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University of Illinois  
International Soybean Program  
Trip Report/Puerto Rico

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DATES OF TRAVEL: July 6 - July 11

ITINERARY: July 6 Champaign to Mayaguez  
July 7 - July 10 at Isabela Substation  
July 11 Mayaguez to Champaign

PURPOSE:

1. To do the second inoculation of soybeans in the yield loss trial I and the first inoculation for the yield loss trial II.
2. To take data on transmission rate in the transmission experiment.
3. To assist in reinoculation of the soybean mosaic virus seed transmission experiment conducted by R. M. Goodman.

RESULTS AND ACCOMPLISHMENTS:

1. R. M. Goodman, T. L. Shock, and E. H. Paschal reinoculated the first yield loss experiment (see Goodman et al. trip report of June 1977). Nearly 100% of inoculated plants became infected. At my arrival the plants were at about the mid-bloom stage which is the right stage for the second inoculation. Inoculation was done the first thing.

The first inoculation (primary leaf stage) of the second yield loss experiment was delayed until the end of my trip since the plants were too small at my arrival time. Inoculation was done when the plants were 10 days old. At this stage, the first trifoliolate leaf was just about to appear. The experimental design for the second experiment was identical to the first one and the beans were planted by E. H. Paschal and R. Dunker on July 1.

2. In the transmission experiment the beetle activity was noticeably sufficient. A total of 27 soybean plants, grown between rows of infected cowpeas, were observed with symptoms similar to CPMV-infected plants. These plants were not confirmed to be CPMV-infected; these tests will be done with antisera during the next trip.

Infected cowpea plants in one half of the field were removed and the change

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in transmission rate in this portion of the field will be compared to the other half with infected cowpeas remaining.

3. Results of inoculation in SMV seed transmission experiment were generally good except in replication 5. Leaves from infected plants in this experiment were used as inoculum source for reinoculation. One trifoliolate leaf of each apparently healthy plant was inoculated.

#### FOLLOW-UP ACTIONS REQUIRED:

An additional trip is required for the second inoculation of the yield loss experiment II at about mid August. The plants in the first experiment will not be ready for harvesting and E. H. Paschal will help harvesting when they are ready.

In the transmission experiment, all the plants with symptoms similar to CPMV-infected plants found during this and the next trip will be checked serologically against antiserum to CPMV for confirmation. Changes in number as well as pattern of transmission could be detected during the next trip.

#### DETAILED ITINERARY:

- July 6 Flew from Champaign to Mayaguez, picked up by E. H. Paschal and M. Ellis.
- July 7 Prepared inoculum for inoculation of yield loss experiment I. Inoculated rep I in the morning. Rained out in the afternoon.
- July 8 Continued the inoculation until completed. Took data on transmission rate in the transmission experiment, and recorded the locations of infected plants.
- July 9 Reinoculated SMV experiment. Removed cowpea in transmission experiment. Marked the plots in the yield loss experiment II for inoculation.
- July 10 Spent whole day inoculating plants in yield loss experiment II.
- July 11 Departed Mayaguez for Champaign, arrived at 5:07 pm.

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