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THE OHIO STATE UNIVERSITY

COLLEGE OF AGRICULTURE AND HOME ECONOMICS

AGRONOMY DEPARTMENT

ANNUAL TECHNICAL REPORT OF 211(d) PROJECT

JUNE 1, 1968 to MAY 31, 1969

TECHNICAL REPORT

211(d) International Program

The Ohio State University

The 211(d) Professor of Ohio State University was appointed to the Program effective August 1, 1968.

In partial fulfillment of the objectives of the 211(d) program in the area Soil-Plant-Water Relations, the following have been realized during the initial year of the program:

Teaching:

1. During the Fall Quarter, 1968, courses were taught in Soil Fertility and Fertilizers, Agronomy 670, (enrollment-40 students) and Tropical and Sub-tropical Soils, Agronomy 543 (enrollment-20 students).

The course titled Crop Production in Developing Countries, Agronomy 510 was taught by Dr. L. D. Bayer during the Winter Quarter 1969, when the 211(d) professor was visiting India. Dr. Bayer with his wide international experience was considered well qualified to teach this course and amply justified his selection in this regard.

Both Agronomy 543 and 510 are required courses in the new undergraduate International Agriculture program which is offered in the College of Agriculture and Home Economics and designed for those students interested in agriculture and agriculturally oriented businesses in foreign countries.

2. Plans are proceeding for the offering of a five-week course in international agronomy with emphasis on soil-plant-water relationships, in the summer (June-July) of 1970.

The objective of the course is to provide technical knowledge to graduate students and faculty about soil-water-plant problems in other countries. Emphasis will be placed on the development of effective methods for increasing food production. These methods will include altering the genetic makeup of the plant, control of nutrient concentration, and control of water content of soils.

There will be five visiting lecturers, one for each week of the five-week course. Each lecturer will present five technical lectures on the nature of international problems, on the technical information needed, and on successful methods of solving problems. In addition he will present one lecture for the general public and will schedule several informal discussions with students and faculty.

Participants in the course will include graduate students and faculty from

appropriate departments of all universities including those of the 211(d)* and C.I.C.** groups. Interested personnel from U.S.A.I.D. and contributing foundations will also be asked to attend. The lectures will be published as a special publication of the Department of Agronomy.

As of this date Professor E. Walter Russell, Dr. Richard Bradfield and Dr. E. J. Wellhausen have agreed to contribute to the course. Some seed money from 211(d) funds will be used to bring Dr. Russell to the campus and the Rockefeller Foundation has agreed to subsidize the participation of Drs. Bradfield and Wellhausen. Other sources of funds are being investigated to support the other two lecturers.

Beginning in the fall of 1969, the various institutions with an interest in the course and the 211(d) concept will be invited to attend. Later during 1970, reminders will be sent to the same institutions.

3. In order to publicize the 211(d) program talks have been given to various seminar groups relative to the aims and objectives of the program. A Seminar on tropical and subtropical soils and their management was presented on a university-wide basis and sponsored by the School of Natural Resources.

Research:

The following discussions relative to research during the initial year of the program includes those observations previously reported following the return of the 211(d) professor from his initial visit to India.

During the month of January, 1969, a survey was made of some of the agricultural universities and agencies in India. As a result of this survey three localities of those surveyed are now being considered as places where graduate students participating in the 211(d) program, in the soil-plant-water area, could undertake research work. These localities are: Punjab Agricultural University, Hissar; Uttar Pradesh Agricultural University, Pant Nagar; and University of Agricultural Sciences, Bangalore.

Each of these institutions possess capable faculty for directing graduate students and adequate facilities for field research towards the Ph.D. degree.

By virtue of their locations, each of the three is ideally suited for certain aspects of research in the soil-plant-water area. Thus, the Punjab Agricultural University, Hissar, is suited for research in problems pertaining to the irrigated soils and the crops associated with them; the Uttar Pradesh Agricultural University, located in the Tarai district of that state, provides several opportunities to study the nutritional aspects of soil fertility and the influence of different drainage regimes on crop growth and producti ..

*Includes, Tennessee, Illinois, Missouri, Penn State, Kansas State and OSU.

**Includes, Purdue, Indiana, Illinois, Iowa, Wisconsin, Michigan State, Michigan, Northwestern, Chicago, and OSU.

The University of Agricultural Sciences, Bangalore, is well suited for studies on several components of two of the major soil groups occurring in the tropics, the Latosols and the Vertisols. One important component, applicable to all areas of India, are soil surveys. Another will be the study of the fundamental characteristics of the soils themselves and of soil-plant relationships. A third component will be research in soil management.

Although possibilities for cooperative research projects have been established with administrative and technical personnel at all Indian universities and agencies, visited during January, 1969, no attempt is herein being made to detail the many research problems that offer opportunities for investigation. Each of the three universities mentioned above possess at least three, and sometimes several more, faculty members who have, and are demonstrating their ability to direct 211(d) graduate students. Furthermore, these faculty members have all expressed a keen desire to participate in joint direction of 211(d) students.

Several agronomic research problems exist which when investigated, will provide new knowledge in tropical and subtropical crop production while developing a manpower capability for future involvement in the international agriculture sector.

Although the broad areas for research investigation have been outlined above, the detailed projects still remain to be worked out between the 211(d) professor, his counterpart in India, and the graduate student.

Graduate Students:

Recruitment of graduate students for participation in the program has been actively continued during the last few months. At this time two participants have been committed to the program starting July 1, 1969. Their names are D. G. Alsdorf and G. T. Kaiser. Both will be obtaining their M.Sc. degrees during the Summer 1969, and will continue their studies toward the Ph.D. degree under the auspices of the 211(d) program.

One other candidate to be supported by the program is being sought. A brief resume of each candidate presently committed to the program is attached.

Other Activities:

1. Having been approached by a publishing house to collaborate with Dr. G. Donald Sherman of the University of Hawaii, plans were being finalized to write an advanced level book dealing with Tropical and Subtropical soils and their management.

Unfortunately, the original publishers have been taken over by another publishing house resulting in complete reorganization and a reluctance to undertake what they consider to be a book of such a specialized nature. Nevertheless, Dr. Sherman and I have resolved to continue our work on the manuscript feeling certain that it will fill a need that only intensifies with time.

2. Since returning from India in the early part of 1969, correspondence has been maintained with several Indian faculty members at the three univer-

sities which are considered for research participation when 211(d) students are in India.

3. Dr. H. G. Singh, Professor of Agronomy, University of Udaipur and Dr. G. S. Sekhon, Professor of Soils, Punjab Agricultural University will be spending time at Ohio State University under the auspices of USAID/OSU. contact arrangements. Arrangements have been made to further the objectives of our 211(d) program by exposing our staff and students to the knowledge and experience of these gentlemen.

4. The 211(d) professor often participates on examining and reading committees of Masters and Doctoral candidates especially when these students are from a developing country or have a desire to live and work in another country.

Publicity:

During the past ten months an effort has been made to further the objectives of the 211(d) concept. This has partially been accomplished by publicizing its objectives through press releases on a local and national basis. It is pleasing to report that the concept has been received with a great deal of enthusiasm on the part of the university community as well as the private sector.

The International Agronomy Committee of the American Society of Agronomy has been advised of the 211(d) program at The Ohio State University. We look forward to working closely with this committee in order to further the programs objectives.

D. G. ALSDORF -- born March 16, 1942, Union City, Pennsylvania. Parents, Mr. and Mrs. Charles Alsdorf, Union City, Pennsylvania. Raised on a dairy farm near Canadohta Lake, Pennsylvania. B.S. in Agronomy, 1964, The Pennsylvania State University. Working toward M.S. in Soil Chemistry and Fertility since June, 1967, and hopes to complete in the fall of 1969. Married; 2 sons.

GEORGE T. KAISER -- born March 21, 1941, Columbus, Ohio. Graduate of Worthington (Ohio) High School, 1959 Ohio State University, B.S. in Agriculture, Major in Agronomy, Soils, Minor; Chemistry, currently M.S. candidate in Agronomy with graduation planned for August, 1969. Married.