

PL-112-017  
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LIMITED SCOPE GRANT AGREEMENT  
BETWEEN THE UNITED STATES OF AMERICA  
ACTING THROUGH THE REGIONAL OFFICE FOR CENTRAL AMERICAN PROGRAMS (ROCAP)  
ON BEHALF OF THE  
AGENCY FOR INTERNATIONAL DEVELOPMENT (AID)  
AND  
THE TROPICAL AGRICULTURE CENTER FOR TRAINING AND RESEARCH (CATIE)

GRANT No. 936-5542.12  
(AID/SCI RESEARCH PROPOSAL 7.138)

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1. PROJECT TITLE	2. AID PROJECT NUMBER
"Survival of plant pathogenic bacteria in tropical soils traced with monoclonal antibodies."	Grant No.: 936-5542.12
	Fiscal Information: 72-1191021.6 DDSA-89-29520-KG11 946-51-520-00-19-91

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The above named parties hereby mutually agree to carry out the project described in this Agreement in accordance with (1) the terms of this Agreement, including any annexes hereto, and (2) any general agreements regarding economic or technical cooperation.

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3. AMOUNT OF AID GRANT \$149,780	4. PROJECT ASSISTANCE COMPLETION DATE July 9, 1993
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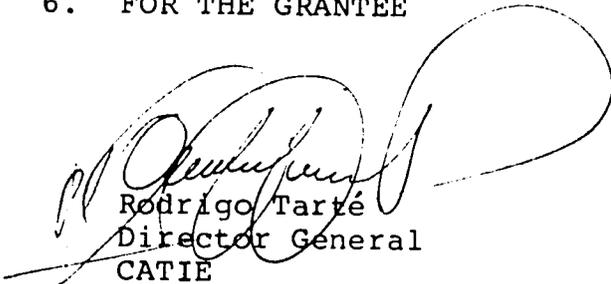
4. The aim of this research is to determine the limits of survival of soil borne pathogens in tropical acidic soils and to determine under what conditions plant pathogenic bacteria will perpetuate disease.

This Agreement consists of this title page; Annex A, Project Description; Annex B, Standard Provisions.

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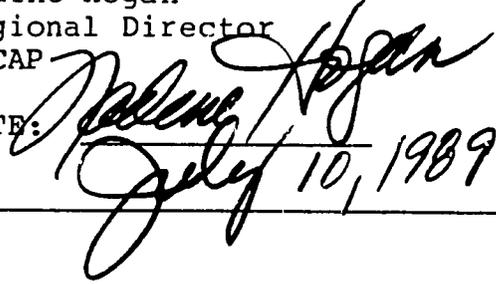
6. FOR THE GRANTEE

7. FOR THE AGENCY FOR INTERNATIONAL DEVELOPMENT

  
Rodrigo Tarté  
Director General  
CATIE

Nadine Hogan  
Regional Director  
ROCAP

DATE: July 10, 1989

DATE:   
July 10, 1989

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"SURVIVAL OF PLANT PATHOGENIC BACTERIA IN TROPICAL  
SOILS TRACED WITH MONOCLONAL ANTIBODIES"

I. INTRODUCTION

The Tropical Agricultural Research and Training Center (CATIE) and the Regional Office for Central America Programs (ROCAP) of the Agency for International Development (AID) enter into this Agreement for the purpose of determining the limits of survival of soil borne pathogens in tropical acidic soils and to determine under what conditions plant pathogenic bacteria will perpetuate disease.

I. PROJECT DESCRIPTION

A. Background

Studies on survival are critical to the control of bacterial diseases. However, little is known about the survival of bacteria in tropical soils, where soil texture, drainage patterns and cultural practices are unlike those of temperate zones. In the tropics, land is often cropped without adequate fallow, promoting the build-up of micro-organisms and the perpetuation of plant disease. If conditions for survival of pathogens are known, micro-organisms can be reduced by non-chemical methods such as, modification of the moisture levels, organic content, selective fertilization, or intercropping with resistant plants.

B. Project Purpose

The purpose of this project is to determine the limits of survival of soil-borne pathogens in tropical soils and determine under what conditions plant pathogenic bacteria will perpetuate disease. By modifying the factors that affect survival, strategies for controlling diseases can be devised for tropical soils.

C. Description

Recent technological advances have provided a means of identifying and monitoring individual populations of bacteria and plant pathogens. The impact of this technology on international development is just beginning to be recognized. The greatest value is its potential to isolate and control soil and air-borne diseases caused by bacteria, fungi and viruses. Once highly specific antibodies have been identified, their potential demonstrated, and the optimum application established, specific in-depth studies can be undertaken to control plant diseases under local conditions.

As a model for these studies the bacterial plant pathogen, xanthomonas campestris pv. campestris (Xcc) has been selected. This pathogen causes black rot of crucifers, a common and particularly serious disease in the tropics wherever cabbage and other crucifers are grown.

The objective of this research is to:

- 1) Develop a method for detecting specific strains of soil-borne bacterial plant pathogens.
- 2) Determine the survival of plant pathogenic strains of bacteria under different moisture regimes, temperatures, nutrient levels, varying amounts of organic residues, and intercropping practices.
- 3) Modify the above factors to reduce survival, to eliminate sources of the micro-organisms, and consequently to minimize the incidence of plant disease.

D. Period of Grant

The effective date of this is July 10, 1989. The Project Assistance Completion Date (PACD) is July 9, 1993.

III. Compliance with Federal Guidelines and Regulatory Procedures:

The Grantee shall implement this research activity, whenever it involves recombinant DNA, in accordance with:

- a. The National Institutes of Health Guidelines for Research Involving Recombinant DNA Molecules;
- b. procedures issued by the USDA, EPA, or other appropriate Federal agency, regarding testing of genetically engineered organisms;
- c. A.I.D.'s environmental procedures; and
- d. such other Federal guidelines and procedures as may apply during the course of research.

Additionally, the Grantee cannot commence testing in any foreign location until written approval for such testing is obtained from A.I.D, and the government of the country where testing is planned. Testing shall be conducted in accordance with all applicable regulations of that country.

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In addition, and prior to commencement of any such testing, the Grantee shall make a judgment and communicate the same to A.I.D. as to whether the regulations, procedures or facilities of the country in question are adequate to ensure testing in an environmentally sound manner. In the event such judgment is that they are not, the Grantee and A.I.D. will consult and agree on the conditions to be applied to the testing which will have such environmental effect.

Reports submitted under this Grant to A.I.D. will address regulatory issues related to the above activity.

#### IV. REPORTING AND EVALUATION

##### A. Progress Reports

Progress reports are required every six months. The principal investigator will submit progress reports stating what has been accomplished to date, including as an attachment, the Financial Status Report discussed below. These reports are due within thirty days following the reporting periods ending June 30 and December 31 for each year of the grant. One copy of the progress report should be sent to the following: Assistant Regional Agricultural Development Officer, ROCAP/Costa Rica, c/o U.S. Embassy, San José, Costa Rica. AID/SCI, Room 320 SA-18; Ms. Wendy White, Bostid, National Academy of Sciences, 2101 Constitution Ave., N.W., Washington, D.C. 20418; AID Reference Center, PPC/CDIE/DI, Room 105 SA-18; and Technical Backstop Office, S&T/AGR, Benjamin Waite, Room 420-E, SA-18, Washington, D.C. 20523.

Since the research schedule is often not updated until after the funds are obligated, the first report should contain revisions in any key dates based on a revised research schedule. Substantive scientific input should be included when there is something significant to report. Interim Reports are due within 30 days following each six month period and may be in Spanish if accompanied by a summary in English .

##### B. Final Report

The principal investigator will submit to the Office of the Science Advisor Agency for International Development, Washington, D.C. 20523, a final report in three copies by July 9, 1993. At the same time, three copies of the final report will also be submitted to PPC/CDIE, Agency for International Development, Room 215 SA-18, Washington, D.C. 20523. One copy of the final report will also be submitted to the Assistant Regional Agricultural Development Officer, ROCAP/Costa Rica, c/o U.S. Embassy, San José, Costa Rica.

The report should be sufficiently detailed to substantiate the findings and to permit a scientific evaluation of the research. In order to promote dissemination, peer review and improvement of project results, the principal investigator(s) shall send copies of the draft final report to at least three recognized researchers in the field of the grant -- preferably in countries other than that of the investigator -- for comment prior to submission to A.I.D. Publication of the results in scientific journals is also encouraged.

C. Financial Status Report (SF-269)

The Financial Status Report (SF-269) is required every six months and will be submitted as an attachment to the progress report.

V. TITLE TO PROPERTY

The title of property acquired under this grant will vest in the Grantee in accordance with Optional Standard Provision No. 18 entitled "Title to and Use of Property (Grantee Title)". When the principal Grantee makes a subagreement under this grant agreement, the principal Grantee will pass to the subgrantee the provisions of the above cited references as appropriate. Equipment purchased on behalf of each collaborating institution shall remain the property of that institution.

VI. PUBLICATIONS

Acknowledgement of A.I.D.'s contribution to any publication resulting from this grant shall be made in accordance with procedures set forth in Attachment 3 - Optional Standard Provision No. 10.

VII. CLOSEOUT PROCEDURES

This section prescribes uniform closeout procedures for this grant.

A. The following definitions shall apply for the purpose of this section:

1. Closeout. The closeout of a grant is the process by which A.I.D. determines that all applicable administrative actions and all required work of the grant have been completed by the Grantee and A.I.D.
2. Date of Completion. The date of completion is the date on which all work under the grant is completed, or the date on the award document, or any supplement or amendment thereto, on which A.I.D. sponsorship ends.

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3. Disallowed Costs. Disallowed costs are those charges to a grant that A.I.D. or its representative determines to be unallowable, in accordance with the applicable Federal cost principles or other conditions contained in the grant.
- B. A.I.D. closeout procedures include the following requirements:
1. Upon request, A.I.D. shall make prompt payments to a Grantee for allowable reimbursable costs under the grant being closed out.
  2. The Grantee shall immediately refund any balance of unobligated (unencumbered) cash that A.I.D. has advanced or paid and that is not authorized to be retained by the Grantee for use in other grants.
  3. A.I.D. shall obtain from the Grantee within 90 calendar days after the date of completion of the grant all financial, performance, and other reports required as the condition of the grant. A.I.D. may grant extensions when requested by the Grantee.
  4. When authorized by the grant, A.I.D. shall make a settlement for any upward or downward adjustments, to A.I.D.'s share of costs after these reports are received.
  5. The Grantee shall account for any property acquired with A.I.D. funds, or received from the Government in accordance with the provisions of OMB Circular A-110, Attachment K.
  6. In the event a final audit has not been performed prior to the closeout of the grant, A.I.D. shall retain the right to recover an appropriate amount after fully considering the recommendations on questioned costs resulting from the final audit.

#### VIII. SOURCE AND ORIGIN OF GOODS AND SERVICES

- A. The country or countries where research or other scientific/technological cooperation takes place shall be deemed to be the cooperating country for the purpose of permitting local cost financing.
- B. Goods and services, except for ocean shipping, financed by A.I.D. under the project shall have their source/origin in the Cooperating Country or in the United States as well as other code 941 countries.

- C. Ocean shipping financed by A.I.D. under the project shall, except as A.I.D. may otherwise agree in writing, be financed only on flag vessels of the United States.

IX. BUDGET AND METHOD OF DISBURSEMENT

Under the terms of this Agreement, AID will provide up to \$149,700 (one hundred forty-nine thousand seven hundred U.S. DOLS) to fund travel, per diem and related costs of carrying out this research program in accordance with the attached Illustrative Budget. Please note that per diem rates may not exceed the maximum daily rates as prescribed in the U.S. Federal Travel Regulations. The Voucher paying officer is: CONTROLLER, ROCAP/Guatemala, c/o U.S. Embassy, San José, Costa Rica. Advance of funds may be made according to normal AID procedures. ROCAP will disburse funds to cover the cost of the contracts upon receipt of documentation specified in the following paragraph.

X. DOCUMENTATION FOR PAYMENT

Claims for payment under the Grant shall be submitted to the Controller ROCAP/Guatemala. These claims shall be submitted on Voucher Form SF-1034 (original) and SF-1034-A (copies). Each claim shall be accompanied by an invoice (original and two copies) indicating the period for which compensation is claimed, the paragraph of the Grant under which payment is requested and, when appropriate, a fully itemized statement of costs, and such other supporting documentation and justification as the ROCAP Controller may prescribe.

The invoice shall include a certification signed by an authorized representative of CATIE as follows:

"The undersigned hereby certifies: (1) that payment of the sum claimed is proper and due and that appropriate refund to AID will be made promptly upon request of AID in the event of non-performance, in whole or in part, under the agreement or of any breach of the terms of the Grant; (2) that information on the invoice is correct and such detailed supporting information as AID may require will be promptly and appropriately furnished by CATIE to AID upon request, and (3) that all requirements called for by the Agreement to the date of this certification have been met".

XI. ILLUSTRATIVE BUDGET

The following is the Budget for this Grant, including local cost financing items, if authorized. Revisions to this Budget shall be made in accordance with Mandatory Standard Provision of this Grant entitled "Revision of Grant Budget". Within the total amount obligated under the grant, the Grantee may adjust the line items within and between budgets as reasonably necessary to achieve the goals of the program.

BUDGET

SALARIES	YEAR I	YEAR II	YEAR III	TOTAL
Chemist and soil fertility PI, Year 1 (70%), II (70%), III (50%)	29,700	31,900	16,100	77,700
Agronomist (15%)	3,600	3,900	1,800	9,300
Plant Pathologist (10%)	0	0	0	0
Biotechnologist/Immunologist (5%)	0	0	0	0
Microbiologist (trainee from CATIE to Hawaii)	3,000	3,000	3,000	9,000
Greenhouse and Field Workers (2)	3,000	3,000	3,000	9,000
Fringe Benefits and Insurance	2,230	2,380	1,270	5,880
<u>TOTAL SALARIES AND FRINGE BENEFITS</u>	<u>41,530</u>	<u>44,180</u>	<u>25,170</u>	<u>110,880</u>
<u>EQUIPMENT/SUPPLIES</u>				
Equipment/Supplies (CATIE)	9,000	3,000	1,000	13,000
Supplies/Student help (Hawaii)	5,000	5,000	4,000	14,000
<u>TRAVEL</u>				
International and Domestic (Includes workshops)	4,800	3,000	2,500	10,300
<u>OVERHEAD</u>	N/A	N/A	N/A	
<u>OTHER COSTS</u>				
Printing, Communications, Computer	500	500	600	1,600
<u>TOTAL AID FUNDING</u>	<u>60,830</u>	<u>55,680</u>	<u>33,270</u>	<u>149,780</u>

INSTITUTIONAL CONTRIBUTIONS

CATIE

(funds for facilities, greenhouse,  
 experiment stations, field equipment,  
 personnel, student help)

45,000	47,000	23,000
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University of Hawaii

(Funds for facilities, lab equipment,  
 personnel)

15,000	15,000	15,000
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