The introduction of African Swine Fever (ASF) into a disease-free country would be devastating to its -- swine industry and international trade. The increasing likelihood of this impending threat was exemplified when ASF was diagnosed in the Dominican Republic in July, 1975, with subsequent spread to Haiti in -- December, 1975.

The United States Agency for International Development (AID) and the U.S.D.A. have assisted the Government of the Dominican Republic in developing and implementing a successful ASF eradication plan. Subsequently, the Dominican Republic became free of ASF in 1980.

ASF in Haiti remained to be an impending threat of its reintroduction to the Dominican Republic and a highly probable source of infection to other neighboring -- countries. Because of discarding circumstances, it was -- necessary to develop a plan for ASF eradication in -- Haiti similar to that developed for the Dominican -- Republic.

In response to this need, the Inter-American Institute for Cooperation in Agriculture (IICA) has taken charge of a project to eradicate ASF from the Republic of -- Haiti and to develop its swine industry. Information on the current ASF epizootiology was needed to define the prevalence and geographic distribution of ASF -- infected, or previously exposed, pigs. Serologic -- surveys were initiated by the Veterinary Services -- (APMHS), U.S. Department of Agriculture in collaboration with South-Western Cooperative Wildlife Disease -- Study (SWCWS), College of Veterinary Medicine, -- University of Georgia.

A rotating team of two SWCWS technicians, with the assistance of Haitian counterparts throughout the country and collected blood samples from -- representative pigs. The majority of the sampled pigs were bred on "Door to Door" basis; additional samples were taken from swine in livestock markets and -- slaughterhouses. Samples were submitted to the Diagnosta -- stic Laboratory which was set up for ASF serology.

A total of 1513 sera from 90 locations were sampled. All the sera were tested for antibodies to ASF virus by the Indirect Immunofluorescence test (IIF) -- (Pan et al., 1980) and the enzyme-linked immunosorbent assay (ELISA) -- (Hendy et al., 1980). Representative samples -- (n=120) from ELISA positive and negative sera were tested by the Indirect Immunofluorescence test (IIF) -- (Bottila et al., 1976).

Throughout the field operations, reports of sick pigs were investigated, and where warranted, sick pigs were purchased, necropsied and tissues i.e. Liver, spleen, tonsils, lymph nodes and lungs were sampled. Specimens were sent to PIAX for confirmatory diagnosis.

Test results revealed that 322 seropositive samples were encountered in 1513 tested pigs. These sero- -- positive pigs were distributed in 71 out of 90 locations sampled. The overall percentage of infection, or previous exposure, was 22.6%. There was a high -- correlation (97%) between ELISA and IIF results. The IIF test was less sensitive, but efficient in detecting a high percentage of the positive serums at the beginning of the survey. Later, it lost its credibility and this observation was explained by having used inadequate antigen. Local conditions, i.e. unavailability of low temperature freezers for antigen storage and frequent power failure that resulted in antigen being subjected to frequent cycles of freezing and thawing were probably the cause of antigen deterioration. These conditions, made the antigen unsuitable -- for the IIF, but did not have adverse effect on the -- suitability of the antigen in the ELISA test. Towards the end of this study, new antigen shipments were -- received from Plumb Island Animal Disease Center (PIAXC) and a REVOX freezer (–70°) was purchased by PIAX, as a part of its support to the Diagnostic Laboratory; consequently, a correlation of 80% between ELISA and IIF was restored.

At PIAXC, ASF virus was identified in three isolants -- from Leogane, Aquin and Port-au-Prince; the Aquin -- isolant was tested for virulence; six U.S. domestic -- pigs were inoculated with a viral harvest from the 2nd passage in buffy coat cell culture. Inoculated pigs -- all died after exhibiting characteristic clinical -- signs and lesions.

Conclusions: Laboratory data and field investigations conclude that ASF is well established throughout Haiti. The causal -- viral strain is of relatively high virulence. Disease among pigs, with relatively high mortality, especially in young pigs, have been encountered during the months of August, September and November, 1981.

Seropositive swine were encountered in all regions of the country with the exception of Jean-Rabel, HAITI -- St. Nicolas and Hemisphere, which are located in the extreme northeastern region in addition to the island of La Tortue. These latter areas are probably free of ASF on account of their remoteness and inaccessibility to traffic and swine movement. Alternatively, the -- failure to detect ASF seropositive swine in these areas may be due to small sample size in areas of low --- incidence. It is planned to collect and test additional blood samples from these areas in order to confirm their status with a high level of confidence.

Selected References:
