

1. SUBJECT CLASSIFICATION	A. PRIMARY	Serials	Y-AH20-0000-G635
	B. SECONDARY	Agriculture--Plant diseases--India	

2. TITLE AND SUBTITLE
 Study and control of diseases of agronomic crops in developing nations; annual report, 1968/1969

3. AUTHOR(S)
 (101) Ill. Univ. Dept. of Plant Pathology

4. DOCUMENT DATE 1969	5. NUMBER OF PAGES 4p.	6. ARC NUMBER ARC 632.129
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7. REFERENCE ORGANIZATION NAME AND ADDRESS
 Ill.

8. SUPPLEMENTARY NOTES (*Sponsoring Organization, Publishers, Availability*)
 (Activity summary)

9. ABSTRACT

10. CONTROL NUMBER PN-AAB-855	11. PRICE OF DOCUMENT
12. DESCRIPTORS Grain legumes India Plant pathology	13. PROJECT NUMBER
	14. CONTRACT NUMBER GSD-1922 211(d)
	15. TYPE OF DOCUMENT

CSD-1922 211(d)
632. I 29
PN-AAB-855

UNIVERSITY OF ILLINOIS

COLLEGE OF AGRICULTURE

DEPARTMENT OF PLANT PATHOLOGY

ANNUAL TECHNICAL REPORT OF 211(d) PROJECT

JUNE 1, 1968 to May 31, 1969

TECHNICAL REPORT

211(d) International Program

University of Illinois

This is the first Technical Report concerning the development within the University of Illinois specialized competency in the identification and cause and control of diseases of agronomic crops of India, and to establish this area of specialization as a legitimate and continuing function of the University.

As provided in the "Operation Plan" of the original proposal, a full-time faculty member was appointed by the University of Illinois on a regular tenure basis to fill a newly created position of Professor of Plant Pathology. The man selected to fill this position was Professor James B. Sinclair.

Phase I: Planning

To acquaint himself with the plant disease problems of India, Professor Sinclair visited 17 departments, offices, and other units in India during the Fall, 1968. Particular attention was given to personnel, laboratories, and library facilities involved in the research and teaching of plant pathology. Possibilities for interest in, cooperation with, and potential for the 211(d) program were explored with both Indian and American personnel in India. Informal agreements were made for collaboration with Indian plant scientists at Uttar Pradesh Agriculture University, J. Nehru Agricultural University, and the Indian Agricultural Research Institute.

Dr. Sinclair met with a number of American personnel who have had experience in India and other countries in order to obtain ideas for the development of graduate seminars and courses on international agriculture and plant pathology with special reference to India.

In consultation with Dr. W. M. Bever, Head of the Department of Plant Pathology, a project plan was written and submitted as part of the final step of Phase I.

In summary, the project plans include:

A. Research in the area of seed-borne and seedling diseases of leguminous field crops (soybean, pulses, cowpea, etc.) of Illinois and India. Among other things, the program includes studies on the effect of certain agricultural chemicals, such as herbicides and fungicides on the incidence and severity of seedling and root diseases of soybean. The effectiveness of various systemic fungicides as either seed and/or soil treatments for control of seedling diseases will be determined in field studies.

B. Proposed new courses and seminars included: (1) the redesigning of course presently offered to give it a more international dimension; (2) developing an advanced seminar on international agriculture, particularly as it pertains to India; and (3) developing a new interdisciplinary course on international food crops, insects, and diseases.

C. Other educational activities proposed are to consider sending undergraduate students to India in a "junior year abroad" program and sending post-doctorate students to India to do research and study. Recruitment of graduate students for the program was initiated.

D. Other activities to be initiated or expanded include: (1) becoming an active member of the American Phytopathological Society's committee on International Cooperation; (2) participation in the Southern Regional Research Project (S-72) on soybean seed quality; (3) collaborating with Indian plant pathologists on planning research work, graduate student examinations, etc.; (4) cooperating with other departments on the University of Illinois campuses; and (5) cooperating with the 211(d) professors and other members of the Council of U. S. Universities for the Rural Development of India.

Phase II: Implementation

Several activities set forth in the work plan have been initiated. These are:

A. The specific lines of research to be undertaken were summarized in the Project Plan and in the U. S. Department of Agriculture form AD 416. The latter was formally approved by the Head of the Department of Plant Pathology and the Director of the Agricultural Experiment Station at the University.

B. New courses and seminars include the teaching of a course in the Fall, 1969, on the epiphytology of plant diseases. This course will be revised and enlarged to include international considerations on a variety of crops. Dr. Sinclair will assist in the teaching of an interdisciplinary (horticulture, economic entomology, and plant pathology) course on international food crops, insects, and diseases in the Spring, 1970. This is a new course offering. Dr. Sinclair assisted in the initial planning and development of this course. He participated in and contributed to a graduate seminar during the Spring, 1969, dealing with special topics on international horticulture and presented formal talks several times on the 211(d) program.

C. Recruitment of graduate students into the 211(d) program has been disappointing. There is a nation-wide shortage of qualified students entering graduate school because of military demands and other uncertainties of the future. Every effort was made to advertise the 211(d) program in plant pathology, nationally, in the State of Illinois, and on the UI campus. Although several students from outside of the State have expressed interest in the project and made application, they were not qualified to enter into this rather specialized program.

Dr. Sinclair has a Ph.D. student from India working with him on soybean diseases. He is not on 211(d) funds, but is an A.I.D. participant.

A promising University of Illinois student, who is completing his Ph.D. in plant pathology within a year, has expressed interest in going to India as a post-doctorate candidate to do research in plant pathology. He has had some overseas experiences and will be considered.

D. New laboratory facilities, committed by the University, is nearing completion. Adequate office space for graduate students and the 211(d) Professor has been provided.

E. A visiting professor was sponsored using 211(d) funds. Dr. R. P. Moore, Professor of Research-Crop Stands, at North Carolina State University was brought to the campus to consult with various scientists about soybean seed quality. Specifically, he was brought to aid in the study of factors affecting the seed quality of approximately 400 soybean seed lots brought from India. He worked with Dr. C. M. Hittle (Agronomist), who is leaving for a 2-year assignment at Jabalpur, Indian students on the UI campus, and others interested in seed quality. He gave a seminar on chemical testing for seed quality.

BUDGET

Expenditures from the 211(d) grant funds for the University of Illinois from 1 July, 1968, through 31 May, 1969, are listed below. No stipends for graduate students were used, since recruitment did not provide qualified students. Travel expenditures are for the 211(d) Professor's trip to India, the consultant visit of Dr. Moore, and instate travel to experimental field plots. Equipment monies were used to supply the new laboratory with research equipment.

<u>CATEGORY</u>	<u>BUDGET</u>	<u>EXPENDITURES THRU 3/31/69</u>	<u>EXPENDITURES APRIL & MAY</u>	<u>EXT. EXPENDITURES THRU 5/31/69</u>
Salaries	\$130,000	\$12,354	\$3,300	\$15,654
Stipends	31,000	0	0	0
Travel	13,000	1,064	250	1,314
Equipment	<u>26,000</u>	<u>1,289</u>	<u>500</u>	<u>8,789</u>
Total	\$200,000	\$14,707	\$4,050	\$25,757

Executive Director's Note:

The following appendices to this report have been distributed to interested parties:

Appendices

1. Academic vita of James B. Sinclair
2. Report of J. B. Sinclair's visit to India
3. 211(d) Project Plan for the University of Illinois
4. Copy of Approved U.S.D.A. Form AD 416
5. Announcement of the International Graduate Research Assistantships.