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INTSOY/IITA Germplasm Exchange Project

Jane E. Polston

ISR-80-22

July - August 1980

International Soybean Program, INTSOY

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International Soybean Program (INTSOY)  
University of Illinois at Urbana-Champaign and  
University de Puerto Rico-Recinto de Mayaguez  
Trip Report - Beaumont, TX and Isabela, Puerto Rico

Name of Traveller: Jane E. Polston, Assistant Plant Pathologist (Virology)

Dates of Travel: 29 July - 6 August, 1980

Itinerary:

- 29 July - Travel from Urbana, IL to Beaumont, TX
- 30 July - Inspected and rogued planting of germplasm, collected and processed field samples for ELISA
- 31 July - Concluded ELISA, inspected and rogued field again
- 1 Aug - Travel from Beaumont, TX to Isabela, PR
- 4 Aug - Inspected and rogued field of virus-free germplasm
- 5 Aug - Inspected fields of virus-free germplasm again and SMV-resistant germplasm planted by Jose Bravo
- 6 Aug - Travel from Isabela

Purpose:

Beaumont, TX - To conduct a visual inspection, roguing and serological testing of tropical soybean germplasm lines being grown for the INTSOY/IITA germplasm exchange project

Isabela, PR - To conduct a visual inspection and roguing (if necessary) of virus-free germplasm lines planted for increase and maintenance of seed viability.

Summary of Accomplishments:

In December 1979, 457 tropical soybean germplasm accessions were planted in Puerto Rico, initiating the INTSOY/IITA germplasm exchange project. They were later rogued, serologically indexed for soybean mosaic virus (SMV) and harvested. Samples of each line were planted in a sandbench in Illinois for further inspection for SMV and to determine rates of germination. Those accessions which could not be cleaned of SMV or which had unacceptable rates of germination (less than 72%) were set aside and later planted in Beaumont, TX in June 1980. Samples of those accessions which were virus-free and had acceptable germination rates were set aside for shipment to IITA and were mailed in June, 1980. Another set of samples from the virus-free germplasm collection was sent to Puerto Rico for planting, to increase the collection and maintain seed viability. These were planted in July 1980.

The planting of germplasm at Beaumont, TX was inspected for the presence of SMV and other seedborne pathogens, and for flowering. Only two plants were found which appeared to be SMV infected. Approximately 50 of the 90 accessions were flowering at the time of this inspection. Unfortunately, the results of the ELISA were inconclusive. However, this should not affect the results significantly for two reasons. Inspection of surrounding fields did not reveal any SMV-infected plants and aphid populations were very low. Also at least half of these lines had come from plants which had been indexed in Puerto Rico.

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At Isabela, the 429 accessions planted there were inspected twice, on two consecutive mornings. These plants were all at the primary leaf stage or the next oldest stage, where one trifoliate leaf has emerged. No plants were found having symptoms of SMV. Two other soybean plantings, collections of possibly SMV-resistant lines, were also inspected. These plants were older, most were flowering, and appeared to have symptoms of several virus diseases. Three lines appeared to have SMV-infected plants.

In addition, some time was spent visiting with INTSOY scientists, Dr. Paul Hepperly and Dr. Chris Stearn.

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**BIBLIOGRAPHIC DATA SHEET**

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