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Participation in IBPGR "Symposium on the
Genetic Resources of the Far East and
Pacific Islands," Japan with side trip
to NIFTAL, Hawaii

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Trip Report - Tsukuba, Japan

- I. NAME: Joseph A. Jackobs
Professor of Crop Production/UIUC and INTSOY
- II. PERIOD OF TRAVEL: October 18-26, 1980
- III. ITINERARY:

Depart Urbana 1500, October 18 - Arrive Tsukuba 1000, October 20
Depart Tsukuba 930, October 26 - Arrive Honolulu 700, October 26
- IV. PURPOSES:
 1. To attend and participate in a "Symposium on the Genetic Resources of the Far East and the Pacific Islands" held under the auspices of the IBPGR at JICA Conference Center.
 2. To present a report on INTSOY's program in cooperation with the U.S.D.A. Soybean Laboratory to make soybean germplasm available to soybean breeders and others throughout the world.
 3. To attend and participate in a "Symposium on the Technical Aspects of Plant Genetic Resources" sponsored by and held at the University of Tsukuba.
- V. ORGANIZATIONS AND PERSONS CONTACTED:
 1. IBPGR - R. H. Demuth, J. L. Creech, J. Trevor Williams.
 2. National Institute of Agricultural Sciences - K. Sakai, N. Murata, K. Okuno, M. Nakagahra, S. Miyazaki and Y. Ito.
 3. Institute for Agricultural and Biological Sciences, Okayama University - R. Takahoshi, T. Konishi and Ganesh Prasad (visiting from India).
 4. Participants were present from: The People's Republic of China, South Korea, New Hebrides, Fiji, Guam, Solomon Islands, Tuvalu, Australia, Canada, U.S.A., French Polynesia, South Pacific Commission, IRRI, Sabrao, AVRDC and Japan. During the week I visited with each one.
- VI. RESULTS AND ACCOMPLISHMENTS:
 1. Attended all sessions of both symposia.
 2. Discussed with Dr. S. Sastrapradjia, Director, National Biological Institute, Bogor, Indonesia and Dr. J. T. Williams, Executive Secretary, IBPGR, the possible participation of INTSOY and the University of Illinois in a collection of soybeans in Indonesia. IBPGR is financing the collection and may want assistance.
 3. Discussed the ISVEX trials with Mr. Xu Yuntian, leader of the PRC delegations. Dr. Judy will send him information about the ISVEX

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trials and he will forward it to the appropriate person. Mr. Yuntian said China is interested in exchanging soybeans and he mentioned the contacts Dr. Fehr made with him last year.

4. Met Dr. Horihiko Kaizuma, Iwate University, Department of Agronomy and arranged to have perennial soybeans that he was to collect on Okinawa the following week sent to Dr. Hymowitz. Dr. Kaizuma spent a year with Dr. Hymowitz as a Visiting Scholar. When I saw him he was about to leave on a trip to Okinawa to collect perennial soybeans. Dr. Christine Newell was unable to collect on Okinawa last summer because of scheduling difficulties.

VII. OBSERVATIONS AND REMARKS:

Since one of INTSOY's functions is to supply new varieties and germplasm to soybean agronomists and breeders throughout the world, it was important for it to be represented at this very important symposium on plant genetic resources. It was important to explain to this group how INTSOY depends on the world soybean collection of the U.S.D.A. Soybean Laboratory to fulfill this function. It was also important to let this group know INTSOY is anxious to assist countries when they decide to make a soybean collection.

The presence of delegates from both Taiwan and the People's Republic of China made this a significant meeting. The two delegations were very cordial to each other. The Japanese did everything possible to make both Chinese delegations feel welcome. The People's Republic of China appears to be anxious to exchange ideas and genetic materials with the rest of the world.

VIII. FOLLOW-UP ACTION:

1. Dr. Judy will send to Mr. Xu Yuntian, leader of the PRC delegation, information about the ISVEX trials.
2. Dr. Hymowitz will consider a request from Dr. S. Sastrapradja of Indonesia for him or one of his associates to assist in making a collection of soybeans on Java and other islands.
3. Dr. R. Bernard, U.S.D.A. Soybean Laboratory, will be asked to consider collecting wild soybeans in Korea.

SOYBEAN GERMLASM COLLECTIONS
J. A. Jackobs, INTSOY

The International Soybean Program (INTSOY) cooperates with countries throughout the world in evaluating existing soybean cultivars and breeder lines for agronomic and quality factors. Existing cultivars are not particularly well-adapted in most areas where soybeans have not been grown intensively. INTSOY is particularly concerned that better adapted cultivars be developed through plant breeding programs. Maximum genetic diversity should be available to soybean breeders throughout the world.

The soybean germplasm of the world is being collected actively through country programs including the United States Department of Agriculture. Since the U.S.A. is a major soybean producer and lies outside the center of origin of soybeans, the U.S. Department of Agriculture is maintaining a comprehensive collection of world germplasm. Even though the U.S. soybean producing areas are in the temperate zone, soybean germplasm is being collected from the semi-tropical and tropical zones. The genes desired by the temperate zone plant breeders may be present in germplasm from any source. The above applies to the annual species, Glycine max and G. soja.

The U.S.D.A. world soybean collection has provided plant breeders with genes for several characters of economic importance. Host resistance to several species of nematodes, phytophthora root rot, bacterial pustule, various viruses and insects has been utilized from the collection. Important traits have not been found. Resistance to all strains of rust is lacking. Very low levels of linolenic acid in oils have not been observed.

Recent accessions to the collection are characterized in two growing seasons. Maturity group, flower color, pubescence, pubescence color, pubescence type, pod color, seed coat lustre and color, and hilum color are noted.

The wild, perennial species are of interest for forage and as sources of genes in breeding programs. To date, G. max and G. soja have not been crossed with perennial soybeans, but it is likely that certain crosses may be successful in the future. Perennial soybean species are being collected, but less intensively than the annual species.

INTSOY does not maintain a germplasm collection since it has a very close working relationship with the U.S. Soybean Laboratory which maintains the U.S.D.A. world soybean collection. Both INTSOY and the U.S. Soybean Laboratory are integral parts of the Agronomy Department, University of Illinois. Requests for information and/or seed of the U.S.D.A. world collection can be directed either to Dr. R. L. Bernard, Research Geneticist, U.S.D.A., Department of Agronomy, S-306 Turner Hall, University of Illinois, Urbana, Illinois, 61801, U.S.A. or to Dr. W. H. Judy, INTSOY Agronomist, Department of Agronomy, AW-108 Turner Hall, University of Illinois, Urbana, Illinois, 61801, U.S.A.

Dr. R. L. Bernard recently made these comments concerning the U.S.D.A. collection:

"1. China: Extensive and organized efforts are underway here to ascertain where collections are. . . I believe we will soon begin receiving seeds from their germplasm collections."

- "2. Japan: We have most of the varieties from rather complete Japanese collections but need to get missed varieties of the newly developed ones."
- "3. South Korea: We have huge collections of native varieties and probably need little more."
- "4. North Korea: Nothing since the 1930's. Valuable area for collecting."
- "5. Mongolia and Pacific Islands: We have little or nothing and I know nothing of soybeans or their availability."
- "6. Afghanistan to Southeast Asia: Soybeans are of ancient culture in some of these areas and should be further judiciously collected and/or the researchers surveyed for available germplasm."

In addition to the perennial species in the U.S.D.A. collection, Dr. T. Hymowitz and Dr. C. Newell have 250 accessions primarily from Australia. Dr. Newell has recently returned from a trip to the Ruykyu and Marianna Islands where she studied the northern distribution of G. tabacina.

A committee composed of U.S.D.A., Experiment Station, INTSOY and Agronomy Department staff members discussed the role that INTSOY might play in the collection and distribution of germplasm. It was agreed that (1) INTSOY has exceptional visibility and many contacts throughout the world. INTSOY can play an important role of liaison between users in less developed countries and the custodians of the various collections. (2) INTSOY might seek funding from the IBPGR to compile and distribute information and descriptions of the various collections.

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Trip Report - Paia and Honolulu, Hawaii

- I. NAME: Joseph A. Jackobs
Professor of Crop Production/UIUC and INTSOY
- II. PERIOD OF TRAVEL: October 26-30, 1980
- III. ITINERARY:
Depart Honolulu 2100, October 29 - Arrive Champaign 1400, October 30.
- IV. PURPOSES:
1. To visit NIFTAL headquarters at Paia, Maui and at the University of Hawaii, Honolulu.
 2. Exchange views with the NIFTAL staff on interests common between NIFTAL and INTSOY.
- V. ORGANIZATIONS AND PERSONS CONTACTED:
1. NIFTAL on Maui - Dr. J. Halliday, Dr. Bill Kerrey, Dr. David L. McNeil, Omar O. Hidayat (visiting from CRIA, Indonesia) and Dr. Karl Stockinger.
 2. NIFTAL at the University of Hawaii - Ms. Susan C. Harris, Shiva Chaudhary and B. Ben Bohlool.
 3. Horticulture Department, University of Hawaii - Dr. Charles Murdoch.
- VI. RESULTS AND ACCOMPLISHMENTS:
- My visit to NIFTAL was worked in on my way back from Japan where I represented INTSOY at the Symposium on the Genetic Resources of the Far East and the Pacific Islands, October 20-24 and a Symposium on Technical Aspects of Plant Genetic Resources, October 25, 1980. It was only possible for me to meet about half of the staff because many were out on a training course being offered in Malaysia.
- The visit was worthwhile because NIFTAL and INTSOY have many common interests and it is important that we can communicate candidly.
- VII. OBSERVATIONS AND REMARKS:
- I appreciated having the opportunity to meet Dr. Halliday and his staff. When I have occasion to communicate with anyone on the NIFTAL staff, I will have a better idea with whom I am communicating and what his point of view will be.
- VIII. FOLLOW-UP ACTION:
- There will be no follow-up action immediately, but in the future we will have many contacts.