availability of funds to the P. I. occurred on June 11, 1984. The progress to date will be reported by the specific objectives as stated in the grant proposal.

SPECIFIC OBJECTIVES:

1. To establish the pathogenicity and genetic stability of clones in vivo (the animal).

A number of clones of Babesia bovis have been isolated and one clone has been irradiated. The pathogenicity and genetic stability will be tested when animals become available.

2. To develop procedures for the preservation of attenuated B. bovis by lyophilization.

Preliminary experiments has been done with intermittent success. A standardized procedure that will give predictable results has not been developed to date.

3. To conduct field studies using avirulent clones of B. bovis as vaccines.

Initial contacts have been made with the veterinary scientists at INIP in Mexico City. Details of the field trials will be worked out when an avirulent clone has been identified by preliminary tests.

4. To biochemically characterize clones of Babesia bovis as to enzymatic and antigenic composition.

Preliminary isotope labelling experiments and SDS gels have been done. In addition, the procedures for the characterization of isoenzymes in B. bovis infected cells and free parasites are being developed.

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5. To establish continuous cultures of B. bigemina in vitro.

The procedures for the continuous cultivation of B. bigemina have been developed in our laboratory.

6. To develop an ELISA test for B. bigemina.

Preliminary attempts to utilize antigen from in vitro culture in the ELISA test have been done. However, to date the results have been disappointing due to non-specific reactions. Procedures to increase the yield of infected red blood cells and obtain free parasites will need to be developed.

7. To isolate clones of B. bigemina.

Experiments have been initiated.

8. To establish the pathogenicity and genetic stability of B. bigemina clones.

No animal inoculations have been done to date.

9. To conduct field studies using avirulent clones of B. bovis and B. bigemina as vaccines.

The field trials have been discussed with veterinary scientists at INIP in Mexico City.

Graduate students involved in the project to date:

Sergio D. Rodriguez, D.V.M., M.S. (Mexican national)
Carlos A. Vega, D.V.M., M.S. (Mexican national)

Sincerely,

Gerald M. Buening

Gerald M. Buening, D.V.M., Ph.D.
Principal Investigator

GMB:jp