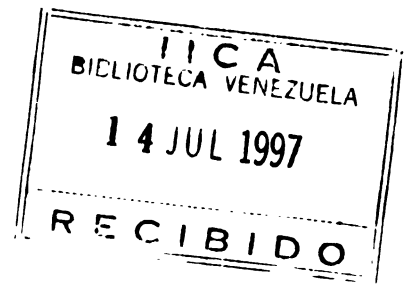


FISCAL YEAR 1942-43

ANNUAL REPORT

OF

THE INTER-AMERICAN INSTITUTE  
OF AGRICULTURAL SCIENCES



Main Office

Pan American Building  
Washington D. C.

Field Headquarters

Turrialba, Costa Rica  
Central America

Pan American Union  
Washington, D. C.  
September 18, 1943

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## CONTENTS

- I. Introduction
- II. Appointments
- III. Agreement with Costa Rican Government
- IV. Field Headquarters - Turrialba, Costa Rica
- V. Reports of Progress
- VI. Orton Memorial Library
- VII. Acquisition of Rubber Plantation in Panama
- VIII. Priorities, Purchases and Construction
- IX. Fiscal Report
- X. Future Program.
- XI. Budget for Fiscal Year, 1943-1944
- XII. Convention

## INTRODUCTION

The formation of an institute of tropical agriculture has been under consideration by the leaders in agriculture in this hemisphere for several decades. It has been discussed from time to time as far back as the first Inter-American Conference on Agriculture held in Washington in 1930. The movement received considerable impetus when Vice President Henry Wallace, then Secretary of Agriculture of the United States, presented a paper at the Eighth Scientific Congress held in Washington in 1940 advocating the formation of such an Institute. At that time he stated:

"It is our sincere belief that the establishment of an Institute of Tropical Agriculture is vital if Western Hemisphere agriculture is to develop as it should. This proposal, which we in the Department of Agriculture have been considering for a couple of years, has been endorsed by President Roosevelt's Interdepartmental Committee on Cooperation with the American Republics. The Institute would serve as a symbol of amity and of the economic and cultural relations between the Americas. It would lead to a better balanced agricultural economy in the Western Hemisphere. It would be in a position to present comprehensive data on the vital agricultural problems of all the American Republics. It would develop a broad knowledge of pests and diseases common to the great tropical region. In bringing together students in agricultural science, it would promote a mutual understanding between these future leaders in agriculture. Through cooperative research it would work toward the solution of serious problems in crop and animal production such as the Sigotoka disease of banas, Witchbroom and Manilia rot of cacao and animal parasites.

"The Institute would not only provide technical training but also an opportunity to acquire a knowledge of the languages and the varied business methods, standards of ethics, and viewpoints of the Western Hemisphere.

"Research on rubber production should meet with the approval of all those interested in or responsible for Western Hemisphere policies. Rubber is the most important of all tropical agricultural products. Although indigenous to South America, rubber is not grown there commercially to any extent. Indications are, that it could be and should be an important product of this hemisphere. The Goodyear Company with its plantings in Costa Rica and Panama, and the Ford Company with its plantings in the Amazon region of Brazil, have pioneered in the plantation-production of rubber here. Research should be undertaken on modern production methods under which we may emphasize soil management and the developing of certain important high-yielding

disease and insect resistant strains which can be used in bud-grafting. Such research would doubtless lead to the economical production of rubber.

"It is our feeling that an institute of tropical agriculture cannot be established unless, in the beginning at least, the bulk of the necessary funds are subscribed by private foundations or individuals. Governments of the American Republics could participate directly by sending students to study in the Institute, assigning problems to the Institute for solution, and perhaps furnishing part of the faculty. The problems assigned to the Institute would be of a kind that governments would find it cheaper to pass on to the Institute for solution. The Institute, of course, would be equipped to work on large and important agricultural problems, at less cost and with greater certainty of solution than elsewhere.

"Discussions of the Institute always bring up the question of location. It is our feeling that it should be located in a Latin-American Republic under good environmental living conditions, but, at the same time, be so situated as to be easily accessible to places having conditions favorable for the development of tropical crops like rubber, abaca and vegetable oils. Some governments have indicated a desire to have such an institute in their countries, and a willingness to furnish sites for its location."

The greatest impetus was received when the Office of the Coordinator of Inter-American Affairs allocated \$500,000 for the construction and operation for the first year of such an Institute. \$35,000 of these funds were made available to the United States Department of Agriculture in October, 1941 for the drawing up of plans and making of specifications for the main buildings.

Under the auspices of the Inter-American Committee on Agriculture, a committee of the Governing Board of the Pan American Union, a committee of three members from the Department of Agriculture was sent to various countries to inspect sites for the physical location of the Institute. In summing up their report to the Inter-American Committee on Agriculture, the commission on the selection of sites said:

"Having studied all the facts obtainable concerning the best site offered by each country, it remained for the committee to evaluate those facts and to arrive at a decision as to which of all the sites offered seemed best adapted to the needs of the proposed Institute. To this end, the following comparative analysis of the data collected for one site in each country was prepared, in which each of the factors heretofore discussed was broken down and the most favorable site in respect to each factor was rated 1, the next most favorable 2, and so, in other words,

the committee has rated each proposed site in what it considers to be its order of merit in regard, first, to accessibility; second, to facilities and service; third, to health and efficiency; and fourth, to conditions affecting studies in tropical agriculture. In many cases the differences between proposed locations on any factor were small and the tabulation, perhaps, does not give an accurate picture of the amount of difference which existed between the various sites. For instance, in the factor of health and efficiency there is a very slight difference between any two sites since one of the prerequisites of any site was that it be located in a healthful area. However, the table does represent the studied conclusion of the members of the committee as to the relative merits of each of the proposed sites.

"It will be noted that the Costa Rica site, with a total of six points, has a great advantage over any and all other suggested sites, and the committee therefore recommends that the site offered in Costa Rica near the city of Turrialba be selected from all the sites offered as being the best adapted to the needs of the Institute.

"The site which was finally chosen is near Turrialba. The town of Turrialba is on the main railroad between San José and the chief port, Puerto Limón, in what is called the Valley of the Reventazón, after the river by that name which passes through it. It is also on the highway from San José to Limón, which is at present partially completed. It is 112 kilometers from Limón and 75 from San José. The road to San José is normally negotiable in about one and one-half hours. The specific site selected adjoins the outskirts of Turrialba and comprises all of Finca Cabiria (240 hectares), a part of Finca Florencia (110 hectares), and part of Finca Aragón (150 hectares), a total of 500 hectares. These are adjoining tracts and, together, form a body of land which will be well adapted to the growing of many tropical crops, and, at the same time, will furnish an attractive building site. The lands lie along, and form a part of the area on both sides of, a paved highway and on a branch of the railroad to Pejevalle. It is at an altitude of 2,050 feet. The climate is typical of the wet tropics agriculturally, as indicated by the attached tables, but is healthful and pleasant.

"The soils are volcanic materials varying from clays to coarse gravels. In general, the surface soils are of good texture running down to coarser materials at 2 to 3 feet. At present parts of the area appear to suffer somewhat from lack of drainage, but there is ample outlet so that with adequate drains, it could be put in good condition. The terrain is attractive and desirable for building sites and experimental plots. The body of the property is on a level mesa overlooking the river, which lies at a considerably lower level.

"This property would be suitable for experimental cultivation of coffee, cacao, and sugar cane; corn and rice; fruit trees and vegetable crops; though the climate is somewhat wet for certain of these, such as mangoes and avocados, it could be used for experimental work on livestock and dairying, under tropical conditions. Rubber and abacá can be grown experimentally, although the elevation might prove slightly high for commercial production. The region also lends itself to investigation of tropical problems on erosion control. Due to the well distributed rainfall, there is no opportunity in Turrialba itself for irrigation studies, but it would be entirely suited to investigation and demonstration of drainage practices. As a location for an extensive collection of tropical plants, this site is excellent. The altitude is not too great for cultivating all species common to the tropical lowlands. There is ample opportunity to develop cinchona and other crops requiring high elevations within 2 to 3 kilometers on the slopes of the neighboring hills and still further opportunities within 10 kilometers on the slopes of the Turrialba volcano. Barley, wheat, potatoes, and other sierra crops are now grown commercially on the slopes of the Irazu volcano above Cartago and about 30 kilometers from the site. Toward the East Coast there are within 40 kilometers extensive areas of wet lowlands suitable for studying production of rubber, abacá, and oil palms. For studying problems under the seasonal conditions of the intermediate elevations, excellent areas are available in the Alajuela region already described and 100 kilometers distant. The United States Department of Agriculture Bureau of Plant Industry Rubber Experiment Station adjoining proposed site and the extensive Goodyear plantation of Cairo 52 kilometers distant by railroad, offer excellent opportunity for collaboration on this important crop and in cooperative use of the facilities developed.

"Turrialba thus offers within a distance of less than two hours by car or train an almost complete cross-section of Tropical American conditions. Furthermore, without being actually on the seacoast in an unhealthy climate, it represents the wet lowland regions that are so extensive in Tropical America. To a large degree the future development of Tropical American agriculture depends upon the solution of the problems of these wet lowland areas since the highlands are more fully developed.

"The town of Turrialba could provide most of the supplies and services required for the Institute, and also the city of Cartago, 35 kilometers distant, is the chief vegetable-growing and dairying section of Costa Rica. The permeable nature of the soil and the excellent natural drainage of the area serve to prevent the development of mosquito larvae, thus decreasing the likelihood of malarial infection.

"Sources of electric power and water are available, but tizas developed at present, would probably not be sufficient for the

needs of the Institute when it is in full operation. It has already been determined that either one of two available power plants can in a short period of time expand their production to take care of the electricity needs of the Institute at extremely low cost. Ample sources of gravity water are available and can be made available in any quantity desired. Building materials, except steel and mechanical equipment, are available within the country and are of good quality. Labor in the Turrialba area runs from 2.25 colones (56 cents) per hour per 8-hour day for common labor to as much as 80 for plumbers and electricians. Carpenters, painters, and masons can be obtained for from 4 to 6 C (\$1 to 1.50) per day. In a general way, the figure used in estimating the cost of reinforced concrete buildings is about 160 C (\$40) per square meter for the first floor and 190 C per square meter for the second floor. Earthquake-resistant construction is advisable. However, although Turrialba has experienced many small quakes, it has had none of serious proportions."

The proposal of the Office of the Coordinator to allocate \$500,000 to the Institute and the report of the Committee on the selection of the site were considered at the July 2nd meeting of the Governing Board of the Pan American Union. No final action was taken at this meeting and the project was held over for consideration until after the usual summer vacation.

The project was again considered at a meeting of the Governing Board of the Pan American Union on October 7, 1942. At that meeting the following resolutions were passed: (1) Creation of the Institute, and (2) the appointment of Dr. Earl N. Bressman as Director, and Mr. José L. Colon as Secretary.

The District of Columbia Corporation was formally granted on June 18, 1942 with the following By-laws and Certificate of Incorporation:



BY-LAWS

of

THE INTER-AMERICAN INSTITUTE OF AGRICULTURAL SCIENCES

ARTICLE I

OFFICES

Section 1. The principal office shall be in the City of Washington, District of Columbia.

Section 2. This Institute may also have an office or offices in such other places in the American Republics as the members may from time to time designate.

ARTICLE II

MEMBERS

Section 1. Until a treaty or convention is signed, this Institute shall consist of twenty-one members and they shall be the representatives of the twenty-one American Republics on the Governing Board of the Pan American Union, presided over by its Chairman.

Section 2. The members of this Institute shall remain members during the tenure of their membership on the Governing Board of the Pan American Union.

Section 3. The annual meeting of the members of this Institute shall be held without notice at the principal office of the Institute within the City of Washington, District of Columbia, at three o'clock on the first Wednesday in October of each year, if not a legal holiday, and if a legal holiday then on the next secular day following.

Section 4. Special meetings of the members of this Institute may be called by the Chairman and shall be called upon request in writing by the Director or any of its members.

Section 5. A majority of the members of this Institute, present in person or by proxy, shall constitute a quorum at all meetings of the members for the transaction of business except as otherwise provided by statute, by the certificate of incorporation or by these by-laws.

### ARTICLE III

#### NOTICES

Section 1. Whenever under the provisions of the statutes, or of the certificate of incorporation, or of these by-laws, notice is required to be given to any member of this Institute, such notice may be given in writing, by delivery to the address of the member, or by mail by depositing the same in the post office or letter box in a post-paid sealed wrapper addressed to each member.

### ARTICLE IV

#### COMPENSATION

Section 1. No member of this Institute shall receive any compensation for his services to the Institute.

### ARTICLE V

#### OFFICERS

Section 1. The officers of this Institute shall consist of a Director and a Secretary. The Director shall be elected by the members of this Institute for a term of three years. The Secretary shall be appointed by the Director with the approval of the members of the Institute. The officers of the Institute shall hold office until their respective successors shall be chosen and shall qualify, but they may be removed at any time with or without cause by vote of the majority of the members of this Institute who may at any annual or special meeting fill any vacancy however caused. The

bers of this Institute shall determine the compensation of all officers of  
s Institute.

Section 2. (a) The Director shall have general and active management  
the business of this Institute and shall see that all orders and resolutions  
the members are carried into effect.

(b) The Director shall execute all contracts, conveyances,  
ds and other instruments requiring a seal, under the seal of this Institute,  
ept where required or permitted by law to be otherwise signed and executed  
except where the signing and execution thereof shall be expressly designated  
the members to some other officer or agent of this Institute.

(c) The Director under the supervision of the members of this  
stitute shall have the power to appoint, remove and determine the compensation  
employees.

(d) The Director shall submit an annual report to the members  
this Institute at the annual meeting, setting forth the progress, accomplish-  
its and work of this Institute during the year, its financial condition and  
atus, budget and plans for the ensuing year. He shall transmit to the Pan  
erican Union for distribution to the governments of the American Republics  
ies of such annual report.

Section 3. The Secretary shall attend all meetings of the members of  
is Institute and record all votes and minutes of all proceedings in a book  
be kept for that purpose. He shall distribute copies of the minutes to the  
mbers at least ten days before the subsequent meeting at which they will be  
nsidered for approval. He shall keep the records of this Institute, send  
t its notices, and generally exercise all powers and perform all duties  
rmally incident to the office of Secretary. He shall certify, for any

d all purposes, copies of the records of this Institute. He shall  
ep in safe custody the seal of the Institute.

## ARTICLE VI

### TECHNICAL ADVISORY COUNCIL

Section 1. Each one of the Republics represented in the Institute shall  
ve the right to appoint an agricultural expert to be its representative  
a Technical Advisory Council of the Institute which will meet in the place  
ere the Institute has its field headquarters. The members of the Technical  
visory Council shall serve until appointment of a successor.

Section 2. The Technical Advisory Council shall consider the  
estions of general policy pertaining to the advancement of education and  
ience in the American Republics through teaching, research, experimentation  
d extension activities in the sciences and art of agriculture, and other  
lated arts and sciences.

Section 3. The Technical Advisory Council may make recommendations  
o this Institute concerning the advancement of the purposes for which this  
stitute was organized. The Technical Advisory Council shall receive the  
annual report of the Director.

Section 4. Regular meetings of the Technical Advisory Council shall  
e held at least every six months on the first Monday of February, and  
e first Monday of July, if not a legal holiday. The first regular  
eting shall be held on the first Monday of February, 1944.

Section 5. The Director shall preside over all meetings of the  
echnical Advisory Council.

Section 6. Special meetings of the Technical Advisory Council will be as often as necessary and such meeting shall be called by the Director on his own initiative or at the written request of a majority of the members of the Council. Such request of the Council shall state the purpose or purposes of the proposed meeting.

Section 7. Notices of the special meetings of the Technical Advisory Council shall reach its members in reasonable time.

Section 8. No member of the Technical Advisory Council, as such, shall receive from the Institute any pecuniary compensation for his services. Provision may be made, however, by the Institute, for reimbursing any member of the Council for travel or other specified services and expenses incurred on behalf of the Institute.

#### ARTICLE VII

##### FISCAL YEAR

Section 1. The fiscal year shall begin on the first day of July of each

Section 2. The Pan American Union shall act as fiscal agent for, and on behalf of, the Institute, and as such receive and disburse the funds of the Institute.

#### ARTICLE VIII

##### SEAL

Section 1. The seal of this Institute shall have inscribed thereon the name of the Institute, the year of its organization and the words, "Institute of Pan American Geology, Washington, D. C."

#### ARTICLE IX

##### AMENDMENTS

Section 1. These by-laws may be amended, altered or repealed by the affirmative vote of the majority of the members of the Institute or at any meeting of the members .

-11-

CERTIFICATE OF INCORPORATION

of

THE INTER-AMERICAN INSTITUTE OF AGRICULTURAL SCIENCES

We, the undersigned, all citizens of the United States, and a majority of citizens and residents of the District of Columbia, desiring to associate ourselves as a corporation pursuant to the provisions of the District of Columbia Code (Title 29, Chapter 6, 1940 Edition), do hereby certify as follows:

First: The name by which this corporation shall be known shall be

THE INTER-AMERICAN INSTITUTE OF AGRICULTURAL SCIENCES

Second: The term of existence of this Institute shall be perpetual, provided that the existence of this Institute may be modified by the members of this Institute following the consummation of a treaty or convention between the governments of the American Republics providing for the establishment and maintenance of an organization having purposes similar to this Institute.

Third: The business and objectives of this Institute are to encourage and advance education and sciences in the American Republics through teaching, research, experimentation, extension activities, general education and training in the science and art of agriculture, and other related arts and sciences; and in furtherance of the business and objects of this Institute.

- (a) To develop, establish, construct, improve, equip, finance, operate, supervise, and give assistance in the establishment and maintenance of an institute or institutes and branches thereof, experiment stations, farms, ranches, laboratories

educational and scientific centers, libraries, and other physical plants and facilities, in any or all of the American Republics, and, within its discretion, make available such institute or institutes and branches thereof, experiment stations, farms, ranches, laboratories, educational and scientific centers, libraries, and other physical plants and facilities, and the results accomplished therein, to any American Republic, local government, person, firm, association, corporation, institution, or other body of persons however designated.

(b) To purchase, accept, take, lease, receive, or acquire (by gift, contribution, bequest, devise, or otherwise), to own and hold, operate, manage, develop, and improve any property, or interests in property, real or personal, without limitation as to the amount or value, in any of the American Republics; to give, grant, donate, lend, sell, assign, transfer, exchange, convey, lease, mortgage, pledge, hypothecate, or otherwise exercise all privilege of ownership over such property.

(c) To collaborate with and aid or assist in any manner whatsoever by loan, grants-in-aid or otherwise, of money and assets, and to otherwise lend assistance, to any American Republic, local government, person, firm, association, corporation, institution, or other body of persons however designated, in the realization of the purposes of this Institute.

(d) To receive gifts, contributions, gratuities, and donations of money and property, or interests in property, both real and personal, from any American Republic, local government, person, firm, association, corporation, institution, or other body of persons however designated.

(e) To enter into, make, perform and carry out contracts and agreements of every kind and description, without limit as to amount, with any American Republic, local government, person, firm, association, corporation, institution, or other body of persons however designated.

(f) To cultivate, grow, or otherwise produce, harvest or otherwise gather, purchase, take or otherwise acquire, deal in, store, handle, prepare, manufacture, process, market, transport, ship, sell, donate, or otherwise dispose of all agricultural commodities and products thereof, and all other supplies necessary or desirable to carry out the purposes of this Institute.

(g) In general to carry on any other business in connection with the foregoing, suitable and proper for the accomplishment of the business and objects of this Institute.

Fourth: This Institute shall be a membership corporation, and shall have no capital stock. This Institute shall consist of twenty-one members and they shall be the representatives of the twenty-one American Republics on the Governing Board of the Pan American Union.

Except as otherwise provided in the certificate of incorporation, the rights, powers and duties of the members, and all other matters pertaining to the membership and conduct, management and control of the business, property, and affairs of this Institute shall be as provided from time to time in the by-laws of this Institute.

Fifth: The Pan American Union shall act as fiscal agent for, and on behalf of, the Institute, and as such receive and disburse the funds of the Institute.



Sixth: There shall be a Technical Advisory Council composed of a representative of each of the American Republics. The members of the Technical Advisory Council shall be appointed by the respective governments of the American Republics.

Seventh: The principal office of this Institute shall be in Washington, District of Columbia, but this Institute shall have the power to establish and maintain other offices in the American Republics.

Eighth: This Institute is deemed to be an educational, scientific, and charitable organization and is formed for purposes other than profit.

Ninth. This Institute shall have no authority to issue capital stock.

Tenth: The private property of the incorporators, members, officers, and employees of this Institute shall not be subject to payment of the debts of this Institute.

Eleventh: Meetings of the members of this Institute may be held without the District of the Columbia if the by-laws so provide. The books of this Institute may be kept outside the District of Columbia at such place or places as may be from time to time designated by the members.

Twelfth: This Institute reserves the right to amend, alter, change, or repeal any provision contained in this certificate of incorporation in the same manner now or hereafter prescribed by statute, upon the approval of a majority of its members and subject to the approval of the Pan American Union and all rights conferred upon the members are granted subject to this reservation.

IN TESTIMONY WHEREOF, we this                      day of                      1942, hereunto  
set our hands and seals.

\_\_\_\_\_ (SEAL)

\_\_\_\_\_ (SEAL)

\_\_\_\_\_ (SEAL)

### APPOINTMENTS

The first official of the Institute was Dr. Earl N. Bressman, who was appointed Director by the Board of Directors of the Institute. The Director selected Mr. José L. Colom, Chief of the Division of Agriculture of the Pan American Union, as the Secretary and this appointment was confirmed by the Board of Directors at the meeting of October 7, 1942.

The Certificate of Incorporation of the Institute provides that the Pan American Union shall be the fiscal agent. Hence Mr. Lowell Curtiss, Treasurer of the Pan American Union, has acted as Treasurer of the Institute. He has received and disbursed funds of the Institute since its inception and has prepared a financial statement that will be found in another part of this annual report. In addition, he has provided for an audit of the funds by William Gordon Buchanan and Company, Certified Public Accountants of Washington, D. C.

The first employee appointed by the Director was Mr. Robert A. Nichols, as agriculturist in charge of operations at Turrialba, Costa Rica. Mr. Nichols, a graduate of Oregon State College, and for seven years in charge of the United States Department of the Interior Agricultural Experiment Station in the Virgin Islands, was appointed on October 15, 1942. He proceeded to Turrialba as quickly as possible and took up residence there about November 1, 1942, and began his studies of the land that was to be donated by the Costa Rican Government to the Institute. Mr. Nichols has been actively in charge ever since and, since operations began about the first of March, has been working about 150 men each week in changing a finca into an educational and research institution.

The next appointment by the Director was Mr. Rex A. Pixley, as Business Manager. Mr. Pixley had been Assistant Fiscal Advisor for the Haitian Government for about eighteen years and had been second in charge of a development mission to Bolivia. He was appointed as of November 1, 1942, and proceeded to San José, Costa Rica, in December where he made his headquarters until August 14, 1943. Mr. Pixley carried on most of the negotiations with the Costa Rican Government that led to the contract with that Government and to the acquisition of the land at Turrialba for the Institute. In addition, he drew up a contract with the Northern Railway Company for the construction of the dormitory and permanent buildings. In addition, Mr. Pixley worked on the arrangements with the Panama Railroad Company to purchase certain needed materials for the Institute. He carried on the general business operations of the Institute in Costa Rica. Mr. Pixley resigned as of August 31, 1943, to accept, at a greatly increased salary, a position as Collector of Customs in Iran. His resignation was a great loss to the Institute for he not only

carried on an efficient operation, but he also made many friends among the diplomatic corps and Costa Rican Government officials. It will be almost impossible to replace him and an agriculturist with experience in business will be selected to carry on this work. Until a new appointment is made Mr. Nichols will act as Business Manager. The office in San José has been closed and all operations in Costa Rica will be carried on from Turrialba.

On March 16, 1943, Mr. V. C. Pettit was appointed Purchasing Engineer. Mr. Pettit had worked on the original plans and specifications for the buildings that were prepared by the United States Department of Agriculture. He has had experience as a construction engineer and as a procurement officer for the United States Government. All the materials purchased in the United States for the construction of the permanent buildings were bought and shipped to Costa Rica by Mr. Pettit. The elaborate procedure necessary to procure materials during war times is outlined by Mr. Pettit in his report on priorities and purchases found elsewhere in this annual report.

Mr. Oscar Echandi was appointed field superintendent at Turrialba on April 1, 1943. Mr. Echandi is a graduate of the local agricultural college where he specialized in animal industry. After graduation Mr. Echandi was an employee in the Veterinary Division of the Costa Rican Department of Agriculture. Under Mr. Nichols' supervision he has direct charge of the field force of about 150 employes that is building roads, making field plots, pruning, cleaning and picking coffee, and similar operations.

Mr. Jorge Granados was appointed as timekeeper and general office assistant on April 1, 1943. Mr. Granados, after the resignation of Mr. Pixley, was placed in charge of the office work at Turrialba under the general direction of Mr. Nichols.

On April 15th an arrangement was made with the Office of the Coordinator of Inter-American Affairs to place Mr. Joseph Pennell, a former employee of the Bureau of Plant Industry of the United States Department of Agriculture, at the Institute to carry on certain research on fruits and vegetables. This work is being carried on as a cooperative enterprise between the Institute and the Office of the Coordinator of Inter-American Affairs. Mr. Pennell is an outstanding authority on fruits and vegetables in the tropics and has specialized in grape breeding for the last eight years. He is in direct charge of the field plot work on fruits and vegetables at the field headquarters. Already he has obtained interesting results on the immunity of various grape hybrids to the usual diseases and insect pests found on grapes in the tropics. Some of his results on the lack of phosphorus in the soils at Turrialba and his promising results with certain crops such as abbage collards, edible soybeans, and various kinds of beans are found elsewhere in this annual report.

INTER-AMERICAN INSTITUTE OF AGRICULTURE

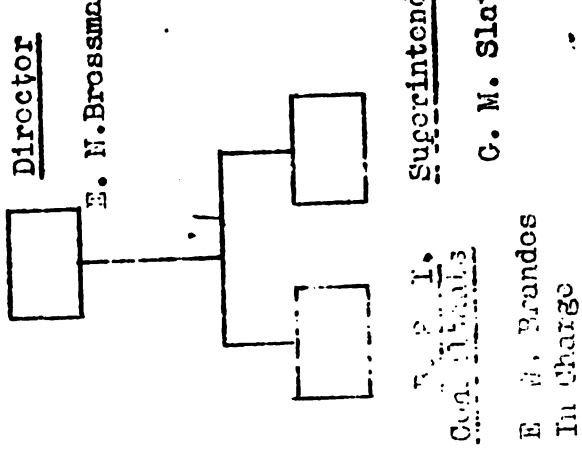
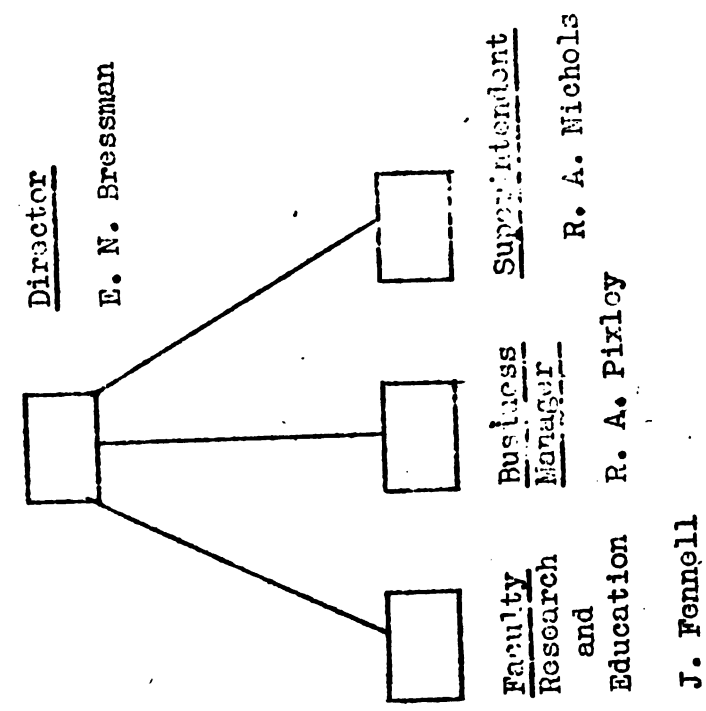
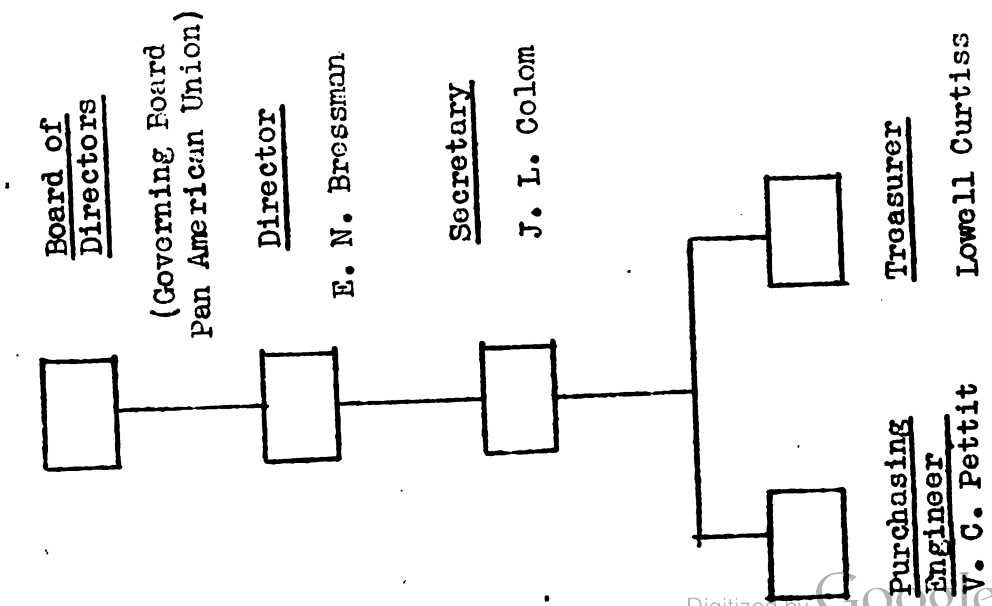
Administrative Organization Chart

SUB STATION  
(Rubber)

MAIN OFFICE  
Pan American Union Bldg.  
Washington, D.C.

FIELD HEADQUARTERS  
and Campus  
Turrialba, Costa Rica

Gatun Lake, Panama

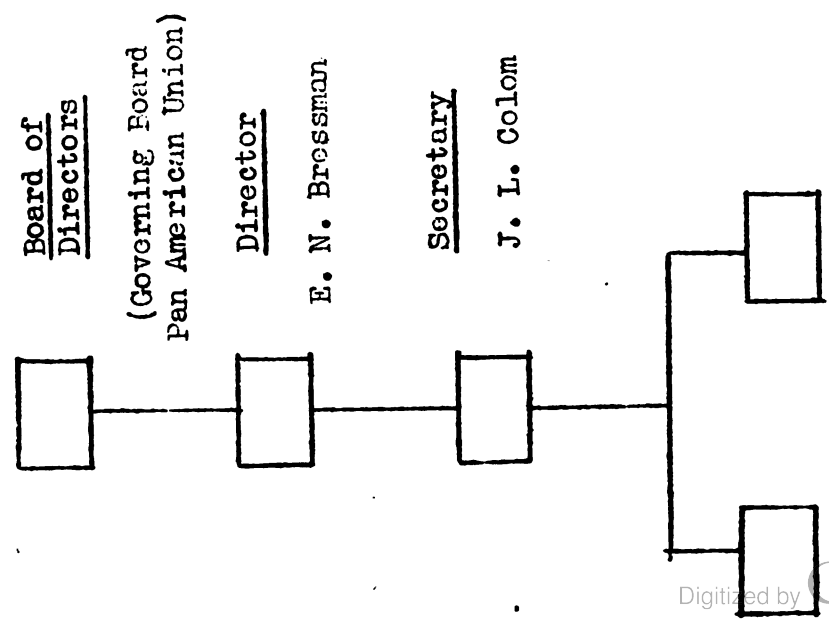


INTER-AMERICAN INSTITUTE OF AGRICULTURAL SCIENCES

Administrative Organization Chart

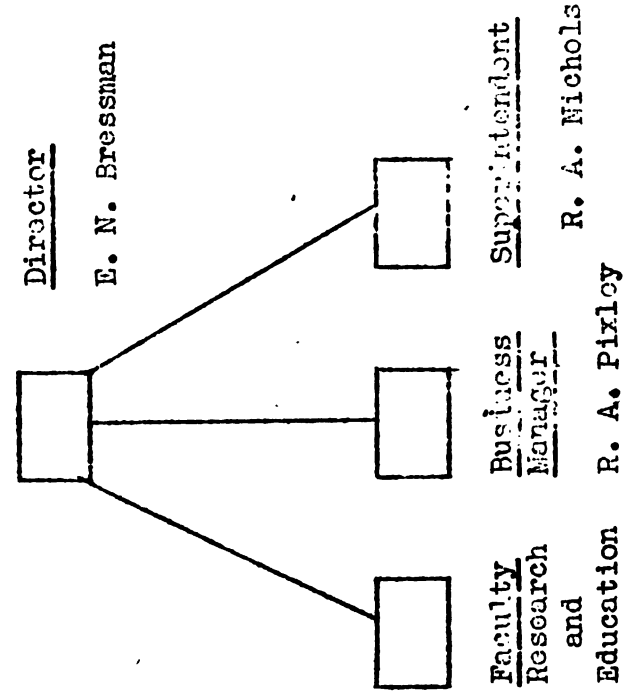
MAIN OFFICE

Pan American Union Bldg.  
Washington, D.C.



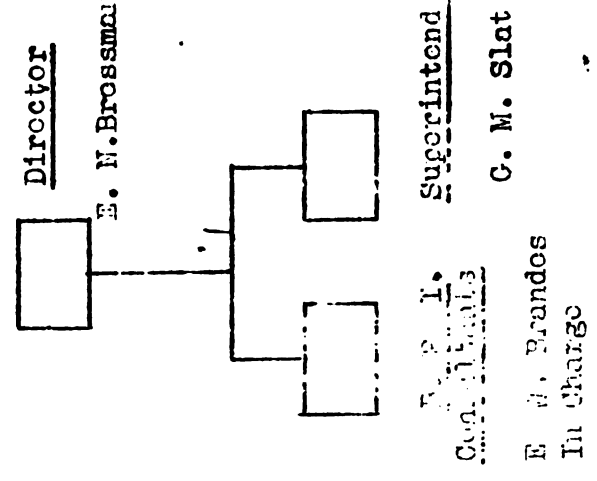
FIELD HEADQUARTERS  
and Campus

Turrialba, Costa Rica



SUB STATION  
(Rubber)

Gatun Lake, Panama



AGREEMENT WITH THE COSTA RICAN GOVERNMENT

In November, 1942, the Director began discussions with the Costa Rican Government officials about an agreement for the operation of the Institute in that country. These discussions were carried on in detail by the Business Manager, Mr. Pixley. These led to the drafting of a contract that was mutually beneficial and it was signed by the Director of the Institute and the Secretary of Agriculture of Costa Rica on December 5th and ratified by the Congress of Costa Rica on December 16, 1942. This contract, unanimously agreed upon by the Congress, is as follows:

AGREEMENT BETWEEN THE SECRETARY OF AGRICULTURE OF COSTA RICA AND THE DIRECTOR OF THE INTER-AMERICAN INSTITUTE OF AGRICULTURAL SCIENCES.

We, the undersigned, Mariano Montealegre Carazo, Secretary of Agriculture, duly authorized by the President of the Republic of Costa Rica, and Dr. Earl Norman Brossman, Director of the Inter-American Institute of Agricultural Sciences, hereby enter into the following agreement:

In accordance with the recommendations contained in the report approved by the Inter-American Committee on Agriculture on the establishment of the Inter-American Institute of Agricultural Sciences, dated June 23, 1942, it was agreed to accept the recommendation contained in the Report of the Technical Committee which studied the sites offered by the various governments in their respective territories for the location of the Institute.

Under date of July 2, 1942, the Committee on Agriculture submitted for consideration by the Governing Board of the Pan American Union a report in which the Organizing Committee accepted the recommendation of the Technical Committee that the Institute be located in Costa Rica. On October 7, 1942, the Governing Board approved this recommendation of the Committee on Agriculture to the effect that the Institute be established in Costa Rica.

1. Therefore, it is agreed that, in accordance with the offers of the Government of Costa Rica of June 27, 1941, and August 25 of the same year, and in accordance with the recommendation of the Technical Commission, the field headquarters of the Institute shall be established at the site finally chosen near Turrialba. This specific site adjoins the outskirts

of Turrialba and comprises all of the Finca Cabiria (240 hectares), a part of the Finca Florencia (110 hectares), and part of Finca Aragón (150 hectares), a total of 500 hectares. All these are adjacent tracts.

2. The Government of Costa Rica agrees to provide an additional 500 hectares of land from the adjoining properties for the future expansion of the Institute. The details involved in supplying this land will be worked out between the Costa Rican Government and the property owners through options. The Government of Costa Rica agrees to make any disbursements necessary to cover the cost of additional land acquired.

3. It is agreed that the term of existence of the Institute shall be perpetual, consistent with the provisions of the Certificate of Incorporation, and shall enjoy in Costa Rica such facilities and privileges as are customary for other Departments of the Government.

4. In accordance with Artículo III of the Certificate of Incorporation of the Institute, the Government of Costa Rica authorizes this organization to encourage and advance education and sciences in Costa Rica and in the other American Republics through teaching, research, experimentation, extension activities, general education and training in the science and art of agriculture, and other related arts and sciences; and in furtherance of the business and objects of this Institute.

(a) To develop, establish, construct, improve, equip, finance, operate, supervise, and give assistance in the establishment and maintenance of an institute or institutes and branches thereof, experiment stations, farms, ranches, laboratories, educational and scientific centers, libraries, and other physical plants and facilities, in Costa Rica and in any or all of the other American Republics, and within its discretion, make available such institute or institutes, and branches thereof, experiment stations, farms, ranches, laboratories, educational and scientific centers, libraries, and other physical plants and facilities, and the results accomplished therein, to any American Republic, local government, person, firm, association, corporation, institution, or other body of persons however designated.

(b) To purchase, accept, take, lease, receive, or acquire (by gift, contribution, bequest, devise, or otherwise), to own and hold, operate, manage, develop, and improve any property, or interests in property, real or personal, without limitation as to the amount of value, in Costa Rica and in any of the other American Republics; to give, grant, donate, lend, sell, assign, transfer, exchange, convey, lease, mortgage, pledge, hypothecate or otherwise exercise all privileges of ownership over such property.

(c) To collaborate with and aid or assist in any manner whatsoever by loan, grants-in-aid or otherwise, of money and assets, and to otherwise lend assistance, to any American Republic, local government, person, firm, association, corporation, institution, or other body of persons however designated, in the realization of the purposes of this Institute.

(d) To receive gifts, contributions, gratuities, and donations of money and property, or interests in property, both real and personal, from any American Republic, local government, person, firm, association, corporation, institution or other body of persons however designated.

(e) To enter into, make, perform and carry out contracts and agreements of every kind and description, without limit as to amount, with any American Republic, local government, person, firm, association, corporation, institution, or other body of persons however designated.

(f) To cultivate, grow, or otherwise produce, harvest, or otherwise gather, purchase, take or otherwise acquire, deal in, store, handle, prepare, manufacture, process, market, transport, ship, sell, donate, or otherwise dispose of all agricultural commodities and products thereof, and all other supplies necessary or desirable to carry out the purposes of this Institute.

(g) In general to carry on any other business in connection with the foregoing, suitable and proper for the accomplishment of the business and objects of this Institute.

5. It is agreed that the Institute shall be an educational, scientific and charitable organization, formed for purposes other than profit.

6. It is agreed that the Government of Costa Rica will exempt the Institute and its personnel, other than those of Costa Rican nationality, from local and national taxation and customs duties.

7. It is agreed that the personnel of the Institute, including students and scientists, visiting or attached to the Institute, shall have freedom of movement within the country and be subjected to a minimum of formalities upon entry into or upon leaving Costa Rica. Exemption from the legal entrance deposit normally required of foreigners shall be granted.

8. Whenever it is deemed convenient, the Institute may establish for the benefit of its own personnel a retirement, pension and medical assistance fund, independent of any such fund already established in the country; and it is understood and agreed



that once such a fund is established both the Institute and its staff will be exempt from contributing to the above-mentioned national fund.

9. It is agreed that the private property of the officers and employees of this Institute shall not be subject to payment of the debts of this Institute.

10. The Government of Costa Rica agrees to provide such protection for the Institute as is customary in protecting the property of other branches of its Government.

11. The present agreement shall be ratified by the Congress of the Republic of Costa Rica. In witness whereof, we sign this in duplicate in the city of San José at eleven o'clock, December 5, 1942.

Mariano R. Montealegre

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Secretary of Agriculture of Costa Rica

Earl N. Bressman

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Director, Inter-American Institute of  
Agricultural Sciences.

(Ratified by the Congress of Costa Rica on December 16, 1942).

FIELD HEADQUARTERS - TURRIALBA, COSTA RICA

Following the recommendations of the Committee on the selection of sites, the Institute carefully surveyed the land offered by the Costa Rican Government at Turrialba. The agreement with that Government called for the donation of 500 hectares of land immediately and the optioning of 500 hectares contiguous to the original grant. The first block of 350 hectares of land was acquired by the Costa Rican Government from a corporation operating a coffee and sugar plantation. This beautiful site overlooking the Reventazon River became the seat of the first operations.

Most of the land was planted to coffee and sugar and some was in pasture. There were no buildings on the site but there were hard surfaced roads that made most parts of the land accessible. However, it was necessary for the Institute to construct about two miles of road to reach all parts of the grounds. In addition, the pruning of the shade and coffee had been somewhat neglected for five years and so considerable work had to be done to put the area into condition for operation by the Institute. Also it was necessary to eliminate some of the coffee so as to provide land for plot work. About fifteen hectares of land have been carefully prepared for plots suitable for research.

Because there were no buildings whatever on the land donated to the Institute at Turrialba it was necessary to make provision as soon as possible for living quarters, office and warehouse space. The shortage of construction materials in Costa Rica made it difficult to construct any building entirely from materials purchased locally. A search was made, therefore, for existing buildings and a well-constructed house was located near the Atlantic coast on an abandoned banana farm. Arrangements were made for the purchase and transfer of this house to the site at Turrialba. This was consummated in two and a half months time and a combination dwelling for the agriculturist in charge and guest house was occupied on June 1st. There is ample room in the house to take care of as many as six guests. There have been several distinguished visitors and the house has been a great convenience in taking care of them as well as furnishing headquarters for the Institute's activities in Turrialba.

Previous to June 1st the Institute was aided greatly by the excellent cooperation of Dr. T. J. Grant, Head of the United States Department of Agriculture rubber field station which adjoins the Institute. Dr. Grant made many of his facilities available to the Institute and eased the difficult work of beginning a field operation that had no facilities.

Considerable effort has been spent in landscaping the guest house. A beautiful two acre lawn was quickly developed and a large number of native plants and shrubs planted so the building presents a very fine appearance. Summit Gardens in the Canal Zone sent many fine ornamentals for planting on the guest house grounds.

Inasmuch as shipping would be uncertain and building materials would arrive irregularly and in large quantities it was necessary to construct a bodega for handling this material. A semi-permanent building, 40 x 100 feet with tile roof, was quickly constructed and made ready for occupancy by the first of May. This building was constructed entirely of local materials and it was possible to get it built quickly only through the fine cooperation and assistance of the Northern Railway Company. In addition to storing such materials as steel, cement, lumber and other building materials it has provided a place for storing tools for farm operations. It also has provided space for shop work for construction of furniture and operating materials badly needed.

The bodega is located at a strategic place on the building site. A branch line of the Northern Railway Company goes by one side of the building and the highway the other side. Accordingly, materials can be loaded or unloaded from either railway cars or trucks. One end of the building is sealed off to provide office space and the storage of smaller and more valuable materials. This building was partly completed at the time of the laying of the cornerstone and provided shelter for these exercises.

March 19, 1943, is an important date in the history of the Institute for it was on that day that President Rafael Angel Calderón Guardia of Costa Rica and Vice President Henry A. Wallace of the United States journeyed to Turrialba and inaugurated the first field office of the Institute by laying the cornerstone of the new dormitory building. Early in the morning of March 19 the President and the Vice President left San José by automobile. Along the beautiful highway they were greeted by school children at Cartago, Juan Viñas and Paraiso. At Turrialba, local officials met them and escorted the official party to the site of the ceremonies on the Institute grounds about three miles from the town. These three miles were lined with gaily dressed school children waving Costa Rican and American flags.

Before a crowd estimated by local papers at 10,000 people, the President and Vice President gave stirring addresses setting forth the aims of the Institute and what its work will mean to the agriculture of the hemisphere. The President of Costa Rica said in part:

"Because we know that the significance of this Institute for the future of Costa Rica exceeds the calculations of present foresight; because we cherish the conviction that this is one of the most valuable projects (fortunately already on the road to successful realization), which the authorities of our country have ever known; because we are fully aware of what this Institute will mean in technical advances, and therefore in an expanded and flourishing agriculture, we consider the erection of this Institute in our country a wonderful gift, which will merit the everlasting gratitude of Costa Ricans.

"Furthermore, it will magnificently serve the ideal of an effective Pan Americanism. Founded in order to "encourage and advance education and sciences in Costa Rica and in the other American Republics through teaching, research, experimentation, extension activities, general education and training in the science and art of agriculture," - so reads part of the contract in question - we are already looking forward to seeing here together within a short time thousands of young students from the twenty-one American Republics, enjoying the friendly companionship characteristic of their age and the community of interests created by science among its followers, cultivating our fertile soil, enjoying our mild climate and our Arcadian peace. In their scientific studies there will certainly prevail a noble desire to excel in order to take a treasure of precious knowledge back to their home countries, and in the matter of continental union, they will give life to the marvelous dream of our heroes of independence.

"Costa Rica will collaborate, I promise you, Mr. Vice President, in the success of this Institute. It is entrusted to us and we shall strive to the best of our ability to make its activities and development requite the legitimate expectations of the continent and the wise inspiration that gave it life."

Vice President Wallace, speaking in Spanish, replied in part:

"In agriculture, isolated research projects have a limited value. It is absolutely necessary to bring together the various projects not only here at the Institute, but also in the agencies throughout the hemisphere that are charged with carrying out such studies. An important aspect of this work involved the analysis and coordination of such activities as far as the limitations of the Institute will permit. This work of coordination will grow in importance with time and with the progress made by various entities in their findings. In the scope of these broad studies should be included land planning and distribution, the conservation of natural resources, the utilization of water power - so abundant here at Turrialba - and the relation between industrial development and agriculture.

"The changes in agriculture are gradual because of its very nature. Crops and stock develop slowly. Habits, some well founded and others not, must be analyzed and techniques of expansion developed before discoveries can be utilized.

"The Institute is starting under difficult conditions as far as the lack of materials for the construction of its buildings is concerned. I admire the fortitude of its directors and staff as they set about their work in the full knowledge of these obstacles. Everything augurs great progress in a brief time."

At the close of the ceremonies the Minister of Agriculture, Señor Don Mariano Montealegre, on behalf of the Costa Rican Government, presented the first 1300 acres of land to the Director of the Institute. Members of the diplomatic corps in Costa Rica sat on the stage, which was decorated with the flags and escutcheons of the 21 American Republics. The ceremonies were conducted in front of the Institute's first building, a combined office and storage house, which had been completed in less than one month's time.

The party then proceeded to the center of the Institute grounds at the site of the permanent buildings. There the President placed a roll of important papers in the cornerstone. These papers included a copy of each of the following: the Institute's charter, its contract with the Costa Rican Government, the issue of the Costa Rican Coffee Institute's journal devoted to the new institution, a number of a local magazine containing pictures and articles on the subject, and the speeches just delivered. The Vice President covered the receptacle in the stone and the ceremonies were completed.

A tour of the Institute grounds followed and an inspection was made of the new permanent roadways, field plots, stone quarries, and coffee and cane fields. Great interest was shown in the beautiful plots of food crops, planted and growing. Trials of the best varieties to grow in the tropics, effects of different dates of planting, etc., were observed. A series of plantings in which the same seed lots were used for plantings once a week for 52 weeks promised to give some striking results. In other words, the Institute's first research efforts were examined. The food crop research is under the direction of Joseph Fennell, a former United States Department of Agriculture employee now assigned to the Institute by the Office of the Coordinator of Inter-American Affairs. Mr. Fennell, the foremost breeder of tropical grapes in this hemisphere, has several hundred types growing in Costa Rica.

Favorable comment on the splendid work accomplished was expressed by many of the visitors. In a short period of time a dream of decades was turned into a reality. Evidences of an efficient research and training center were observed. The fundamental work necessary to place the agriculture of the hemisphere second to none was inaugurated on this March day.

REPORTS OF PROGRESS

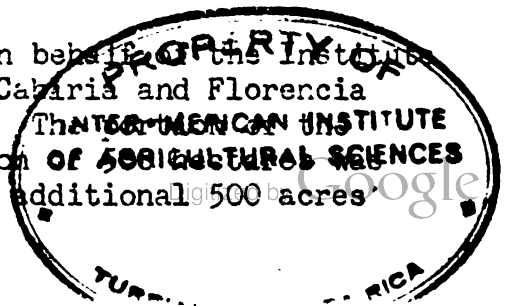
Beginning in March 1943, when the work at Turrialba got underway, a report was made monthly to the Director General of the Pan American Union in regard to the Institute's activities. Extracts from these reports give a general idea as to not only the activities undertaken, but also the progress from month to month. For example, in March it was reported that the Washington headquarters of the Institute concluded negotiations with the Board of Economic Warfare through whom priorities to purchase the critical building materials to be shipped to Costa Rica from the United States are obtained. A high priority rating was established for the Institute and all materials required at this time have been ordered.

Estimates were also prepared of quantities of non-critical materials which it was believed should also be supplied from the United States and an export license was obtained for these together with the critical materials. Bids were solicited and contracts awarded for all the non-critical materials needed to begin construction and for all critical materials which will be needed for the first sixty days construction. The materials for which contracts have been made include cement, lime for use in concrete, concrete reinforcing steel and wire mesh, nails and tie wire for concrete forms, metal lath for plastering special locations, galvanized iron for roof flashing, insulation for roofs, expansion joint plates, miscellaneous anchors and steel plates, screen for porches, etc., electric wire for residences and pipe materials for plumbing "roughing in".

It then became necessary to work out engineering details such as shop drawings, bending lists, etc., with the various suppliers of these materials before fabrication, cutting, etc., could be done. This work progressed in March along with the making of applications and obtaining ship space allotments for shipments of these materials, as well as assembling of materials when it appears they will be ready for shipment within a three week period.

Arrangements were also made for the purchase and transportation to Turrialba of a truck and other commercial vehicles for the transportation of materials and workers at the site of the Institute. Vegetable seeds required for experiments were purchased and shipped from Washington, as well as other necessary equipment and materials for the Institute. Orders for all of these items were filled and the work up to date at the end of March.

During April the Director formally accepted on behalf of the Institute from the Costa Rican Government the portions of the Cabaria and Florencia Fincas that are to be part of the Institute grounds. The Aragon Finca that was to make up the remaining portion of the Institute grounds is being negotiated. At that time it appeared that the additional 500 acres



that the Institute was to receive from the Costa Rican Government would be transferred at the same time. The Business Manager of the Institute had almost daily discussions with officials of the Costa Rican Government in regard to the land that the Institute had yet to receive.

The bodega and office and the guest house were practically completed. The Institute continued to use from 100 to 150 men on general work on the ground that the Institute then formally owned. The following will give you an idea of the operations carried on by these laborers:

Approximately 75 acres of coffee were pruned and the shade over said 75 acres properly trimmed.

Planted during the last half of April 95 rows (150 feet long) of vegetables for the primary purpose of obtaining data relative to best varieties, cultural requirements, insect and disease control and the general problems incident to vegetable production under tropical conditions. Most of these vegetables are now in growth.

The Director of the Institute worked out a cooperative agreement and arrangement with the Food Supply Division of the Coordinator's Office and certain research work is being done at Turrialba on food crops. Mr. Joseph Fennell is actively in charge of this work which involves the production of a very complete collection of varieties and types of vegetables.

During the month of April plans for the dormitory and faculty residences were revised in order to eliminate insofar as possible the use of critical materials which were included in the original plans, prepared before the war. The revised plans still provide for good and suitable buildings which are earthquake resistant. Detailed lists of sizes, weights, etc., of materials such as plumbing supplies were made.

War Shipping Board allotments were secured for the movement of materials to the extent of space available for the months of May and June. Suppliers of various lines were interviewed and quotations requested on tools and equipment for construction work at the Institute. The first actual shipment of reinforcing steel, together with plumbing supplies, sheet metal and metal lath was reported to be leaving New Orleans the second week in May. During the month of April the Institute contracted for the purchase of about \$70,000 worth of materials for the construction of the buildings.

The Director spent from May 17 to 31 in Puerto Rico and Haiti. In the former place he attended a meeting of the Board of Regents of the Tropical Institute of Puerto Rico of which he is a member. A proposal by the Tropical Institute for a cooperative project in the Cauca Valley was discussed. It was held for further consideration. The Director was accompanied by Governor Tugwell in looking over the agricultural situation. In Haiti the Director visited the sisal and cryptostegia planting areas accompanied by Mr. T. A. Fennell, Manager of SHADA, an agricultural development corporation employing about 85,000 persons. The Director discussed tropical agricultural education and development with President Lescot at a luncheon tendered by him. A day was spent at Damian, the Haitian agricultural college, an institution interested in sending graduate students to the Institute.

In Costa Rica an additional 30 hectares of coffee were weeded or "shoveled". An additional 50 acres of coffee were pruned and the shade over same property trimmed. About 6/10 kilometer of road had the heavy surfacing laid. The drive was completed to the guest house and to the pasture behind the house. All necessary grading and clearing around the guest house was completed. The rear area of about two acres was planted to Bermuda grass to prevent erosion. Landscaping was begun. A system of drains to carry off excess water from the house and grounds was completed.

Also during May over 100 mature coffee trees, all of bearing age, were transplanted without loss. Approximately 40 acres of coffee in the area of the building site were topped so that a close contour survey might be carried out. About 30 acres in the "El Chino" area was cleared of heavy wood from coffee shade trimming, and the wood piled next to the new road. An additional half hectare was cleaned in the experimental plots area. The small bodega was moved and a pit toilet built behind same.

Mr. Fennell reported that since April 15 a total of 160 rows, each 150 feet long, was planted to various vegetables with the purpose of acquiring data relative to the needs, the problems and the materials of value connected with the production of garden foods in the tropics. Already much useful information has been acquired. This is particularly so in the varietal tests with beans, peas, squashes, etc., where a few kinds are already indicating outstanding superiority. A more specific and conclusive report on this is made later in this section.

Comparative tests already in progress as between temperate climate and tropical varieties of beans, peas, cowpeas, squash, etc., have shown that there is undoubtedly a vast wealth of potentially valuable material distributed throughout the Central and South American regions. A collection of the best of these would be of very great value in the development of superior standardized varieties which are so badly needed at the present time.

Thus far in the project no attempt was made to control attacks of insects nor disease with the specific purpose of learning and tabulating the natural qualities of resistance that are occasionally inherent in certain varieties. Such information, properly interpreted will be of great value to the later development of superior sorts.

Noteworthy soil problems were experienced, particularly with certain crops. Fertilizer and other experiments are in progress with the hope of solving this difficulty. Within the month of May an assortment of hybrid grape plants, consisting of approximately 750 rooted vines, was set out at the Institute. These plants are F<sub>1</sub> and F<sub>2</sub> hybrids of tropical and subtropical wild selections of several species, crossed with the best cultivated grapes of Europe and America. These new kinds have already shown complete adaptability to the hot humid climates of Puerto Rico and southern Florida. This group of hybrids represent a totally new class of cultivated grapes and may prove of extensive interest and value in the tropics.

During the month of June Mr. Robert A. Nichols, agriculturist in charge at Turrialba, continued the development work at the Institute site, building roads, pruning coffee, laying out experimental plots, etc. Under the specific



and immediate direction of Mr. Fennell research in the field is underway. Approximately 35 hectares of coffee were weeded and shoveled. About 50 acres of coffee were pruned and the shade over same properly trimmed. The heavy surfacing on the "El Chino" road was completed and about 2/5 kilometer had the fine surfacing applied. The entire area under the guest house was paved with stone slabs. The guest house grounds were landscaped. The course of the "Rio Porvenir" below the guest house was changed to avoid further undermining of the right bank.

About 1000 feet of road were graded into the "San Lucas" coffee area. All of the coffee in the building site area was topped to facilitate surveying. The "El Chino" coffee galera was completed. The cutting and cording of wood in the "El Chino" area continued. Further land was cleared for plot work and food crops. At the present time a total of about three acres were devoted to vegetable and other animal food crops. Quite an extensive assortment of varieties were tested and interesting results obtained.

The first real problem experienced in this work has concerned soil fertility. Shortly after the first plantings it was noted that certain species and types of vegetables failed to grow, or growth was most irregular with occasional plants developing with abnormal vigor. Crops thus affected were beets, squash (U. S.), turnips, cabbage, corn, tomatoes, peppers, etc. The types not affected to any harmful extent were beans, peas, cowpeas, peanuts, carrots, onions, sunflower, grain sorghum. Fertilizer experiments were made with the crops showing improper growth. It was soon evident that the one principal and probably the only soil problem was a serious deficiency of phosphorus. When a small quantity of this element, in the form of super phosphate was added to the soil before planting, the growth and color of all otherwise sensitive and unsatisfactory crops became normal.

All plantings of corn varieties, local and imported, that have been made to date on the Institute soil have been complete failures. There is apparently a twofold reason for this: (1) Improper soil balance with consequent inability of the seedling plants to develop and (2) attacks on the young plants by flea hopper and bean beetles. Tests in this regard have indicated that with proper soil fertility and plant vigor the early insect damage will not be serious. Experiments now in progress seem to indicate that both calcium and phosphorus are needed in the soil for satisfactory corn culture. Before leaving the subject of soil, the necessity of a ready and ample supply of phosphoric acid (super phosphate, etc., ) should be clearly emphasized. This, together with calcium for possibly a few crops, would appear to be about the only constituents necessary to make the soil at the Institute balanced and productive.

Varietal tests with various vegetables have brought forth some interesting results. Many types of beans were tested and a few showed outstanding superiority over others, in regard to certain qualities of adaptability, production, needs, etc. Certain types of squash (imported) have shown complete worthlessness due to stem and root borers, while others are highly resistant. The tropics have considerable need for better quality and more productive varieties of squash than are available at this time. Occasional varieties of English peas, cowpeas, lima beans, etc., have shown outstanding adaptability and value for the warmer and more humid regions. One variety of cowpea shows unusual value as a cover crop for hot humid regions. The bean is edible.

Peanuts indicate unusual promise. Preliminary tests have shown that such vegetables as beets, carrots, cabbage, turnips, radishes, beans, lettuce, etc., can be produced at this time of year (June) with but a minimum of insect and disease control. Breeding experiments between certain adaptable local selections of various vegetables and higher quality introduced sorts are now being planned.

A collection of Rubus (Blackberry, Raspberry) was started in June and already includes Rubus ellipticus (Yellow raspberry of India), Rubus glaucus (red raspberry of Central America) and a few other sorts. The grape vines mentioned in the preceding report now show steady and healthy growth after a somewhat slow and difficult beginning.

With reference to material procurement, during the month of June the number and size of shipments of materials for the construction of the dormitory and faculty residences greatly increased. This was due to suppliers' completion of manufacturing of materials previously contracted for by the Institute. Engineering details were also prepared and checked for materials previously contracted which required such drawings. Contracts were made for materials which would be needed about the time the roofs are completed on the buildings.

Applications were prepared and filed with the War Production Board in great detail for priorities for the majority of materials necessary for 100% completion of the project.

During the month of July a contract was formally signed with the Northern Railway Company of Costa Rica to construct the dormitory, staff residences and other buildings and facilities for the Institute. The estimated completion date by the Chief Engineer of the Railway Company is as follows:

<u>Project</u>	<u>Estimated Completion Date</u>
Build units A.B.C.D. of Dormitory	June 1944
6-Staff Residences with servants quarters	January 1944
Water System	March 1944
5-1 Family Foremen's Houses	November 1943
5-2 Family Laborers' Houses	November 1943
Streets and Road on Main Campus	December 1943
Lumber Shed	August 1943
Office (Temporary)	August 1943
Seed House (Temporary)	August 1943
Light and Power System (Diesel)	December 1943
Carpenter and Machine Shop	December 1943
Sewage and Drainage Mains	June 1944
Furniture	

The United Fruit Company kindly loaned the services of their Chief Engineer in Costa Rica, Mr. T. P. Simmons, to act as consulting engineer for the Institute. Mr. Simmons has spent much of the month in going over the site at Turrialba and the plans for the Institute and has approved not only the contract with the Railway Company, but also all the engineering details of the

project. Mr. Simmons has had thirty years experience in the tropics, has built cities, and his counsel is invaluable.

The large force of laborers, averaging about 150, continued to work on the project of changing the Institute's site from a finca to an educational institution. Although the site at Turrialba is a valuable and beautiful piece of property, it has had very little care during the last five years because the owners had planned for that length of time to dispose of it. The amount of work that is necessary to transform it into a place suitable for the Institute is not small. In this connection, Mr. Robert A. Nichols, agriculturist in charge at Turrialba reported the planting of two acre area in front of the guest house to Bermuda grass. Approximately 30 hectares of coffee were weeded or shoveled, terminating this work for the present, while about 30 acres of coffee were pruned and the shade removed, completing this work for the season. Three hectares were cleared of coffee and work is proceeding on removal of trees. Except for retouching, the "El Chino" road is 7/8 completed. Two acres of pasture sod were broken and the preparation of the soil for plot work started. Clearing of wood, weeds and trash from the coffee, preparatory to picking, is continuing.

Mr. Joseph Fennell, horticulturist at Turrialba, reported the month of July afforded much valuable information in regard to yields, varietal differences, seasonal influences and general cultural problems of many crops.

Preliminary tests showed that the soil on which work is being conducted is quite acid, varying from Ph 4.4 to 5.5. There is a serious deficiency in available phosphorus and this element, together with calcium, appears to be essential for most crops. This subject was more fully discussed in the preceding report.

In the varietal tests, 54 different varieties of beans and cowpeas were planted and many interesting selections made. A few sorts are revealing valuable characters for culture in the tropics. The crops of greatest promise which are new or little known to agriculture in Central America to date are: Cabbage collards, Carolina pole and Henderson bush lima beans, Florida runner peanuts, edible soybeans, rice beans (related to the cowpea) for cover crop and stock feed, and grapes (new types derived in part from tropical and subtropical wild species.)

It is now becoming evident that with moderate applications of phosphorus and lime and with some insect and disease control a satisfactory yield of nearly all well known vegetables can be produced in this region. The best adapted and proved varieties of each type of vegetable must, of course, be used since, as with lima beans, a few are quite satisfactory, yet others are completely worthless under tropical conditions.

The best culture for corn, onions, etc., still remains an important and as yet partially unsolved problem. It is believed that many influences, as soil deficiencies, insects and possibly light effects, all play an important part.

In experiments with corn a recent planting was made of 79 varieties from Guatemala. Many of these at time of germination appear to be more vigorous and have much stronger root development than the local types. Experiments are in progress with the aim of finding ways of escaping the devastating early insect injury on corn through simple cultural methods of practical application by the average farmer.

Initial breeding experiments with the aim of developing better varieties of certain crops have been started and many others are being outlined. The experimental tropical grapes are growing nicely and despite the torrential rains and extreme humidity there is an almost complete absence of disease.

Considerable progress was made during the month of July in taking over the Allweather Estates of the Goodyear Rubber Company in Panama. The Business Manager of the Institute, Mr. Rex A. Pixley, conferred with Panamanian officials and the American Embassy in Panama City in regard to the transfer. A proposed contract between the Institute and the Panamanian Government was presented to the Minister of Agriculture and Commerce by Mr. Pixley. This, in turn, was submitted by the Minister to the Cabinet and it was our understanding that the contract would be approved when the Institute filed its constitution and by-laws with the Panamanian Government.

On the last day of the month, however, the Minister of Agriculture and Commerce notified the Institute that his government desired the Institute to incorporate in Panama. This does not appear to be a desirable step for a non profit organization, such as the Institute, to make, so discussions were carried on with the Panamanian Embassy here in Washington in regard to the possibility of carrying out the work without forming a corporation in Panama. Otherwise, all stood in readiness to begin operations on the Allweather Estates, inasmuch as the Rubber Development Corporation has already transferred funds to the Institute for the operations.

During the month of July shipments began to arrive in Costa Rica so that actual construction may be started. Approximately 50 tons of concrete reinforcing steel and 5000 bags of cement were delivered to the project and stored. In addition, one truck and several smaller shipments of materials went through. The Washington office continued with the work of obtaining priorities, purchasing materials, relating details and expediting shipments.

ORTON MEMORIAL LIBRARY

One of the necessary facilities of an Institute is a library. We are extremely fortunate to have been presented at this stage of operations the nucleus of an established library on tropical plants. It is considered to be one of the most complete libraries on tropical agriculture in the Western Hemisphere. The gift was made by the Tropical Plant Research Foundation of Yonkers, New York on April 21st.

A shipment of books, periodicals, maps and miscellaneous pamphlets weighing five tons was received by the Institute from this Foundation. Most of the material has been sent directly to Turrialba in order to establish a library as quickly as possible.

In addition to this material the Tropical Plant Research Foundation assigned to the Institute all its right, title and interest in the copyright of the well known book written by Tom Gill, "Tropical Forests of the Caribbean", copyrighted in 1931 by the Foundation. It made a similar transfer to the Institute of the book, "Soils of Cuba", written by H. H. Bennett and R. V. Allison. Also the Foundation made available to the Institute a supply of these books. "Tropical Forests of the Caribbean" is a beautiful edition limited to 1000 numbered copies. "Soils of Cuba" contains complete maps of soils in that country.

The collection has been named the "Orton Memorial Library" in honor of the late Dr. William Allen Orton who, as Director of the Foundation, did much toward the development of Latin American agriculture and forestry.

The Institute is honored by the gift of this library. It is a very valuable contribution and it was eagerly sought after by other organizations. Opportunity is taken to thank the officers of the Tropical Plant Research Foundation for this gift and to assure them that it will not only be maintained and used but also be expanded with a view to making it the outstanding library on tropical agriculture in Latin America.

It will be available at the Institute's headquarters at Turrialba, Costa Rica, for consultation by scientists, scholars, growers and others interested in developing tropical agriculture. The Institute is fortunate in having acquired this library from one of the pioneering organizations in the development of tropical agriculture in the Americas.

ACQUISITION OF RUBBER PLANTATION IN PANAMA

All negotiations for the acquisition of the property owned by the Goodyear Rubber Plantations Company in Panama, known as the All Weather Estates, have been completed. The transfer of the property to the Institute and the negotiations for a contract to carry on the operations were opened with the Panamanian Government in July, 1943 by Mr. Pixley, Business Manager of the Institute. These negotiations were completed on August 23rd by the Secretary, Mr. J. L. Colom, who made a trip to Panama for that purpose.

The Rubber Development Corporation made a grant to the Institute of \$38,600 to acquire the equipment and supplies and to operate the station. In cooperation with the Bureau of Plant Industry of the United States Department of Agriculture, research on rubber will be carried out. These activities will be further described as work gets under way.

The property comprises 1155 hectares of land situated on the shores of Gatun Lake. The value of the land, buildings and equipment is set at about \$80,000, the Goodyear Rubber Company having made a net investment in the property of \$295,000. There are about 700 acres planted to rubber, some of which have been badly damaged by the South American leaf disease.

The agreement with the Panamanian Government for this operation is as follows:

AGREEMENT BETWEEN THE GOVERNMENT OF PANAMA  
and  
THE INTER-AMERICAN INSTITUTE OF AGRICULTURAL SCIENCES  
FOR THE OPERATION OF THE ALLWEATHER ESTATES

...

THIS AGREEMENT, entered into by the undersigned, to wit: JUAN G. LINDO, Secretary of State for Agriculture and Commerce, on behalf of the National Government, hereinafter designated as the Government, party of the first part; and JOSE L. COLOM, on behalf of the Inter-American Institute of Agricultural Sciences, hereinafter referred to as the Institute, party of the second part, WITNESSETH:

WHEREAS, in accordance with the report approved by the Governing Board of the Pan American Union on October 7, 1942, the Inter-American Institute of Agricultural Sciences has been organized;

WHEREAS, said Institute is an official organization of the twenty-one American Republics, and its Board of Directors is the Governing Board of the Pan American Union;

WHEREAS, said Institute was incorporated in the District of Columbia, United States of America, on June 18, 1942;

WHEREAS, the purposes of the Institute are to encourage and advance technical agricultural training and the development of the agricultural sciences in the American Republics, by means of research, education, and extension activities in the theory and practice of agriculture and related arts and sciences;

WHEREAS, the Goodyear Rubber Plantations Company has agreed to convey to said Institute the property known as "All Weather Estates", comprising a tract of land situated on the shores of Gatun Lake, and of which 350 hectares, more or less, are planted to rubber trees of the species Hevea brasiliensis, many of which are infected with the blight known as Dothidella ulai.

WHEREAS, recognizing the necessity of utilizing disease-resistant and superior-yielding strains of the rubber tree Hevea brasiliensis as the basis for the establishment in the Western Hemisphere of a permanent and productive rubber industry, the Institute purposes to acquire the above-described property, for the continuation of research already begun:

NOW, THEREFORE, IT IS MUTUALLY AGREED AS FOLLOWS:

1. The Government of Panama approves the conveyance of "All Weather Estates" to be made by the Goodyear Rubber Plantations Company to the Inter-American Institute of Agricultural Sciences.

2. The Institute agrees to continue the research work in progress at the "All Weather Estates" for obtaining a high yield of Havea brasiliensis rubber, free from blight.

3. The Government of Panama shall permit the Institute to import and export whatever materials are necessary for the conduct of the research referred to in this agreement, such as seeds, shoots, clones, or plants, provided the Institute certifies that said materials are free from blight.

4. The Government of Panama authorizes the Institute to carry out any and all of its objectives as defined in Article 3 of its certificate of incorporation, transcribed below, at the "All Weather Estates" or on any other property it may subsequently acquire.

"Third: The business and objectives of this Institute are to encourage and advance education and sciences in the American Republics through teaching, research, experimentation, extension activities, general education and training in the science and art of agriculture, and other related arts and sciences; and in furtherance of the business and objects of this Institute.

- (a) To develop, establish, construct, improve, equip, finance, operate, supervise, and give assistance in the establishment and maintenance of an institute or institutes and branches thereof, experiment stations, farms, ranches, laboratories, educational and scientific centers, libraries, and other physical plants and facilities, in any or all of the American Republics, and, within its discretion, make available such institute or institutes, and branches thereof experiment stations, farms, ranches, laboratories, educational and scientific centers, libraries, and other physical plants and facilities, and the results accomplished therein, to any American Republic, local government, person, firm, association, corporation, institution, or other body of persons however designated.
- (b) To purchase, accept, take, lease, receive, or acquire (by gift, contribution, bequest, devise, or otherwise), to own and hold, operate, manage, develop, and improve any property, or interests in property, real or personal, without limitation as to the amount or value, in any of the American Republics; to give, grant, donate, lend, sell, assign, transfer, exchange, convey, lease, mortgage, pledge, hypothecate, or otherwise exercise all privilege of ownership over such property.
- (c) To collaborate with and aid or assist in any manner whatsoever by loan, grants-in-aid or otherwise, of money and assets, and to otherwise lend assistance to any American Republic, local government, person, firm, association, corporation, institution, or other body of persons however designated, in the realization of the purposes of this Institute.



- (d) To receive gifts, contributions, gratuities, and donations of money and property, or interest in property, both real and personal from any American Republic, local government, person, firm, association, corporation, institution, or other body of persons however designated.
- (e) To enter into, make, perform and carry out contracts and agreements of every kind and description, without limit as to amount, with any American Republic, local government, person, firm, association, corporation, institution, or other body of persons however designated.
- (f) To cultivate, grow, or otherwise produce, harvest or otherwise gather, purchase, take or otherwise acquire, deal in, store, handle, prepare, manufacture, process, market, transport, ship, sell, donate, or otherwise dispose of all agricultural commodities and products thereof, and all other supplies necessary or desirable to carry out the purposes of this Institute.
- (g) In general to carry on any other business in connection with the foregoing, suitable and proper for the accomplishment of the business and objects of this Institute.

5. It is agreed that the Institute shall be an educational and scientific institution, organized for purposes other than profit.

6. The Institute is exempt from national and provincial imposts and taxes of all kinds, present and future, as well as from commercial levies, manifests and restrictions of any kind on the movement of their funds, as long as the said institution remains an educational and scientific organization, conducted for non-profit purposes.

7. The personnel of the Institute, as well as its students and scientists, visiting or attached to the Institute, provided they are of a class permitted to immigrate, shall be subjected to a minimum of formalities on their coming to or going from Panama, and their stay in the Republic shall be without the deposit and other formalities usually required of foreigners.

8. The Institute may set up its own fund for pensions, retirement, medical assistance, etc., for its foreign personnel, independently of the fund existing in the country. While such a fund has not been set up, the Institute, as well as the personnel referred to, shall be governed by the provisions of the Panamanian law on the subject. With respect to Panamanian employees, the Institute shall be bound to contribute the quotas required in accordance with the Social Security laws of Panama.

9. The private property of employees and officials shall not be held liable for the debts of the Institute.

10. Non-compliance with any of the obligations assumed by the Institute shall give the Government the right to rescind this contract administratively.

11. The present contract is for a term of 20 (twenty) years, unless canceled under the foregoing clause.

12. This contract, to be valid, requires the approval of His Excellency the President of the Republic and must be submitted to the approval of the National Assembly at its next regular session.

IN WITNESS WHEREOF, the parties sign and seal the foregoing agreement in duplicate, at the city of Panama, on August 23, 1943.

(Signed) JUAN GALINDO  
Secretary of Agriculture and Commerce

(Signed) JOSE L. COLOM  
Secretary of the Inter-American  
Institute of Agricultural Sciences

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REPUBLIC OF PANAMA - NATIONAL EXECUTIVE POWER - MINISTRY OF AGRICULTURE  
AND COMMERCE. - Panama, August 23, 1943.

A P P R O V E D

RICARDO ADOLFO DE LA GUARDIA

Minister of Agriculture and Commerce

JUAN GALINDO

MEMORANDUM OF UNDERSTANDING  
between  
THE INTER-AMERICAN INSTITUTE OF AGRICULTURAL SCIENCES  
and the  
THE BUREAU OF PLANT INDUSTRY, SOILS, AND AGRICULTURAL ENGINEERING  
AGRICULTURAL RESEARCH ADMINISTRATION  
UNITED STATES DEPARTMENT OF AGRICULTURE

Relative to

Plantation Rubber Investigations and Distribution of Propagating  
Material from Allweather Plantation, Republic of Panama

Effective When Signed

The object of these cooperative investigations and distributions of planting material is to facilitate rubber production in Panama and other countries of the Western Hemisphere.

The Inter-American Institute of Agricultural Sciences and the Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, United States Department of Agriculture, mutually recognize the necessity of utilizing disease-resisting and superior yielding strains of the Para rubber tree, Hevea brasiliensis, as the basis for a permanent self-sustaining rubber industry in the Western Hemisphere. Many such resistant strains along with numerous high-yielding Eastern clones, the latter in various stages of deterioration because of leaf blight susceptibility, have been propagated and planted during the past five to eight years on the Allweather Plantation in course of experimental work by its former owner, the Goodyear Rubber Plantations Company. Expansion of the disease resistance and fungicidal spraying tests during the past two years under a separate memorandum of understanding between this company and the Bureau of Plant Industry has resulted in increased knowledge of the materials and their further multiplication on this plantation. The recent acquisition of this plantation by the Inter-American Institute of Agricultural Sciences and the continued interest of the Bureau of Plant Industry, Soils, and Agricultural Engineering make possible the utilization of the plantings for the benefit of the inter-American rubber program as a whole. The desirability of maximum utilization of existing resistant material and continuation of limited research for the development of additional resistant and more generally adaptable clones are mutually recognized.

To accomplish these purposes, it is mutually agreed that the project be conducted cooperatively.

A. The Inter-American Institute of Agricultural Sciences agrees:

1. To assign to the Bureau of Plant Industry, Soils, and Agricultural Engineering technical supervisory control over all rubber plantings on the Allweather Plantation and their utilization, or development.
2. To repair as needed and otherwise maintain necessary living quarters for the Bureau's representative.
3. To maintain at its expense a plantation manager, necessary labor, implements, and other materials, facilities, and services required for salvaging and effective utilization of the rubber plantings.

B. The Bureau of Plant Industry, Soils, and Agricultural Engineering agrees:

1. To furnish the part-time services of a trained rubber technologist to supervise essential operations for salvaging, propagating, and exporting planting material from the limited acreage of resistant trees on the Allweather Plantation.
2. To supervise, as necessary, actual seed collection, budding of selected strains, digging and packing budded stumps, or preparation of budwood for shipment from the plantation.
3. To conduct breeding work as may be possible.
4. To give technical assistance on other phases for effective utilization of the rubber plantings.
5. To make necessary arrangements with other agencies or persons who will receive planting material from the Allweather Plantation.
6. To pay costs for packing and transportation of planting material to destination.

C. It is mutually agreed:

1. That the cooperative activities for achievement of the objectives of this Memorandum shall be in accordance with the laws, regulations, or restrictions of the Republic of Panama, subject, however, to the laws of the United States and the regulations of the United States Department of Agriculture insofar as the Bureau of Plant Industry, Soils, and Agricultural Engineering is concerned.
2. That publication of the results of the cooperative projects may be by either party providing the cooperative nature of the work is recognized and a copy of the manuscript is furnished the cooperator for review previous to publication.

3. That no stated amount of funds is obligated on the part of either cooperator, but execution of the work is dependent upon allotment or appropriation of funds being available.

4. This Memorandum of Understanding will be effective upon execution by the parties hereto and will continue in effect for an indefinite period subject to availability of funds for the work. It shall be subject to revision by mutual consent of the parties concerned and either party is at liberty to withdraw upon due notice. Requests for any major change or notification of intentions of withdrawing shall be submitted to the other party for consideration not later than 90 days in advance of the effective period desired.

June 14, 1943  
(date)

(signed) Earl K. Bressman  
Director, Inter-American Institute of Agricultural Sciences

June 22, 1943  
(date)

(signed) F. P. Cullinan  
Acting Chief, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, U. S. Department of Agriculture

Approved:

June 25, 1943  
(date)

(signed) L. A. Wheeler  
Director, Office of Foreign Agricultural Relations

July 5, 1943  
(date)

(signed) E. C. Luchter  
Agricultural Research Administrator, U. S. Department of Agriculture.

PRIORITIES, PURCHASES AND CONSTRUCTION

The construction program for the Inter-American Institute of Agricultural Sciences at Turrialba, Costa Rica, was not started until the middle of March of this year. Since that time, progress has been satisfactory. A large force of workmen have been employed, grounds have been cleared for the construction and a warehouse built for storing materials as they arrive. Surveys of the site have been made and a base line established for future reference. Locations have been selected for the buildings to be constructed now and for those to be constructed in the future. Preliminary water supply and sewage system studies have been completed and a guest house has been built.

Prior to March, 1943, drawings and specifications, for what was considered a basic plant, had been prepared by the Division of Plans and Service, Bureau of Chemistry and Engineering of the U. S. Department of Agriculture. The plans were for an Administration building, a dormitory for men, complete with kitchen and mess hall, and six faculty residences with detached servant quarters for each residence.

However, it was decided that only a part of the dormitory and the six faculty residences with servant quarters could be built with the funds available at this time, and that some of the dormitory rooms could be used for laboratories until the Administration building should be built. Therefore, approval, licenses and priorities were requested for materials for that amount of construction only. The Office of Economic Warfare agreed, informally, to grant licenses for the exportation of a bare minimum of critical materials needed in the first stages of construction.

It was found that the detail involved in making quantity estimates of the materials required, in obtaining priorities for, purchasing and exporting these materials demanded the full time services of an experienced engineer. Accordingly, we employed a Purchasing Engineer who was instructed to obtain all the necessary permits, priorities, etc., and to have the materials shipped as quickly as possible.

Since the drawings and specifications were prepared before the shortage of materials in this country became acute, they called for the use of critical materials now unobtainable. In some cases the materials indicated would have required an amount of shipping space entirely out of proportion to the benefits to be gained by their use. The first step was, therefore, revision of the drawings and specifications, cutting to a minimum critical and excessively bulky materials and providing for the more extensive use of materials obtainable in Costa Rica. The revision was made by the designers with the help of the Purchasing Engineer and it is believed that the revised plans are as satisfactory as the original ones.

In the meantime, the Purchasing Engineer made application for the necessary licenses and priorities. The Office of Economic Warfare made

available to the Institute the first quarter surpluses for Costa Rica which necessitated the placing of contracts for these materials within the next ten days (when the quarter ended) and restricted the application of the priorities to materials already manufactured. Due to lack of time, contracts were awarded on a unit basis subject to standard extras, etc.; the exact quantities and sizes of materials to be shipped, to be settled later.

Within the next few weeks the revision of the drawings was completed and the materials list worked out for the various suppliers. Shop drawings, where required, were checked and other general preliminaries to the manufacture, cutting and shipping of materials were settled.

Shipment of these materials have been expedited in every possible way. Detailed estimates of other materials, requiring priorities and allotments have been made and filed. These priorities are just being returned and contracts are being awarded as quickly as possible.

War regulations and restrictions have made purchasing and shipment a complicated and time consuming process. Take for example the case of the conduit for electric wiring. After the drawings, showing the locations of the various outlets, switches, etc., were completed, an estimate was made listing size, length and quantity of the conduit. A supplier who could furnish the material was located and asked for a quotation, although the conduit could not yet be bought or even reserved. Forms were then filled out and application made for an export license, involving much detail listing of sizes, types, quantities and prices under various commodity numbers. Upon receipt of the export license, request was made for priorities. Since priorities for certain materials are granted by the Office of Economic Warfare and for others by the War Production Board, separate forms must be made out for each item of material. It takes from two days to two months for priority applications to be acted upon and returned. In our case, this process is further delayed by the fact that the Institute is outside of the United States and the priority permissions must be passed upon by the foreign divisions of the War Production Board. (By this time, the chances are that the supply situation has changed and it becomes necessary to find another supplier.) After the priority was granted the order was placed with the supplier whose quotation was used in obtaining the priority. It took four months to reach this point in the negotiations for the electric conduit.

When the material is almost ready to be shipped, an application for shipping space is made to the O. E. W. which, if approved, is sent to the War Shipping Administration in New York who then instruct us to book shipping space. The War Shipping Administration does not assign shipping space but merely grants permission to apply for it. When the shipping space has been engaged, an application for permission to ship to port is filed in New York. This application is then sent to the Traffic Control Division of the War Department and when allowed is returned to us. We file the approved application with the Railway Association in New York and notify the supplier of the serial number, instructing him to ship to port. On arrival at port, the shipment may have to be stored until the ship is ready for loading. In most cases the shipment will be unloaded at some transfer point where it will lay until it can be moved on to Costa Rica. Shipping and delivery may take from six weeks to six months.

At the present time, approximately 4500 bbls. of cement, 350 bbls. of lime, 240 tons of reinforcing steel, 6 tons of nails and practically all of the pipes and fittings needed have been shipped and are either en route or already at Turrialba.

Actual construction of the faculty residences will begin shortly and, as soon as the conduit for electric wiring is delivered, construction of the dormitory will be started. The conduit is scheduled for shipment about September 10, 1943. After that, it is believed that materials can be delivered before they are actually needed and that the work can proceed without delay.

The contract for the construction of the dormitory and six faculty residences was signed early in July, 1943 by the Northern Railway Company of San José, Costa Rica, as contractor.

The contract provides that the contractor shall furnish all tools and equipment and shall construct the building in accordance with the drawings and specifications. In return he shall be paid a fixed fee for the use of the plant, superintendents of construction, etc., and, in addition, shall be paid the actual cost of labor, material, transportation and other construction expenses. The Institute is to purchase and deliver to site such materials as cement, reinforcing steel, plumbing and electrical supplies which cannot be obtained at a reasonable cost in Costa Rica.



## FISCAL REPORT

In response to a request of the Pan American Union, which is the fiscal agent of the Institute by provision in its Certificate of Incorporation, the Government of the United States, through the Office of the Coordinator of Inter-American Affairs, made a grant-in-aid for the benefit of the Institute. The grant was for \$465,000.00 and provided that not over \$365,000.00 should be used for "construction of buildings and other facilities" and the remaining amount for administrative and operating expenses. Monthly progress and financial reports covering the grant are submitted to the Office of the Coordinator for its information.

Pending the necessity for large disbursement of funds, some short term obligations of the United States Government were obtained. These securities are in the custody of the Treasurer of the United States.

In order to facilitate operations in Costa Rica and vicinity, an account was established in the name of the Institute in the Banco Nacional de Costa Rica at San José. The Business Manager in Costa Rica, who is a bonded official, was authorized to draw on this account. He renders monthly statements and submits receipts and papers to the Washington Office where all accounts are kept.

The By-laws provide that the fiscal year of the Institute be July 1st to June 30th. The books and financial records for the past fiscal year were examined and found in proper order by Wm. Gordon Buchanan and Company, Certified Public Accountants, Washington, D. C.

A statement of cash receipts and expenditures for the year ended June 30, 1943 follows:

INTER-AMERICAN INSTITUTE OF AGRICULTURAL SCIENCES

SUMMARIZED STATEMENT OF INCOME AND EXPENDITURES

FOR THE FISCAL YEAR ENDING JUNE 30, 1943

INCOME:

Original Grant-in-aid from the United States through the Office of the Coordinator of Inter-American Affairs	\$465,000.00
Interest on Government Securities	1,310.00
Sale of Wood	141.31
Interest on Bank Deposit	6.71
	<hr/>
TOTAL INCOME.....	\$466,958.52

<u>EXPENDITURES:</u>	<u>Construction Costs</u>	<u>Operating Expense</u>	<u>Total</u>
Salaries	\$ 1,785.00	\$16,672.52	\$18,457.52
Travel Expense	-	4,930.73	4,930.73
Quarters Allowance	-	803.32	803.32
Equipment	258.47	11,593.65	11,852.12
Material, Plans and Specifications	20,471.19	-	20,471.19
Washington Office Expense and Supplies	-	2,189.45	2,189.45
Postage, Telephone and Telegraph	-	192.74	192.74
Truck and Automobile Expense	53.46	757.02	810.48
Tools and Supplies	922.22	1,099.58	2,021.80
Editorial Expense	-	450.00	450.00
Labor	2,154.45	6,312.11	8,466.56
Costa Rican Office Expense and Supplies	48.53	701.18	749.71
Freight and Express	-	214.77	214.77
Miscellaneous Expense	-	27.28	27.28
	<hr/>	<hr/>	<hr/>
	\$25,693.32	\$45,994.35	\$71,687.67

Purchase of Short Term Government Securities.....	\$302.982.71
TOTAL EXPENDITURES.....	\$374,670.38
CASH BALANCE, JUNE 30, 1943.....	92,288.14

ACTION PROGRAM FOR THE  
INTER-AMERICAN INSTITUTE OF AGRICULTURAL SCIENCES

As set forth in Article II of the Convention which recognizes the permanent status of the Inter-American Institute of Agricultural Sciences, "the purposes of the Institute are to encourage and advance the development of agricultural sciences in the American Republics through research, teaching and extension activities in the theory and practice of agriculture and related arts and sciences". Hence, carrying on agricultural research is the first consideration of the Institute.

In formulating the over-all research program for the Institute, general fields of investigation aimed at solving agricultural problems of international scope with primary reference to the western hemisphere will be established. All lines of agricultural research, such as agricultural and biological chemistry, agricultural engineering, agricultural economics, animal industry, including diseases and parasites, dairy products, entomology and zoology, field crops, forestry, genetics, home economics, horticulture, pastures and ranges, plant pathology, plant physiology, rural sociology, and soils and soil management will be included in the research program as funds become available and as problems are presented in these fields.

The initial program of research will be carried on under five divisions:

- I. Division of Agricultural Engineering
- II. Division of Animal Industry  
(including animal diseases and parasites)
- III. Division of Entomology
- IV. Division of Plant Industry
- V. Division of Soils

Although each division will be concerned primarily with problems in its respective field, nevertheless it is assumed that there will be collaboration of effort between divisions in order to give consideration to all phases of agriculture, insofar as practicable.

In selecting the chief of each research division, an attempt will be made to obtain an outstanding scientist from either the United States or the other American Republics who has already established himself in his particular field. The primary concern of these divisional chiefs will be to organize and conduct research. If funds are made available, the chief of each of the five divisions

will be selected within a few months in order that they may begin work about January 1, 1944. After spending some time in consultation with leaders in foreign agriculture in the United States Department of Agriculture, they will visit several colleges and experiment stations in the other American Republics, particularly in the tropics.

From five to ten graduate students will be selected to carry on research in each division under the guidance of the divisional chief. As a prerequisite to admission, all students will have a Bachelor's Degree, or its equivalent, in an agricultural or related science. It will be the responsibility of each chief to determine the exact research problem that will be assigned to each student as this will depend upon the chief's interest, the interest and background of the student, and available material and equipment.

As conditions become familiar to the research staff, each division chief will organize at least one seminar course for the students in his division and in addition will offer at least one formal course for all of the students in the Institute each scholastic year. It is planned to keep the number of these formal courses to a minimum and since the student body will be composed only of graduates, basic courses in chemistry, physics, botany, zoology and other sciences will not be offered. All students must become at least bi-lingual with respect to the four official languages of the Institute. It is felt that teachers of these four languages will be found among the division chiefs and research students. Plans are being made to begin graduate instruction in or before July 1, 1944, although the formal research programs will be initiated as soon as possible.

The Institute represents 21 countries and so it is important to have a medium by which all can be informed of its activities. In addition it is essential to make available to the public any results of its research. It has been planned for considerable time to publish a quarterly, emphasizing scientific findings, rather than general information or policy. In fact, preliminary work has been done and a name, Agro-America, has been suggested. It was hoped at this time to have the quarterly in circulation but due to the war certain difficulties have arisen and caused the postponement of the publication until a staff is available at Turrialba to take care of the technical work involved in issuing a scientific publication.

A list of suggested topics for investigation under the Institute's initial research program is attached.

EXAMPLES OF SUGGESTED RESEARCH TOPICS  
UNDER THE INITIAL RESEARCH PROGRAM OF THE  
INTER-AMERICAN INSTITUTE OF AGRICULTURAL SCIENCES

I. Division of Agricultural Engineering

1. Design of agricultural machinery for use on small farms.
2. Planting and harvesting equipment for intercalary crops.
3. Irrigation equipment and methods for lowland rice.
4. House design for peons in the tropics.
5. Utilization of soils in the manufacture of adobe, brick and tile.

II. Division of Animal Industry

1. Improvement of livestock and poultry through breeding.
2. Nutritive value of tropical feeds for livestock.
3. Diseases and parasites of animals.
4. Meat cutting and packing.
5. Manufacture of cheese and other dairy products.

III. Division of Entomology

1. Life history of major field crop, fruit, and vegetable insects.
2. Insects affecting man and livestock.
3. Biological control of insects in the tropics.
4. Insecticides and their value under tropical conditions.
5. Systematic studies of tropical insects.

IV. Division of Plant Industry

1. Corn culture at various altitudes.
2. Improvement of edible soy beans for the tropics through breeding and selection.
3. Effect of shade on coffee production.
4. Improvement of pastures and forage crops.
5. Fruit and vegetable cultural problems.

V. Division of Soils

1. Relationship of pH to phosphorus availability in tropical soils.
2. Soil erosion in the tropics.
3. Classification of tropical soils.
4. Soil management under irrigation.
5. Value of fertilizer in soils under tropical conditions.

BUDGET FOR FISCAL YEAR, 1943-1944  
(Tentative)

Funds on Hand, July 1st

Balance of Original Budget-in-Aid	<u>Construction</u> \$340,000.00	<u>Operations</u> \$55,000.00
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July 15, 1943

Requests for Funds

Allocation of Wings to Dormitory	\$126,500.00	\$35,000.00
Wings of Administration Building	231,000.00	
Additional Faculty Houses	90,500.00	
Refrigeration Products and Cold Storage Bldgs.	78,750.00	
Electrical Generating Plant	31,500.00	
Water Supply	10,700.00	
Waste Disposal	8,500.00	
Sanitation and Drainage	5,500.00	
Electrical Transmission	3,200.00	
Contingencies	<u>3,850.00</u>	
<b>Total</b>	<b>\$590,000.00</b>	

August 6, 1943

Provide budget (including salary, travel and living expenses) for five outstanding candidates to head divisions of Zoology, Agricultural Engineering, and Animal Husbandry, Plant Industry and

Leather Plantation, Panama	<u>\$10,000.00</u>	\$50,000.00
		<u>28,600.00</u>
	\$10,000.00	\$78,600.00

Disbursements  
Fiscal Year, 1943-1944

Construction and Construction	\$930,000.00	
Operations and Operations		\$140,000.00
Leather Plantation, Panama	<u>10,000.00</u>	<u>28,600.00</u>
	<u>\$940,000.00</u>	<u>\$168,600.00</u>

CONVENTION

The Inter-American Committee on Agriculture had had under consideration almost since its inception a Convention for the operation of the Institute. From time to time it has gone over proposals for such a Convention and finally, at a meeting on August 4th, adopted a Draft of a Convention which was presented to the Governing Board of the Pan American Union on September 13, 1943.

The following is the text of the report presented to the Board:

REPORT OF THE INTER-AMERICAN COMMITTEE ON AGRICULTURE  
SUBMITTING TO THE GOVERNING BOARD OF THE PAN AMERICAN UNION  
THE DRAFT CONVENTION ON THE INTER-AMERICAN  
INSTITUTE OF AGRICULTURAL SCIENCES

In accordance with the recommendations of the Governing Board of the Pan American Union made at the meetings of June 4, July 2, and October 7, 1942, the Inter-American Committee on Agriculture has prepared a Draft Convention on the Inter-American Institute of Agricultural Sciences.

At the special meeting of the Governing Board, held on June 4, 1942, the Constitution and By-Laws of the Institute were approved until such time as a Convention, giving permanent character to the Institute, could be ratified.

The Committee, in accordance with these recommendations, has the honor to submit the attached Draft Convention to the Governing Board, with the suggestion that it be submitted to the Governments for their observation and comment. It is further recommended that the Governments be requested to send their replies to the Pan American



Union prior to December 1, 1943, in order that thereafter the definitive text of the Convention may be prepared and opened to the signature of the Governments members of the Union.

Carlos M. Escalante  
Delegate of Costa Rica

Enrique López Herrarte  
Delegate of Guatemala

R. Ballivián  
Delegate of Bolivia

G. Blanco H.  
Delegate of Mexico

E. A. Maulme  
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J. Chávez  
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Héctor David Castro  
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Delegate of the United States

Arturo Lares  
Delegate of Venezuela

DRAFT CONVENTION FOR THE  
INTER-AMERICAN INSTITUTE OF AGRICULTURAL SCIENCES

The Governments of the American Republics, desiring to promote the advancement of the agricultural sciences and related arts and sciences; and wishing to give practical effect to the resolution approved by the Eighth American Scientific Congress held in Washington in 1940, have agreed to conclude a Convention in order to recognize the permanent status of the Inter-American Institute of Agricultural Sciences, hereinafter referred to as "the Institute," on the basis of the following Articles:

Article I

The Contracting States hereby recognize the permanent status of the Inter-American Institute of Agricultural Sciences, at present incorporated under the laws of the District of Columbia, U.S.A., as of June 18, 1942; and they agree to recognize the Institute as a legal entity in accordance with their own legislation. The Institute shall have all the rights, benefits, assets, lands and other property to which it was or may be entitled as a corporation, and shall assume all the obligations and contracts for which it became responsible as a corporation.

The executive headquarters of the Institute shall be located in Washington, D. C. The principal field headquarters of the Institute shall be located in Turrialba, Costa Rica. Regional offices of the Institute may be maintained throughout the American Republics.

PURPOSES

Article II

The purposes of the Institute are to encourage and advance the development of agricultural sciences in the American Republics through research, teaching and extension activities in the theory and practice of agriculture and related arts and sciences.

In furtherance of these purposes the Institute may, subject to the laws of the several countries, exercise the following powers: to develop, finance and operate similar establishments and installations in one or more of the American Republics; to give assistance in the establishment and maintenance of organizations having similar purposes in the said Republics; to purchase, sell, lease, improve or operate any property in the American Republics, in accordance with the purposes of the Institute; to collaborate with the Government of any American Republic, or with any other organization or entity, and to give assistance in the same; to receive contributions and donations of money or property, both real and personal; to enter into and carry out contracts and agreements; to raise or acquire and, in any manner, dispose of all agricultural commodities and products thereof essential for experimental or research purposes; and to carry on any other business or activity appropriate to the foregoing purposes.

THE BOARD OF DIRECTORS

Article III

The representatives of the twenty-one American Republics on the Governing Board of the Pan American Union shall serve as members of the Institute, and shall be considered as members of the Board of Directors

thereof. In the event that any member is unable to attend a meeting of the Board of Directors the said member of his Government may designate an alternate for that purpose.

The Board shall elect the Director of the Institute and shall approve the appointment of the Secretary made by the Director.

The Board shall be empowered to remove both the Director and the Secretary by majority vote of its members.

The Board shall determine the compensation of these two officers.

The Board shall supervise the activities of the Director, who shall be responsible for carrying out all orders and resolutions of said board.

The Board shall approve the budget for the administration of the Institute to be submitted annually by the Director.

The Board shall receive an annual report from the Director upon the activities of the Institute as well as upon its general condition and financial status.

The Board shall fix the annual quotas of the Institute.

#### OFFICERS

#### Article IV

The Institute shall have a Director and a Secretary. The Director shall be elected by the Board of Directors in plenary session for a term of six years; but he may be reelected one or more times. The first term of the Director under the provisions of this Convention shall begin as of the day on which this Convention enters into force.

The Secretary shall be appointed by the Director with the approval of the Board of Directors of the Institute and shall be directly

responsible to the Director.

The Director and the Secretary shall hold office until their respective successors shall be chosen and shall qualify; but they may be removed by vote of the majority of the members of the Institute. The Board of Directors of the Institute shall determine the remuneration of these officers.

## THE DIRECTOR

### Article V

1. The Director under the supervision of the Board of Directors shall have ample and full powers to direct the activities of the Institute; and he shall be responsible for carrying out all orders and resolutions of said Board.

2. The Director under the supervision of the Board of Directors shall be the legal representative of the Institute; and he may legalize, with the seal of the Institute, all contracts, conveyances and other instruments which require such legalization and which in his opinion are necessary and advantageous to the operation of the Institute. In addition, he shall be authorized to take any other step necessary to validate such instruments as may be required or permitted by law. The Director may grant powers to others for all those acts which he cannot do personally.

3. The Director under the supervision of the Board of Directors of the Institute shall have the power to appoint, remove and determine the compensation of employees.

4. The Director shall prepare the budget of the Institute for each fiscal year, and shall submit it to the Board of Directors

at least two months before the annual meeting at which it will be considered for approval.

5. The Director shall submit an annual report to the Board of Directors of the Institute two months before the annual meeting, setting forth the work of the Institute during the year and its general condition and financial status, and he shall submit to the approval of the said Board the budget and the plans for the following year.

THE SECRETARY

Article VI

The Secretary shall keep the minutes and records of the Institute, shall exercise all prerogatives and carry out all administrative duties assigned to him by the Director.

TECHNICAL ADVISORY COUNCIL

Article VII

Provision is made for the establishment of a Technical Advisory Council, as follows:

1. Each of the Contracting States may appoint an agricultural expert to be its representative in the Technical Advisory Council of the Institute. This Council shall cooperate with the Director on agricultural matters of a technical nature. The appointment of each representative shall be officially notified to the Secretary of the Institute. The members of the Council shall serve for a period of five years at the will of their respective governments, and may be reappointed one or more times.

2. The Technical Advisory Council shall meet at least once a year, under the chairmanship of the Director of the Institute, at such place as the activities of the Institute may require. The Director may call special meetings of the Council on his own initiative, whenever the best interests of the Institute may require. Notice with respect to any meeting shall be given at least two months in advance and shall state the purpose or purposes of the proposed meeting.

3. No member of the Technical Advisory Council, as such, shall receive from the Institute any pecuniary compensation for his services, although the Institute may defray traveling expenses of the members of the Council to the annual meeting.

FISCAL AGENT

Article VIII

The Pan American Union shall act as fiscal agent for and on behalf of the Institute, and as such shall receive and disburse the funds of the Institute.

## MAINTENANCE OF THE INSTITUTE

### Article IX

The income of the Institute for its maintenance and operation shall consist of annual quotas paid by the contracting countries, as well as of legacies, donations and contributions which the Institute may accept. Such funds and contributions shall be used only for purposes in keeping with the general character of the Institute.

The annual quotas shall be determined by the Board of Directors of the Institute provided the vote is unanimous with respect to the members representing the Contracting States. The amounts of the respective quotas shall be in proportion to the population of each Contracting State, on the basis of the latest official statistics in possession of the Pan American Union on the first day of July of each year.

The quotas shall be communicated annually by the Pan American Union to the Governments of the Contracting States, and shall be paid before the first of July of each year.

The quota payments of each Contracting State shall commence on the date on which this Convention enters into force with respect to that State, prorated according to the number of full calendar months remaining in the current fiscal year.

The fiscal year of the Institute shall begin on the first day of July.

## LANGUAGES

### Article X

The official languages of the Institute shall be Spanish, English, Portuguese and French.



## POSTAL PRIVILEGES

### Article XI

The Contracting States agree to extend to the Institute forthwith the domestic and international franking privilege provided in the existing inter-American postal conventions and to ask the States members of the Pan American Union which have not ratified the present Convention to grant the Institute the same postal privileges.

## EXEMPTION FROM TAXATION

### Article XII

Lands and buildings in the territory of any of the Contracting States of which the Institute is the legal or equitable owner and which are used exclusively for the purposes of the Institute shall be exempt from taxation of every kind, National State, Provincial or Municipal, other than assessments levied for services or for local public improvements by which the premises are benefited.

Furniture, equipment, supplies, construction materials and any other articles intended for official use of the Institute shall be exempt in the territory of any of the Contracting States from every form of taxation, including customs duties, excise and surtaxes.

All funds and other property used for the purposes of the Institute, and all contracts and other official acts of the Institute within the scope of its purposes shall likewise be exempt from taxation of every kind in the territory of each of the Contracting States.

## MOVEMENT OF FUNDS

### Article XIII

Each of the Contracting States shall take such measures as may

EXEMPTIONS AND PRIVILEGES FOR  
PERSONNEL AND STUDENTS

Article XIV

Each of the Contracting States agrees that it will accord to persons engaged in the work of the Institute or pursuing studies under the auspices of the Institute, such privileges with respect to exemption from taxation and other burdens affecting the entry, travel and residence of such persons as may be appropriate under its laws and regulations.

SIGNATURE AND RATIFICATION

Article XV

1. The original of the present Convention in the English, Spanish, Portuguese and French languages shall be deposited with the Pan American Union and opened for signature by the Governments of the American Republics. The Pan American Union shall furnish a certified copy of the present Convention to each signatory Government and to the Government of each non-signatory State which is a member of the Union. The Pan American Union shall inform all the Governments of States members of the Pan American Union with respect to all signatures and the respective dates hereof.

2. The present Convention shall be ratified by the signatory States in conformity with their respective constitutional procedures. The instruments of ratification shall be deposited with the Pan American Union which shall notify all the signatory Governments of each ratification deposited and the date of its deposit.

3. The present Convention shall come into force three months after the deposit of not less than five ratifications with the Pan American Union. Any ratification received after the date of the entry into force

of the Convention shall take effect one month after the date of its deposit with the Pan American Union.

## DENUNCIATION

### Article XVI

1. The present Convention shall, subject to the provisions of paragraph 2 of this Article, remain in force indefinitely, but may be denounced by any Contracting State by a notification in writing to the Pan American Union, which shall inform all the other Contracting States of each notification of denunciation received. After the expiration of one year from the date of the receipt by the Pan American Union of a notification of denunciation by any Contracting State, the present Convention shall cease to be in force with respect to such State, but the Convention shall remain in full force and effect with respect to all the other Contracting States.

2. In the event that the number of Contracting States should be reduced to less than five as the result of denunciations, the remaining Contracting States shall immediately consult with each other with a view to revising the present convention and with a view to determining the future status of the Institute. If, within two years after the date upon which the number of Contracting States is reduced to less than five, as the result of denunciations, no agreement shall have been reached by the remaining Contracting States regarding the continuation of the Convention and the status of the Institute, the Convention shall, upon the expiration of six months' written notice by any remaining Contracting State, cease to be in force. In the event that the Convention should cease to be in force, the status of the Institute shall be determined by the Governing Board of the Pan American Union.

IN WITNESS WHEREOF, the undersigned Plenipotentiaries, having deposited their full powers found to be in due and proper form, sign this convention in the English, Spanish, Portuguese and French languages at the American Union, Washington, D. C. on behalf of their respective Governments and affix thereto their seals on the dates appearing opposite their signatures.

2796

August 4, 1943.

FECHA DE DEVOLUCION

FECHA DE DEVOLUCION	
29 FEB 2000	
17 OCT. 2000	
28 MAYO 2002	
30 set 2002	

Annual Report

Autor

11CA- 1942-1943.

Título

Fecha Devolución	Nombre del solicitante
17 OCT. 2000	C. Mole
	<del>K. G.</del>
28 MAYO 2002	

