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PROGRESS REPORT FOR THE UNITED STATES
DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT

PERIOD: 01-01-88 to 06-30-88

GRANT No: DPE-5342-G-SS-7060-00

PROJECT NUMBER: 7.393

PROJECT TITLE: "DEVELOPMENT OF MOLECULAR GENETIC MARKERS
IN Phaseolus AS BREEDING TOOLS: DISEASE RESISTANCE"

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RESEARCH ACTIVITIES

The research activities presented in the previous report correspond to the efforts of P.I.'s C. E. Vallejos and C. D. Chase from the University of Florida. The activities for the period covered by this report have been limited due to the absence of a suitable post-doctoral research associate. When the funds were made available for this project, USAID made it a condition that the post-doctoral research associate be an individual from a less-developed country, preferably from Latin America.

An intense search has been conducted to identify an individual suitable for the post-doctoral position; however, we have been unsuccessful in our efforts. The first recruitment effort was made at the International Workshop of Bean Breeders organized by CIAT in Cali, Colombia (10/88). In addition, we have also made inquiries to the major bean programs in Latin America, Mexico and Brazil, and the Research Center of Cellular and Molecular Biology in Costa Rica. In the United States we have contacted programs from the University of California at Davis, the University of Wisconsin at Madison, Cornell University, and Michigan State University among others. Only three individuals have shown interest in the position. Unfortunately, two of them demanded a permanent job at the completion of the project, and the other requested we obtain assurances from his government to continue salary payments in absentia and a guaranteed job upon return to his country.

In order to continue with the program, and as a temporary solution, the Director of the Biotechnology Unit at CIAT agreed to send (for a period of three months) one of his research associates Mr. Hernando Ramirez. Mr. Ramirez has been working at the University of Florida since June 10. Hernando is a hardworking capable individual who has made considerable progress in a short period of time. He has mastered many techniques in DNA manipulation such as nuclear DNA extraction from bean plants, electrophoretic separation of DNA restriction fragment digests, Southern blotting procedure, and DNA hybridizations. In addition, Hernando has been screening clones from the bean genomic library; forty-eight of the ninety-five clones tested have been shown potentially useful for mapping DNA fragments; these clones will add to the ones reported previously. In addition, Dr. Susan Sprecher from the University of Michigan has come to UF for the summer to work on the linkage relationships of enzyme loci in beans. This work will add to the efforts on mapping of DNA fragments.

We feel that when Mr. Ramirez returns to CIAT we will have accomplished at least three things: a) avoid interruption of the project, b) strengthening the working partnership between UF and CIAT, and finally c) initiation of the transfer of recombinant DNA technology from UF to CIAT. However, we are still facing the problem of finding a post-doctoral research associate from a Latin American LDC. We would like to request from AID the removal of the proviso that requires that the post-doctoral research as-

sociate be from an LDC. This proviso was included to ensure the transfer of technology; however, this transfer has already started with the training of CIAT personnel at UF and it is bound to continue. The recruitment of a qualified individual, regardless of his/her nationality, is essential at this point in time to continue with the project. The addition of a post-doctoral associate will expedite the construction of the genetic linkage map and the utilization of this information in bean breeding programs.