

TRIP REPORT

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Date submitted 8/27/80

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NAME L. R. Frederick TITLE Sr. Soil Microbiologist DIV./UNIT DS/AGR/
TSWM

PERIOD OF TRAVEL (inclusive dates) June 25 to 27, 1980

ITINERARY Washington, D.C. to Ithaca, N.Y. to Washington, D.C.
(Use attachment for details, including time schedule)

PURPOSE To attend reporting and planning meeting of lead scientists for
211(d) BNF in the tropics; to site visit Cornell 211(d) grant and to
learn about Boyce Thompson Institute activities in BNF, especially their
UNDP projects with IRRI and IITA.

ORGANIZATIONS AND PERSONS CONTACTED: 1. Cornell University, M. Alexander and
(Use attachment for details.) colleagues; 2. North Carolina State Univer-
sity, H. D. Gross; 3. University of Puerto Rico, E. Schroder and Luis
Cruz-Perez; 4. University of Hawaii, Jake Halliday; Boyce Thompson Inst.
A. App, and A. Eaglesham.

RESULTS/ACCOMPLISHMENTS:
1. Reports and plans regarding activities under 211(d) grants on BNF.
— 2. 211(d) program at Cornell satisfactory.
3. Boyce Thompson Inst. BNF programs are scientifically sound and
Etc. providing information needed to use BNF in the field.

FOLLOW-UP ACTION REQUIRED:
(Indicate what, by whom, when.)
Next meeting of BNF 211(d) grant leaders scheduled for Raleigh, N.C. in
November. Frederick needs to attend.

OTHER REMARKS:
(May include other information, observations, and impressions of
general interest.) These planning and coordination meetings are very
valuable to get more effective activities. The Cornell studies in Trini-
dad are well received; the Hawaii-Thailand linkage is initiated and the
N.C. State-Peru training activities for administrators and extensionists
are innovative.

Attachments:
(List)
1. BNF Coordinators meeting draft minutes.

Distribution: DS/AGR- D. Fiester, J. Walker, J. Malcolm, J. Yohe,
(List) W. Rodgers, R. Ehrlich, D. Gatton

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BNF Coordinator's Meeting
June 26-27, 1980

The meeting was held at the Cornell University campus. Participants were Messrs. Alexander, Cruz Perez, Frederick, Gross, Halliday, McNeil and Schroder.

The business meeting was followed, on Friday, by a tour of the Boyce Thompson facility, meetings with their nitrogen fixation group and, during the afternoon, a review of the on-going microbiological work in the Agronomy Department.

Old Business

1. Rhizobium Newsletter:

- a. It was decided that RN should be subsidized only for individual researchers, as compared to libraries or stations.
- b. With few exceptions, subsidies for commercial (private) researchers will be discontinued. Availability of foreign currency is one consideration that would temper this decision.
- c. RN is under consideration to be dropped. Gross to write expressing concern and offering support.
- d. Subsidized subscriptions will not be renewed unless we receive acknowledgement (only 35% have replied). A flyer to this effect will be included in the next issue.

Several names on the current list should be dropped, for various reasons. Gross will advise Gibson and the recipient.

- e. RN should be made available, on a selective basis, to participants in the various BNF (Rhizobium) short-courses offered internationally. Selection to be responsibility of course coordinator.

2. SOTA's

Puerto Rico has made arrangements for most of its SOTA's. Mung will be published as a Bulletin, out about September; Pigeonpea should be ready for release as a Bulletin within a year; Cowpea has yet to find a home; and Phaseolus has been given low priority because of the Bean-Cowpea CRSP.

NCSU's contributions will be published as Tech. Bulletins, due off the presses by September.

Cornell's papers are in several stages of development; Cross-inoculation is still in the wings; Rice is finished and in AID's hands (it may be released as part of Cornell's International Agriculture Series); Soil Constraints has been published as part of the International Agriculture Series; and Survival is to be published in Advances in Microbial Ecology.

The Hawaiian SOTA's are progressing. Pastures will be published by Westview Press after another review by the Australian contributors; no news on Green Manure; and Associative is to appear in Microbiological Reviews.

The request to distribute at least draft copies to the Consortium members was reiterated.

Dr. Norman is working on the executive summaries, as the SOTA's are made available to him. We should be receiving draft copies soon.

3. The China Connection--Cornell and Hawaii will each host a visiting PRC rhizobium specialist, Drs. Yang and Hu, respectively.
4. BNF Bulletin--approval of the group was unanimous; we can expect to be billed \$500 each. We will try to evaluate impact at the end of a year. In the meantime, Lloyd will lean on the cooperating scientists for support, i.e., publishable items!

Ten copies will be sent to each Consortium member and twenty to each rhizobium MIRCEN.

5. The CIAT meeting--has grown like Topsy. Agencies now involved include CIAT, ICRISAT, UNESCO, NIFTAL and USDA. Considerable financial support is available for attendees: from CIAT primarily for Latin participants; ICRISAT for 10 participants (Asian?); UNESCO with no strings; USDA pass-through for U.S. (12), Asian (3), African (6), Latin (6), and keynote speakers as well as publication costs; and NIFTAL for some of their key cooperators.

Jake requested that we keep him advised of any plans we have to subsidize specific participants.

New Business

1. Full 211-d funding for FY81 has been cleared! A vote of thanks to our fearless leader for a successful conclusion to the negotiations.
2. Changes in AID include renaming some of the offices. We are now in Resource Management, Development Services, Office of Agriculture; other divisions are Ag. Production (crops and livestock), Econ. Planning and Policy, and Rural Employment and Enterprises. Resource Management includes soil and water, and fisheries. Don Fister is Director, Ken McDermott is Assoc. for Outreach and Jim Walker is Assoc. for Research and IARC liaison.

Regional Bureau chiefs are changing. Don Plucknett will be Asia until September 1; then he goes to World Bank. Lane Holcroft is Africa; Keith Scherper is Near East; and Al Brown is Latin America.

3. We may stay under Continuing Resolution funding through FY81. If so, rising costs for the IARC's will take their toll on the DS budget. CRSP's, via JRC, will be severely constrained, and new programs in general will be denied.

The ISTC issue will depend, in large part, on the outcome of the elections. There is still some overt support, with about a \$10 million research budget. Should this be accepted, it would be a great help.

4. Pending overseas involvements:

Mali - Shirl West from Florida is contact man. Main interest is associative, though there is room for symbiotic fixation too.

Egypt - has a non-rhizobium MIRCEN. NIFTAL will lay on a course. Also want a Rhizobium workshop. Currently produce inoculum in peat pellets; low acceptability in the market. Presently have a contract with Southern Illinois.

5. FAO has expressed increased interest in BNF, not confined to forages but across the board. We can expect more contact and more activity from both the Crops and Soils groups.
 6. The possibility of a BNF CRSP. New JRC chairman is Bill Pritchard, a vet. from California. We should talk up the desirability of a separate CRSP for N fixation. Talk to JRC and BIFAD people (list attached). Gross to write Pritchard requesting review of previously established JRC list and priorities.
 7. The Kansas City meeting of AID cooperators was a great success. The suggestion was made that 211-d people be included in future meetings (if we are still alive by then).
 8. Lloyd requested names of nominees for a proposed BNF advisory committee. He would like both domestic and international nominations.
 9. With regard to the RELAR in Venezuela, all systems seem to be "go." Lloyd is prepared to approve U. S. applications for travel.
 10. UNESCO now has money to support research programs in the DC's. Proposals of a magnitude of a "couple of thousand" should be sent to da Silva.
 11. Known participants at the Canberra conference include: Lloyd, Joe Burton, Bob Davis, Dean Weber, Harold Kiser, Chris Stern, Rex Smith and Larry Gaskin.
 12. Cornell plans an applied BNF workshop at U.W.I., at Trinidad, for January 5-7. This will be for the Caribbean-Central American region. A small meeting to cover crops, soils and microbiology.
- Puerto Rico will host, with TVA, a conference on Technology Transfer in Fertilizers, December 9-11, 1980. It will be at Mayaguez and will be for P.R., the Caribbean and Central American participants.
- NIFTAL is offering courses in cooperation with MARDI in November/December, 1980, at Serdan and with the Graduate School at Chapingo in May/June, 1981.
- NCSU is moving along with its plans for two short courses in June/July, 1981, in Lima. Suggestion was made, and accepted, that these "dry runs" be offered for Peruvians only, not western South America as originally planned. The "show-and-tell" program for decision-makers will be offered for at least the Andean-region participants.

13. Institutional programs - the most exciting institutional report was that of Puerto Rico. Drs. Cruz-Perez and Schröder are to be congratulated for the progress made in a relatively short period of time.
- a. The P.R. staff is now at an appropriate level with Eduardo and Chris Stern directing the work. Eduardo's assistants will be Doris Betancourt de Rivera, M.S., and Rodulio Caudales, M.S., the latter half-time on BNF.

They will be teaching a new course in Soil Microbiology, starting in January. A new lab, designed for plant physiology teaching, will be available for this course.

Dr. Cruz Perez is working toward "institutionalizing" BNF to the extent of gaining permanent staff status for Dr. Schroder and Mrs. B. de R.

Eduardo has one grad student on board and Dr. Alexander would like to second a Bengali, Hossain, to P.R. for field experience.

In the field are the INLIT pigeonpea trials at Fortuna (hi pH) and Isabela (an oxisol); the INLIT leucaena trial at Isabela; and with INTSOY, a japonicum survival experiment using one of Schroder's marked NCSU strains.

Dave Hubbell is thinking of establishing his NSF bean inoculation technique trial at P.R.

Long-term plans include: screening the native legume flora; strain collection and testing in cooperation with Wollum (NCSU); some cooperative peanut work with Wynne (NCSU); and, given P.R.'s interest in replacing cane with rice, several Azolla projects such as a search for native strains (none found to date) and a proposed program with Delaware on the potential of Azolla as a "fertilizer" material.

- b. The Cornell program continues apace. The Trinidad program is doing well with Spyder Mughogho and two W.I. graduate students on site and Lowendorff coordinating from Ithaca. Support from the U.W.I. Soils Department now includes funds, a staff microbiologist, and two technicians. The field program involves cowpea, soybean and winged bean experiments on four islands.

A possible linkage at Barquisimeto is pending.

Work at Ithaca involves Rhizobium and a little blue-green. The rhizobium work continues on stress (pH, Al, dessication) and survival, and improved colonization. UNEP is interested from the standpoint of microbiology in desertification.

Five countries are represented among the Cornell grad students and visitors from Korea and New Zealand are currently on board.

- c. Hawaii is looking forward to Ben's return from darkest Europe (he is back, by the way). Current research is confined to Paul Singleton's work with Lentils.

On-going work with Thailand is intensifying. A NIFTAL/ICRAF tree project is progressing nicely (see Jake's trip report). USDA has accepted a preproposal for tree inoculation.

One unique feature of the Thai trip was that, for the first time, AID supported the travel of a non-U.S. specialist in a consultant role; a Taiwanese leucaena expert accompanied Jake and Jim Brewbaker on their trip.

Shel Whitney attended the Australian Grassland Workshop. Heinz Hoben will be going to CIAT for an internship on training.

Donawa, from Trinidad, is interviewing at NIFTAL. He will return to continue work on the Cornell project.

The suggestion was made that, given communality of interest, Paul Singleton should visit the Cornell program.

14. FUTURE MEETINGS - Next meeting in Raleigh, suggested dates: November 10-11.

Then, perhaps, Washington in May, 1981, and Maui for about November, 1981.

One of the major items for these next meetings should be our future plans. Copies of the proposal that the group sent to JRC two years ago were distributed.

As mentioned in item 6, we might think in terms of a CRSP; if this is what we want we should start lobbying* now. And we should reevaluate the old document as to its current worth.

However, if we were to start on a CRSP tomorrow funds would not be available by the end of '81 (remember JRC has no money right now). We will depend on Marty to work us out of this box; in the meantime, Gross will write Pritchard to start things going.

*Members of BIFAD:

Clifton R. Wharton, Chairman, Chancellor, SUNY
Peter McGrath, President, University of Minnesota
H. F. Robinson, Chancellor, Western Carolina University
E. T. York, Chancellor, University System of Florida
Rebecca Pollard
Johnnie Watts Prothro, Tuskegee Institute
David Garst, President, Garst and Thomas Seed Company, Iowa

Members of JRC: new list not yet available (7/22/80)