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About the Institute

The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

December 28, 1960

Dr. Ray M. Lien
Chief of Party
Purdue-Brazil Program
USOM/Brazil
APO 676
New York, New York

Dear Dr. Lien:

I should have acknowledged sooner your very cordial letter of November 26. However, I was waiting at that time to hear from ICA in Rio. Unfortunately, I sent my letter to Mr. Doll and only today have had a letter from Dr. Tyson telling me of the difficulties with the transfer of Mr. Doll.

As I informed Dr. Tyson, I unfortunately will have to delay my trip for two or three weeks, the reason being that the editorial responsibilities for the Journal of ECONOMIC BOTANY have recently been shifted, and I have had to assume an unexpected job to get this year's issues of the Journal out.

I will, however, plan to maintain an approximate itinerary to the one mentioned in my earlier letter, merely shifting the dates to fit. Dr. Tyson suggests that more time be spent in Rio, and I may have to accede to this, although I would much rather spend the time in the field than making necessary arrangements in Rio. I am, of course, aware of the differences in time conceptions between here and there and will certainly have to readjust many of my plans upon arrival. These are to be expected, however, and I am not too much disturbed by them.

At any rate, I still look forward to visiting you and the area near you and will let you know as soon as possible the definite date of my departure.

Sincerely yours

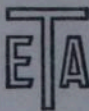
David J. Rogers
Curator of Economic Botany

DJR:MDF



PROGRAMA DE
ENSINO, PESQUISAS E EXTENSÃO

ETA PROJETO N.º 55



UNIVERSIDADE DE
PURDUE - ESTADOS
UNIDOS

UNIVERSIDADE
RURAL DO ESTADO
DE MINAS GERAIS

ESCRITÓRIO TÉCNICO
DE AGRICULTURA,
BRASIL ESTADOS
UNIDOS

REPRESENTANDO
O MINISTÉRIO
DA AGRICULTURA
E A
INTERNATIONAL
COOPERATION
ADMINISTRATION

Mr. David J. Rogers
Curator of Economic Botany
The New York Botanical Garden
Bronx Park
New York 58, New York

ENDERÉÇO, UNIVERSIDADE RURAL DO ESTADO
DE MINAS GERAIS - VIÇOSA - MINAS GERAIS - BRASIL

January 7, 1961

Dear Mr. Rogers:

Thanks for your December 28 letter. Mr. Tyson has never mentioned your visit to me. However, I will discuss it with him the next time I am in Rio. We will be looking forward to your visit to Viçosa and hope we can make it a profitable one for you.

Sincerely yours,

Ray M. Lien
Chief of Party
Purdue-Brazil Project

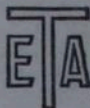
RML/jmp

cc: Robert W. Tyson



PROGRAMA DE
ENSINO, PESQUISAS E EXTENSÃO

ETA PROJETO N.º 55



UNIVERSIDADE DE
PURDUE - ESTADOS
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ENDERECO, UNIVERSIDADE RURAL DO ESTADO
DE MINAS GERAIS - VIÇOSA - MINAS GERAIS - BRASIL

Viçosa, November 26, 1960

ADDRESS

USOM/Brazil
APO 676
New York, New York

Mr. David J. Rogers
Curator of Economic Botany
The New York Botanical Garden
Bronx Park
New York 58, New York

Dear Mr. Rogers:

It was with some surprise and much delight that I received your letter of November 16 indicating your intentions to come to Brazil in January and February and more specifically your wishes to make a visit to Viçosa to visit our project. I might say that we would be very pleased to have you visit our project in Viçosa and to visit the University and possibly some of the institutes connected with the University.

In talking with the Director of the school last evening he informed me that there are many people in this area who are working with mandiocca and he gave me the name of one person in particular who is working in the Institute at Belo Horizonte who is very much interested in this type of work. I do not recall his name at the moment; however, as time goes on I will get the information and send it to you.

I was glad to note that you had been in contact with the ICA administrators in Rio and also with Mr. Tyson. I was also glad to see their indicated interest in the furthering of your studies and their desire to give assistance. Inasmuch as we here in Viçosa are an ETA project and Mr. Tyson is the American Co-Director of ETA in Rio, I can see no problems in your visit to Viçosa if they in Rio approve your program. If USOM in Rio could not furnish you transportation for your visit in this area, I feel quite sure our project could make the necessary transportation available. I will be waiting for a letter from you after your contact with ICA administrators in Rio pertaining to your request for specific needs, such as transportation, etc. There will be no problem in your staying in Viçosa. We can make facilities available for that.

Mr. David J. Rogers
November 26, 1960
Page 2

Please let me know as soon as you know your planned program and if there are any special things that you would like to have me arrange for. I feel quite sure we can make your stay in Viçosa very interesting and useful from the standpoint of your study.

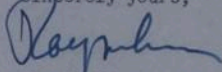
I might say that our world today is very small. Little did I realize when we met in Belém last year that our paths would cross again.

We will be waiting for your reply and the itinerary of your visit.

Since our meeting last June I have been made the American Co-Director of the project here. Dr. Robertson, who was the American Co-Director, went back to the States in September.

Mrs. Lien joins me in sending greetings to you.

Sincerely yours,



Ray M. Lien
Chief of Party
Purdue-Brazil Program

b

cc: Mr. Robert H. Tyson
Mr. Raleigh H. Fosbrink, Purdue

November 16, 1960

Dr. Ray M. Lien
Universidade Rural do Estado
de Minas Gerais
Vicosa, Brasil

Dear Dr. Lien:

You will recall that we met one afternoon in the Grand Hotel in Belem while you were visiting there last June. As I may have mentioned to you there, I have been making systematic studies of Manihot (mandioca) in South America. I expect to be visiting Brasil again this coming January and February to make collections and further field studies on some of the wild species as well as of the cultivated varieties.

I would be pleased to know if it is possible to visit your organization there in Vicosa. I know that Minas Gerais is one of the large centers of mandioca culture. It is also one of the areas where many wild species of the genus Manihot are found. Do you have facilities for visitors there? Is it possible to get some sort of transportation while at your station?

I might mention that I have been in touch with the ICA administrators in Rio, both Dr. Tyson and Dr. Doll, and these two gentlemen have advised me that they are quite interested in the furthering of my studies and are awaiting my request for specific needs--transportation, particularly--while in Brasil. I mention this because it may be that you have no extra transportation of your own, and I may be able to get some assistance from ICA on this score.

I would like to spend perhaps a few days making collections in the vicinity of Vicosa both from cultivated collections and from the wild. I have not yet established an itinerary nor dates for coming to Vicosa as I am still in the process of making up my schedule. I would appreciate it very much if you could advise me on the above problems at your earliest convenience.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

December 28, 1960

Dr. Robert W. Tyson
Chief, F & A Division
International Cooperation Administration
USOM to Brazil, Point Four
Rio de Janeiro, Brazil

Dear Dr. Tyson:

I am sorry to see that the letter to Mr. Doll went astray. However, it happens that because of my editorial responsibilities and because of resignations among my editorial assistants, I will be delayed for perhaps two or three weeks in my departure from the United States. The actual time of departure is dependent upon the speed with which I can get out my Journal, *ECONOMIC BOTANY*, with which you may be familiar.

With respect to your suggestions concerning activities there, I appreciate your difficulties in trying to help me with all of the places which I wish to visit while there. However, I will appreciate any assistance that you can give me with those points mentioned in your letter. I was quite pleased to hear from Dr. Lien and will also notify him of my unfortunate delay.

I have already made contacts with the experiment station in Campinas and look forward to some time there, although it may be that I will have to modify the time, as you suggest. Certainly I will spend enough time in Rio to make whatever arrangements are necessary for the furtherance of both this trip and possible future activities.

Best wishes for a Happy New Year!

Sincerely yours

David J. Rogers
Curator of Economic Botany

INTERNATIONAL COOPERATION ADMINISTRATION
UNITED STATES OF AMERICA OPERATIONS MISSION TO BRAZIL
POINT FOUR

Rio de Janeiro, December 19, 1960

Mr. David J. Rogers
Curator of Economic Botany
The New York Botanical Garden
Bronx Park
New York 58, New York

Dear Mr. Rogers:

Your letter of November 23 was delayed in its arrival until December 13. It was sent to the home of Mr. Doll, who is in the United States on home leave and transfer of post.

This allows you and us very little time to make the needed arrangements for your visit to Brazil. You will recall our correspondence and arrangements with the different agencies in Brazil made more than one year ago.

Communications to many points in Brazil are very slow and it may prove a bit difficult to carry out your itinerary exactly as planned.

It is quite possible that the interest at some of these locations may have changed but we will endeavor to advise those previously contacted of your proposed visit and try to arrange your itinerary to conform as near with your planned itinerary as possible.

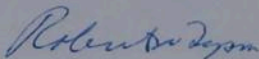
We call your attention, however, to the fact that there is no Federal experiment station facility at Goiania, Brazilia, and Fortaleza.

We made contact, however, with Belo Horizonte, and we note from a copy of a letter from Ray Lyen that you have been corresponding with him and you can make definite arrangements for these two places with Mr. Russel E. Uhland of this office after your arrival.

With respect to São paulo and Campinas in the state of S. Paulo we have no cooperative projects with those institutions but we will make contact thru the Director at Campinas. Mr. Uhland thinks that you may want to increase your time for Rio and reduce it for São Paulo.

Please advise us as early as possible of your arrival time and of any late changes in plans.

Very truly yours,



Robert W. Tyson
Chief, F&A Division

November 23, 1960

Dr. E. H. Doll
International Cooperation Administration
USOM/ Brazil Point Four
Rio de Janeiro, Brazil

Dear Dr. Doll:

Finally, my plans for a trip to Brazil for the study of Manihot, as we have discussed in previous letters, have reached a point where I can make definite schedules of times and places that I should like to visit while there.

At the moment I am definitely planning to be in Brazil from the evening of the 10th of January (10:45 P.M.) arriving by Pan-American jet at Rio, and I plan to spend the following amounts of time in the following places:

Rio	Jan. 11-14
Sao Paulo and Campinas	Jan. 16-30
Belo Horizonte, Vicosa, Goiana, Brazilia	Feb. 1-12
Bahia (Cruzda Almas)	Feb. 14-19
Pernambuco (Recife)	Feb. 21-28
Ceara, Fortaleza	Feb. 2-4
Para-Belem	Mar. 6-9

At the various cities mentioned above I would be pleased to see or be put in touch with the agricultural stations of those cities and to have some sort of transportation available, preferably a Jeep and driver who could stay with me during my visit and would be able to help out with some of my activities. I would be glad to have one of the agricultural officers of each institution who might be interested in my studies of mandioca accompany me during the time there. I do not know whether this is a possibility or not. I merely suggest it in hopes that you might find a way or might know of someone who has such an interest. If I understand correctly, through your organization transportation facilities and possible local assistance could be provided through your good offices.

I will plan to study specimens of Manihot as they occur in culture collections at the various institutions and would hope also to spend some time looking for varieties which occur in actual localities near to the agricultural stations. I am much concerned with the wild species closely related to the cultivated ones and would like to make a sample of these species which are variously called escaped or wild mandioca.

If it is possible for you to furnish co-operation within the periods mentioned above, I would appreciate an early indication of this possibility; and when you have let me know, then I can give you further details of my exact dates. As pointed out, I would like of course to co-operate with the agricultural stations at the cities mentioned above.

I shall look forward to hearing from you.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

August 4, 1960

Dr. E. H. Doll
International Cooperation Administration
USOM/ Brazil Point Four
Rio de Janeiro, Brazil

Dear Dr. Doll:

I am very pleased to have your favorable letter of July 13 concerning the cooperative project between myself and the various Brazilian organizations on the study of mandioca. If I may, I will delay the giving of specific details in the actual cooperative process until I have received from The National Science Foundation the actual amount that I hope to receive from them. At that time (it should be by September 1) I will write you the details concerning the assistance required.

I would say at the moment that the most important kinds of assistance required would be in terms of manpower and travel in Brazil. I should be very pleased to have with me in Brazil one of the agronomists or other workers who have had some interest in mandioca. I would be pleased to give this worker the benefit of my experiences and teach him as we go some of the techniques which I have employed to study the problems.

You may be assured that any publication would go to each of the institutions interested, and you may be further assured that my endeavors will be of a practical nature to help establish a systematic collection of Brazilian clones in Brazil in addition to looking for propagating material to be sent to other areas. And further, since this is an international operation, if there are any interesting materials which any Brazilian institution would like to have, I will be glad to supply them.

You will be hearing again from me as soon as I have had information from The National Science Foundation on the grant which they propose to give me.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

INTERNATIONAL COOPERATION ADMINISTRATION
UNITED STATES OF AMERICA OPERATIONS MISSION TO BRAZIL
POINT FOUR

Rio de Janeiro, Brazil
July 13, 1960

Dr. David J. Rogers
Curator of Economic Botany
THE NEW YORK BOTANICAL GARDEN
New York 58, N.Y.
U.S.A.

Dear Dr. Rogers:

We are pleased to advise that we have now received letters from most of the Agronomic Institutes of the Ministry of Agriculture and they have all indicated an interest in your proposed project. They will be especially interested if they can be promised a supply of reports and recommendations of your studies.

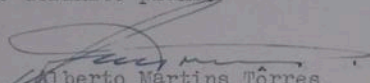
The copy of the proposal that you presented to the National Service Foundation for its support is very informative and presents some very worthwhile information. As you indicate in this document, Manioc supplies a large amount of food especially carbohydrates throughout Brazil.

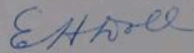
We interpret your proposal to call primarily for local transportation on the part of Brazil. It would appear that your international travel will provide for most travel between the major cities in Brazil. We think that arrangements can be made here to cover plane travel to points not covered by international travel.

The question of taking, assembling and shipping of cuttings will call for some careful planning but we believe that this will not prove too difficult.

We will appreciate hearing of your more definite plans, as to actual schedule, as soon as possible, so that appropriate contacts can be made at the locations that you will visit. Please advise if any travel other than local jeep transportation will be needed. Also indicate what the different Institutes that assist you in the project will receive from the study as a result of their participation.

We will await a reply from you indicating your more definite plans.


Alberto Martins Tôrres
Diretor Brasileiro


E. H. Doll
Diretor Substituto Americano



SECRETARIA DA AGRICULTURA

MOD. 1941

INSTITUTO AGRONÔMICO DO ESTADO DE SÃO PAULO

CAIXA POSTAL. 28

CAMPINAS — BRASIL

S. P.

II

Fito 65/60

Campinas, November 28, 1960.

Dr. David J. Rogers
Curator of Economic Botany
New York Botanical Garden
New York 58, New York, USA.

Prezado Dr. Rogers : -

A carta do Sny., dando-nos notícia da sua visita, chegou-nos às mãos dias atras. Como o colega Normanha estava ausente, em férias, achamos que seria melhor mostra-la a ele também, entusiasta de Manihot.

Julguei que deveria escrever ao Sny., em português, não em inglês, em virtude de ser uma das espécies, Manihot utilissima Pohl, tão brasileira, tão útil, tão cultivada, que falar em mandioca, ou Manihot, implica conhecer o português. Atras atrás, começamos estudos visando conhecer melhor diversas espécies do genero. Iniciamos trabalho de coleta de espécimens botânicos, visando ver bem de perto as diferentes plantas, primeiro ao redor de Campinas, depois no âmbito do Est. de S. Paulo, para em seguida invadir as áreas manioqueiras de Minas Gerais. Ao mesmo tempo que ampliávamos o raio de ação, fomos catalogando a imensa literatura sobre mandioca, vinda desde os tempos de Brasil colonia. Conseguimos reunir muita coisa e verdade, mas no momento, apenas faltando-nos um ano para retirarmos da vida publica, aposentando-nos, vemos que tudo ficou por terminar. Si não nos dedicamos mais a estudos sobre a planta que é de fato fascinante como o Sny. mesmo reconhece, foi exclusivamente a mingua de tempo na época em que eramos mais jovens, com mais coragem para enfrentar as áreas pobres e secas onde abundam espécies do genero, a ponto de se poder, seguindo-se Vavilov, chamar da caatinga como centro de distribuição do grupo. Aprestamos tudo para viagens a serem feitas seguindo o roteiro de Pohl, em Goiás e Minas, e possivelmente o de Martius na Bahia. Acrescentemos detalhe, o qual não foi verificado a contento ate hoje: existe um fungo da ordem Uredinales, Uromyces manihotis P.Henn. cujos telio e uredosporos ocorrem em Manihot utilissima Pohl, cujo ciclo ainda esta incompletamente investigado por não se saber qual venha a ser o novo hospedeiro. Inferimos que essa planta deva ser uma das caatingas, si andarmos certos na origem de Manihot, porque quanto mais caminhamos para a zona seca, mais variado e numeroso o rol das espécies. Aqui mais para o sul, em Campinas, por exemplo, a Ferrugem das folhas e ramos da mandioca não permanece por longo tempo no local, não importa o Uredo que a acompanha. O ciclo se rompe misteriosamente, pelo menos a nos assim tendo sido, não nos permitindo suspeitar da segunda planta levando os cielos a picnics, para entender bem o problema. Ate o presente, não conseguimos resolver a questão. Já a temos dado a terceiros, mas o ciclo da ferrugem continua apenas no II e III, faltando o complemento. Estaria na caatinga o segundo hospedeiro? Quem sabe. Somente investigação cuidadosa poderia aclarar este ponto. Vale daí o nosso interesse em conhecer bem a euforbiacea, não somente na morfologia, bem como no que tange a estrutura interna. Daí aquele trabalho publicado sobre a anatomia da parte vegetativa da mandioca.



SECRETARIA DA AGRICULTURA

MOD. 1141

INSTITUTO AGRONÔMICO DO ESTADO DE SÃO PAULO

CAIXA POSTAL, 28
CAMPINAS — BRASIL

S. P.

II

Arrumamos um texto mais avançado sobre Manihot, mandioca, e mantivemos um pequeno herbarium vivum, mas não o pudemos leva-los avante, pelas razões indicadas acima. Esboçamos um trabalho cuidando das molestias da mandioca. Coletamos tambem vocabulario pertencente ao tupi, daquilo que mais de perto atinge mani. Esse pouco continua ainda por terminar, por melhorar. Duvidamos sinceramente que possamos, dentro de tao exiguo tempo que nos resta, por em ordem emprestando-lhe o sentido exato que tem, completando o significado das muitas especies de Manihot, para não falar no exagerado numero de "variedades" do que o bugre designava por api, muitas delas cultivadas ainda desde o norte do Brasil ate o Sul. Assim, para o Sr. ter uma ideia sobre o genero, carecia demorar-se entre nos. Viver com os brasileiros. Ver como a planta o socorre, nutrindo-o mesmo nas epochas criticas. Não e sem razão que chamamos a mandioca pelo nome de pão dos bugres, trigo brasileiro.

O Sr. aqui chegando, poderá ver a coleção da Seção de Raízes e Tuberculos. Eu mesmo não gantenho mais o herbarium vivum. No lugar constroe-se grande dependencia do Instituto Agronomico. O que me restar são notas, manuscritos, e saudosa memoria de haver trabalhado com uma das plantas mais esquivas do mundo.

Assim, de minha parte, o Sr. poderá vir a hora que quizer, em janeiro proximo vindouro, podendo me procurar na Seção de Fitopatologia.

Fazendo votos para que seu projeto se torne realidade, e augurando uma ótima viagem, saúdo-o cordialmente

Viegas
A.P. Viegas
Seção de Fitopatologia

APV/aa.

on I. anferedat has been to a collection and, if you have here you arrive
(Dave: most of the "wells" are editorial)
Dear Dr. Rogers, I have been thinking about you and the book you are writing
Your letter, giving us notice of your visit, arrived in my hands yesterday.

As my colleague, Norman, will be away on holiday, we shall probably want to explain(report) to him also, an enthusiast of Manihot.

You will note that I am writing to you in Portuguese, not in English, by virtue of the fact that one the species, *M. utilisissima* Pohl, is Brazilian, so so useful, so (much) cultivated, that to speak of manioc or Manihot implies (requires) a knowledge of Portuguese. Years ago we began studies aiming to know better the many species of the genus. We initiated the work of collecting botanical specimens aiming to see close at hand the distinctions among the plants, first around Campinas, then elsewhere in Sao Paulo, in order to invade afterward the manioc-growing areas of Minas Gerais. At the same time that we increased the scope of operations, we began cataloging the immense literature concerning manioc, beginning from the time of colonial Brazil. It is true we got into a big thing, of which more in a moment, only a year before (my) retirement from public life, pensioned, making us see(have) everything come to an end. If we(I) do not dedicate myself further to the study of the plant which is in fact as fascinating as you affirm, it was (is) or will be a failure of time in an era when we were (I was) younger, ^{with} more courage to confront the poor dry areas where species of the genus abound, a point made according to Mavilov, dreaming of the caatinga as the distributional center of the group. We prepare everything for trips this time following the guide(route) of Pohl in Goias and Minas, and possibly that of Martius in Bahia. We add a detail, one that was not verified as to content until today: there exists a fungus of the order Uredinales, *Uromyces manihotis* P. Henn, whose telio- and uredosporis occur in *M. utilisissima* Pohl, whose cycle is still incompletely investigated in regard of what is the new(other) host. We suspect that this plant is of the caatinga, if we go back to the origin of Manihot, because the more we travel in the dry zones, the more varied we find the roll of species. Further to the south, here in Campinas for example, the "ferrugem" (ferrugineous character?) of the leaves and stems of manioc does not remain long in place, (and) does not import(support?) the uredo which accompanies(it). The cycle continues mysteriously, by means less clear to us, not permitting us to ascertain the plant bearing the ecio- and pycnosori, thereby suggesting a good problem. Until now we haven't been able to answer the question. We have already given the third, but the cycle of the "ferrugem" continues only in II and III, lacking (rendering incomplete) the complement. Will the second host be in the caatinga? Who knows. Only careful investigation will clarify this point. The main point from there regarding our interest in knowing well the euphorbiaceous plants, not only the morphology, is learning better the internal structure. Thus this little paper on the vegetative anatomy of manioc. We furnish a more advanced text on Manihot, manioc, and we keep a little herbarium vivum, but we (I) cannot carry on(with it), for reasons indicated above. We outline a project which is a disease of manioc. We amass a pertinent vocabulary in Tupi, of which the greater part stems from (the root) mani. This little(gob) will continue(continue) to completion, for the better part. We sincerely doubt that we can, within so little time that remains to us, by an order lending itself to rest exactly upon us, finish the listing of the many species of Manihot, not to mention the enormous number of "varieties" which the "bugre" (?) have designated api, many of these cultivated from the north to the south of Brazil. Thus, with you having some knowledge of the genus, (lit:) it will need to delay itself between us(?) To live as Brazilians. To see how a plant helps, feeding us in critical times. It is not without reason that manioc is known by the name pao des bugres, trigo brasileiro.

When you arrive here you will, the collection of roots and tubercles. I no longer keep a herbarium vivum. No great demands are made on the Instituto Agronomico. What remain to me are complete notes, manuscripts, and the healthy memory of having worked with one of the world's most coy (cunning) plants.

Thus, ~~for my parte~~, you will be able to live an hour of interest next January, allowing me to show the Section of Phytopathology.

With my vote that your project will become a reality, and wishing you a fine

trip, I salute you profusely....

poor dry areas where species of the genus abound, a point also according to

greater part stems from the root *man*. This little (too) will continue to be a disease of language. We mean a technical vocabulary in it, of which the

November 10, 1960

^h
Dr. ~~Ames~~ Pinto Viegas
Instituto Agronomico
Campinas, Sao Paulo, Brasil

Dear Dr. Viegas:

In my studies of the systematics of the cultivated species of Manihot, I have read of the fascinating work being carried on by you and others at the Instituto.

I should be very pleased if I could visit you at Campinas some time during the month of January, 1961. I would be very pleased to be allowed to take photographs of the cultivars of Manihot in your collections there and to make herbarium specimens of the plants in your collection.

I trust that this will be possible, and I look forward to meeting you and having the opportunity to talk about Manihot with you.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

November 23, 1960

Dr. Hugh Popenoe
College of Agriculture
University of Florida
Gainesville, Florida

Dear Dr. Popenoe:

Thank you kindly for your letter of November 17. I am pleased to hear that you would be willing to examine some of the varieties of Manihot in Guatemala. The following questions may give you a guide on things which will be useful to me:

1. How old are the plants when harvested?
2. How high are the plants at the time of harvest?
3. Draw a rough sketch (only partially to scale) which shows the branching pattern as follows:
4. The color of the root, either dark brown or light tan. (There may be variations here which cause you difficulty in determining between these two points; but if you can, force a decision on yourself and then qualify it if you must.
5. Surface condition of the root, either roughened epidermis or smooth epidermis. (The same qualifications exist as for #4 above.)
6. A habit photo of the plant with some sort of rough scale would be very useful.
7. If there is a local name for the variety, it would be helpful to know this.

Dr. Hugh Popenoe

-2-

November 23, 1960

If you have time after all that to find out how the roots are prepared for eating, this would be useful. Are the roots boiled, ~~or~~ are they grated, scraped, and the material grated? Or is there some other treatment?

I shall not impose upon you the task of making herbarium specimens as I am sure this would be a burden to your normal activities. Even part of the above information would be useful to me. Thank you for your offered assistance.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

UNIVERSITY OF FLORIDA
GAINESVILLE

COLLEGE OF AGRICULTURE

November 17, 1960

Dr. David J. Rogers
Curator of Economic Botany
The New York Botanical Garden
New York, 58, New York

Dear Dr. Rogers:

I am afraid that I cannot answer your questions adequately on the Manihot varieties of the Polochic Valley. Certainly, I have seen much larger plants there but of a different variety than the ones I saw in the company of Dr. Conklin. If I remember correctly, the ones we saw together had thinner leaf lobes than usual and had much dark red in the coloring.

I will probably be going to the Polochic Valley and Lake Izabal at Christmas for a week. During the spring I hope to spend a considerable amount of time there. I would be most happy during my trip to collect any information or material which you desire. I have been interested in Manihot in many parts of the world but have never had a chance to study it intensively. In this respect I would be most happy to cooperate with you. It might help if you could outline specific questions on the cultural practices which you would like answered.

Sincerely yours,

Hugh Popenoe

HUGH POPENOE
Assistant Professor of Soils

HP:dad

5. Color of root:

1. dark brown
2. light tan

6. Surface of root:

1. roughened epidermis
2. smooth "

7. Height of plant:

1. How old are the plants when harvested?
2. How do they prepare the roots to eat?
Boil? Grate, squeeze & dry? Other?
3. Height of plant at time of harvest.
4. Draw rough sketch of branching pattern, thick:  ground level

November 15, 1960

Dr. Hugh Popenoe
Department of Soils
College of Agriculture
University of Florida
Gainesville, Florida

Dear Dr. Popenoe:

I recently had copies of Dr. Harold Conklin's photographs of Manihot in Guatemala. These Manihot plants which he photographed are quite interesting to me as part of my research. They seem to be much smaller than the average Manihot specimen.

I questioned Dr. Conklin about the maturity of these plants, collected along the Polochic River, but he seemed to be a little vague about the maturity and suggested that I write to you asking if you could shed any more light on Manihot in this area of Guatemala. I thought perhaps you might either know this information now or might be able to look a little more carefully at it when and if you return to the area.

I would like, if possible, to know something about the general cultural practises with the Manihot in this part of Guatemala and whether these rather small plants are just immature (they seem to be about knee high) or whether there is some selection here for a particular low-growing variety.

I will be very pleased if you can shed any light on this for me.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

November 10, 1960

Dr. Alcides Teixeira
Instituto de Botanica
Caixa Postal 4005
Sao Paulo, Brasil

Dear Alcides:

I have just recently received sufficient funds to bring me to Brasil to continue my studies of Manihot. I expect that I will be in Sao Paulo some time around the first or second week in January. Of course, much of my work will be done at the Agronomic Institute in Campinas, but I will certainly wish to visit you there in Sao Paulo. I have written to George Eiten also announcing my intentions.

One of the subjects that I brought up in my letter to George was the possibility of a student assistant who might be interested in learning some of the techniques for the systematic study of cultivated plants to accompany me during my two-month period there in Brasil. I will have sufficient funds to support this student for the two-month period, both for travel and for living expenses. Unfortunately, I cannot pay a salary.

If you can think of a student who would be interested in such endeavor who would be free at that time for two months, I would be pleased to hear of him. Perhaps if a student is not available then, there may be some other assistant who could be made available for this work. However, I leave such possibilities as this to you and hope that there can be some solution to it.

I look forward to seeing you and Mrs. Teixeira in January.

Very sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

November 10, 1960

Dr. George Eiten
Instituto de Botanica
Caixa Postal 4005
Sao Paulo, Brasil

Dear George:

My grant finally came through for the study of Manihot, and I plan now to spend two months in Brasil this coming January and February. I expect that I will start in the south and work slowly northward (or perhaps not so slowly), but the first part of my trip will be there in and about Sao Paulo.

If there are any graduate students there who have an inclination toward field work in taxonomic economic botany, I wish you would notify them. I will have some funds to help defray expenses of a Brazilian during the two-month period. It would be nice if I could get some student who has some interest in this field and who could take off time from January through February to accompany me, both for his own edification and for my assistance. Of course, if he can speak English, this would be a very great help. When I was in Belem, I found that my textbook of Portuguese from the Berlitz School was a total loss; so a translator would be very helpful.

Please let me know if you have any such assistants or if you know some other institution where I might find such an assistant. Looking forward to my visit with you folks, I am,

Sincerely

David J. Rogers

DJR:MDF

November 7, 1960

Mrs. Lazella Swarten
Botanical Libraries
Harvard University
Cambridge, Massachusetts

Dear Mrs. Swarten:

We have received a photostat from the first volume of *Flora Brasiliensis*. Unfortunately, there was some confusion, and we have received a photostat of the wrong pages.

We received the pages (Roman numerals) LXXIX through LXXXII. I think that we should have indicated that the pagination we were interested in was the Arabic numerals in the same series.

In the event that this is not clear, however, I am particularly interested in those pages which list the itinerary in Brazil of Pohl. Could you please ask the Photostat Department to make another copy giving these pages?

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

November 3, 1960

Mr. Charles H. Frank, Jr.
Ercona Corporation
16 West 46th Street
New York 36, N. Y.

Dear Mr. Frank:

Enclosed is the purchase order from The
New York Botanical Garden, whose non-profit
status has long been established.

I trust that the item on the mute speaker
can be taken care of.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF
Enclosure

October 13, 1960

Dr. Francis Tamas, President
Ramie Development Company (W.I.) Ltd.
28 Hope Road
Kingston 10, Jamaica, West Indies

Dear Dr. Tamas:

Dr. Richard Klein, Chairman of our Committee on Membership, was kind enough to show me your letter of inquiry concerning the Society for Economic Botany. First of all, let me add to Dr. Klein's invitation our hope that you will decide to join us. We are most pleased to have men of your interests in an organization which we feel has wide possibilities for the development of research on plants of economic importance.

I was particularly interested in your statement that you have established a dehydrator unit for ramie and cassava leaves. My own research interest has been with various aspects of the study of cassava, and I have spent a number of months working with the Department of Agriculture at Hope Gardens making collections of local varieties and arranging these in some systematic manner.

I recently spent two weeks in Jamaica making collections of foliage of selected varieties to be tested for the amino acid components in the foliage protein.

I would be interested to learn of your interests in cassava and to know whether you have made any endeavor with the Department of Agriculture. It might be mutually profitable if we could work together with cassava. I would be interested to know of your work and whether or not you desire any assistance in the program.

Sincerely yours

David J. Rogers, Ph.D.
Managing Editor, ECONOMIC BOTANY
Curator of Economic Botany

DJR:MDF

July 22, 1960

Dr. Richard A. Howard
Director, Arnold Arboretum
22 Divinity Avenue
Cambridge 38, Massachusetts

Dear Dick:

I finally get around to acknowledging receipt of the photograph of Manihot sent to you by Dick Proctor. I am pleased to see this and will put it as a part of my file. It is interesting to know that the plant is important enough to be made into a post card.

Sincerely

DJR:MDF

May 11, 1960

Dr. H. B. MacPhillamy
CIBA
Summit, New Jersey

Dear Dr. MacPhillamy:

It was indeed a pleasure to meet you and to speak to your group yesterday. There is one item that I would have liked to have had a chance to speak to you about but was unable to because of time pressures.

I believe that Mr. Anzlowar mentioned that I would be in Brazil in the month of June. He mentioned two possibilities for some co-operative work for you while there: (1) actually collecting materials of interest to you and (2) contacting reliable collectors for material that you may wish in the future.

Inasmuch as I will be in Brazil for such a short period and then only in Belem (at least on this trip), I doubt that I could serve your purposes very well for No. 1 of the above possibilities. It is possible, however, that I will have an opportunity to make contacts with several local botanists and agricultural people at the Instituto Agronomico do Norte at Belem. It would be very easy for me to make inquiries among these men to see if any of them have any interests and capacities to do the sort of collecting which you might desire. If this activity does have interest to you, I will be happy to carry out any instructions which you may care to give me on this possibility.

I expect to leave for South America about the first of June and will be there just one month. Next Fall I will probably be taking a more extensive tour in Brazil and also to the western parts of South America, at which time I might be able to accomplish some of the activities under possibility No. 1 above. We will have an opportunity, I trust, to discuss these problems later this summer, certainly before I leave on the trip in the Fall.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

May 9, 1960

Dr. R. O. Whyte, Chief
Crop Production and Improvement Branch
FAO
Viale delle Terme di Caracella
Rome, Italy

Dear Dr. Whyte:

I appreciate your considerations of our endeavors for economic botany. I can also understand that it would be impossible for you and FAO to undertake such an enterprise.

We of The Society for Economic Botany will certainly endeavor to pursue these tests as I am sure that there is a very critical need of the endeavors to bring the literature of economic botany into some meaningful sequence. Also, the question of the systematics of cultivated plants is of very great importance.

I was quite interested in your note that you are planning to convene an international meeting on plant exploration, collection and introduction. I would hope to be able to attend such a meeting because of my research interested in the tropical crop, Manihot esculenta. I have been concerned with the collections of Manihot and hope to be able to have some co-operative endeavor to bring together the many varieties in one location. It would therefore be of interest, I think, both for me and perhaps to the meeting to talk about this particular crop.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF



FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS

Please quote:
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Viale delle Terme di Caracalla
R O M E

Cable Address: FOODAGRI, ROME
Tel. 590011 - 590211 - 599071

APR 25 1960

Dear Dr. Rogers,

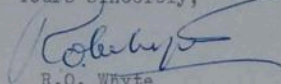
Many thanks for your letter of 7 April. I sincerely regret that it has not been possible for me to participate in the first annual meeting of the Society for Economic Botany at Purdue University, which I understand is in progress at the moment. I hope you have a very successful session.

I find it very difficult to reply to your request for comments on the proposal to hold a meeting of a number of specialists whose interests lie in the broad field of economic botany. Such a meeting would certainly be of the greatest value, if only to bring the practical applications of botanical research to the notice of botanists - pure and/or economic. There is a great need for co-operation in putting in order the taxonomy and nomenclature of economic plants, subjects to which you refer in your letter.

As to the implementation of such a conference, I hope that you are not considering that FAO might undertake such an enterprise. Our Program of Work is so fully booked until the end of 1963 that we could not contemplate anything quite on these lines. Our nearest approach to economic botany is the convening of an international technical meeting on plant exploration, collection and introduction, which we propose to hold in Rome in July 1961.

I am afraid my remarks are not particularly constructive, but I do hope that your Society for Economic Botany decides to proceed with the idea.

Yours sincerely,



R.O. Whyte
Chief

Crop Production and Improvement Branch

Dr. David J. Rogers
Curator of Economic Botany
The New York Botanical Garden
New York 58
New York, U.S.A.

SARAH LAWRENCE COLLEGE
BRONXVILLE, NEW YORK

TELEPHONE
DEERFIELD 7-0700

May 2 1960

Dr. David J. Rogers
Curator of Economic Botany
New York Botanical Garden
New York 58, N.Y.

Dear Dr. Rogers:

I am eager to learn all I possibly can about manioc. I shall complete an ethnographic monograph on a manioc-cultivating tribe by the end of this summer and it would help me to understand their agriculture if I knew more about manioc. I am not trained in ethnobotany unfortunately.

I cannot agree with you more that the question of origins of cultivated plants is complicated and also anthropological. "My Indians" of the NW Amazon region, for example, eagerly sought to collect shoots from as many varieties as possible. Thus, region of greatest variety need not be place of origin.

You might find Dr. Gertrude Dole at Columbia Anthro. department a good person. I heard an interesting paper of hers on methods of manioc preparation. I shall be glad to tell you what little I know about Tropical Forest South America. We leave town sometime towards the end of June. If we could get together sometime in June that would be fine with me. Drop me a note again when you are free.

Sincerely,

Irving Goldman
Irving Goldman

April 26, 1960

Dr. Irving Goldman
Sarah Lawrence College
Bronxville, N.Y.

Dear Dr. Goldman:

Dr. Murra, of Vassar, recently wrote that you are interested in manioc studies. He may have told you something about my work and interests, but let me fill you in on one or two aspects of my work, and you can decide if they have any interest to you.

For some time, I have been trying to classify the varieties of the cultivated manioc, but my studies and field work have so far been concentrated on the peripheral areas of manioc cultivation--the West Indies and Central America. I have found it useless to deal with the cultivated plants alone, and have had to consider other "wild" species of the genus *Manihot* closely related to the cultivars of *M. esculenta*. Of course, any good classification should not only reflect the present relationships, but should also at least hypothesize on the origins of the cultivated plants.

This last aspect, of course, is one of great complications. Origins of purely wild plants is complex enough, but origins of cultivated plants is a problem not only of botanical nature, but as much an anthropological one. I will, therefore, have to lean heavily on anyone who can assist in this area, in which I have no formal training. It seems that there are a number of people in the New York area interested in South American peoples, and I assume that you know most of them.

I hope to go to South America next fall to collect materials for further study of the manioc problem. It would be helpful if, before I start out, I could ask your opinion on areas in South America which you consider fruitful for botanical-anthropological investigation, on methods of data collecting, etc. Under any conditions, it would be helpful to me, to be able to hear of your experiences in South America. I trust that at some date convenient to you, preferably in the summer, we may get together.

Sincerely yours,

David J. Rogers
Curator of Economic Botany

April 27, 1960

Dr. John V. Murra
Department of Anthropology
Vassar College
Poughkeepsie, New York

Dear Dr. Murra:

Thank you for informing me of Dr. Irving Goldman's interest in manioc. It is certainly pleasing to know that there are several people in this area whose interests are such.

You perhaps know of the activities of Dr. Robert Carneiro and his wife. Dr. Carneiro is at the American Museum. It would seem to me that we might profitably have a small discussion together some day to see what pooling of resources and of information might accomplish. This is an idea which needs some development, of course, but I think it would be profitable for us to see whether or not there isn't some opportunity to advance each other's work.

It appears that I will be out of this country from the first of June until the end of June but that I will be here in July. We might possibly consider some discussion at that time.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

VASSAR COLLEGE
POUGHKEEPSIE, NEW YORK
Department of Economics, Sociology & Anthropology

22 April 1960

Dr. David J. Rogers
Curator of Economic Botany
The New York Botanical Gardens
New York 58, NY

Dear Dr. Rogers,

Since our last exchange of letters, I had a chance to talk with Dr. Irving Goldman of Sarah Lawrence College. He was very interested when I told him of your studies of manioc, since he is completing a study of the Cubeo, in forest Colombia, who are great manioc growers and commentators on manioc raising. Goldman's preliminary statement appears in the Handbook of S American Indians, vol. III, pp. 763 ff.

You may want to contact Dr. Goldman in Bronxville.

Sincerely y ours,

John V. Murra
John V. Murra

507.973
Sm7

April 15, 1960

Dr. John V. Murra
Associate Prof. of Anthropology
Vassar College
Poughkeepsie, New York

Dear Dr. Murra:

Thank you for your letter of the 12th. I note that you will be in New York this summer, and I hope that we will have an opportunity during that period to get together for discussions. Anything before June is almost impossible for me.

I will call you at the phone number that you gave me, I hope sometime in June.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

VASSAR COLLEGE

POUGHKEEPSIE, NEW YORK

Department of Economics, Sociology & Anthropology

12 April 1960

Dr. David J. Rogers
Curator of Economic Botany
The New York Botanical Garden
New York 58

Dear Dr. Rogers,

I was glad to hear from you and about your plans. It would be good to get together and talk about our mutual interests.

Since my research interests have been centered on the Andean highlands, where Inca and other civilizations originated, I have concentrated on the potato, and must confess that I have neglected manioc. I have a paper in press for over a year now, in which I draw attention to the cultural differences surrounding the cultivation of potatoes and other Andean tubers as contrasted to maize. If it ever appears, I will be glad to send you a copy...

Of course, Sauer has suggested that highland root agriculture may have its stimulus from the manioc cultivators in the forest. This and many other matters should be of common interest to us and at least the starting point of dialogue...

Before you go to Western S America next year, you may be interested to hear of the many very good young men now working out of La Molina outside Lima. One of them, specializing in maize, is now at the Harvard arboretum, working with Mangelsdorf; we have enjoyed excellent collaboration with him and his colleagues when I was in Peru ~~last~~ year.

I am in New York every weekend and frequently on Tuesdays. My phone number in the city is Jackson 2-6125 and I will be around most of the

summer, too.

Hoping to be able to meet you before
too long, I remain

sincerely yours,

John V. Murra

John V. Murra
Associate Professor of
Anthropology

April 8, 1960

Dr. John V. Murra
Department of Sociology and Anthropology
Vassar College
Poughkeepsie, New York

Dear Dr. Murra:

After a great delay between hearing of your interest in South American subsistence crops from Dr. Sturtevant, I am writing to ask if you have information and interest in manioc.

Dr. Sturtevant has probably told you that I have been working on the classification of the cultivars of Manihot for some time and that I am quite interested in the anthropological aspects. If you are ever in the Bronx, I would be pleased to have you come for a visit to talk about manioc and any other plants of interest to you in South America.

I am projecting a collecting trip to western South America some time next year but will be in eastern South America, I hope, this coming September. It would be profitable to me if I could have advice from an anthropologist on appropriate data collecting.

Looking forward to seeing you some time, I am,

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

YALE UNIVERSITY
SCHOOL OF FORESTRY
NEW HAVEN, CONNECTICUT

14 April 1960

Dr. Robert E. Woodson, Jr.
Curator of the Herbarium
Missouri Botanical Garden
St. Louis 10, Missouri

Dear Bob,

At the risk of incurring your everlasting wrath, I am writing to ask one more favor. Ken collected a few numbers of Manihot at the request of Dr. Rogers of the N. Y. B. G. for his work on this economically important plant. Also, there are detailed notes regarding the particular plants collected in the collection books. Dr. Rogers has asked on several occasions that I send him the specimens and the corresponding notes, but in the furor of activity associated with my flight from Yale, I, alas, forgot to do this. Might I ask then, on bended knee, that when you are able, you do this for me? He would like a voucher specimen and a copy of the notes for each specimen. As I recall there are only two or three. Perhaps you could set these aside when you come across them in the routine examination of the material.

How is the work coming? I would be very much interested to learn of the value (valuelessness) of our material. Incidentally, Ken has written a letter (in Spanish) to our guide to ask for a detailed description of the tops of some of the coastal ranges of the Darien. Our guide was one of a crew engaged in the International Geodetic Survey work on triangulation, and spent considerable time on Sapo, Vic, Jaqué, and several other peaks along the coast. We are hoping to use this information when we apply for money to go down Moses to Panama again. Perhaps in a year or so we will be able to make the trip. The time depends on many things.

Best wishes,

William L. Stern



INSTITUTO INTERAMERICANO DE
CIENCIAS AGRÍCOLAS

TURRIALBA, COSTA RICA

4 March 1960

Dr. David J. Rogers
The New York Botanical Garden
Bronx Park
New York 58, N.Y.

Dear Dave:

Your suggestion of using the U.N. Special Fund has been taken very seriously, and plans have been elaborated to propose a well round project. The details of the project are going to be discussed in the Institute Technical Advisory Council meeting which will take place in Lima next week. When they are drafted, I will send you a copy and I hope you may be able to study it and send any suggestion or criticism.

Sincerely yours,

Jorge León, Head
Plant Industry Dept.

*Longwood
Gardens*

Kennett Square, Pennsylvania

Department of Education

February 23, 1960

Dr. David Rogers
The New York Botanical Garden
Bronx Park
New York 58, New York

Dear Dave:

Thanks for yours of the 16th. I will be looking forward to further correspondence directly from Nicholson regarding the Latin American business.

I had not considered presenting a paper at Purdue on the basis that probably you would have more than enough. If this is not true I will see what I can do, though at the present I don't know what would be the subject. I also seem to have misplaced the necessary blanks to be filled in but assume I can get more from either you or Quentin Jones.

Yours sincerely,



W. H. Hodge, Head
Department of Education
and Research

WHH:jb

February 16, 1960

Dr. W. H. Hodge
Longwood Gardens
Kennett Square
Pennsylvania

Dear Walt:

Nicholson is quite pleased to have found that you are interested in the consultant activity for Latin America. I have communicated your letter to him, and he hopes to correspond with you shortly concerning details, etc. Thanks for writing.

Yours

DJH:MDP

P.S. We are hoping you will feel like contributing a paper at the Society meetings in Purdue. If you see anyone else, you might suggest to them that there is still plenty of room on the program for contributed papers.



Kennett Square, Pennsylvania

Department of Education

February 15, 1960

Dr. David J. Rogers
The New York Botanical Garden
Bronx Park, New York 58, N. Y.

Dear Dave:

Your letter of February 5, reporting on discussion with Dr. G. Edward Nicholson, United Nations Agricultural Consultant, is of much interest particularly as it involves a program in Latin American countries where I have had considerable experience in the past, both in teaching and in phases of agricultural research or development.

The work sounds stimulating and highly worthwhile. By combining vacation leave with a short leave of absence I could probably make arrangements here to serve as an independent observer for up to a total of two months, but not before this summer or perhaps mid-June. My prior experience and connections in the countries involved could possibly make a difference in the over-all time required to do a thorough job.

Before any decision can be made here, I should have, of course, more complete details of this proposal. I would assume, also, that in considering this work there would be no financial loss incurred by me salary-wise.

I am attaching a duplicate copy of this letter which you may care to have for Dr. Nicholson.

Yours sincerely,

W. H. Hodge, Head
Department of Education
and Research

WHH:kf

February 5, 1960

Dr. Walter H. Hodge
Longwood Gardens
Kennett Square
Pennsylvania

Dear Walt:

Yesterday in conference with a friend of mine, Dr. G. Edward Nicholson, we were discussing some possibilities which seemed rather as though they pointed to you. Dr. Nicholson is an agricultural consultant to the U. N. Special Funds. The Special Funds of the U. N. are employed to assist in developing research and education programs in "underdeveloped" countries. They offer support on a very large scale. At the moment they are considering a large grant to assist in agricultural research and education in Costa Rica, Columbia, Ecuador, and Peru. They have in mind over a million dollars for Costa Rica alone.

They are in need of independent advice concerning requests from various countries as to the suitability of the request for Special Funds. They need to have someone who could evaluate the capabilities of the personnel and the suitability of various research and educational endeavors at all or any level in these countries. At the same time, the advisor could also advise the various governments which made the requests as to the suitability of their program. Primarily the advisor would be for the Special Funds but could perhaps at the same time help the requesting agencies with their needs. Therefore, when Nicholson asked me for a suggestion of a man intimately acquainted with the agricultural and educational fields, particularly in these areas, I immediately thought of you.

Nicholson said that he would like to have someone who could observe the agricultural institutions in the four countries mentioned above to see whether they could actually handle the proposals which they have submitted or will soon submit to the Special Funds group.

Dr. Walter H. Hodge

-2-

February 5, 1960

Would you be able to take off some time as a consultant for the U. N. Special Funds as an independent observer--that is, independent of any official connection--to advise Special Funds as outlined above? As I understand the situation, Nicholson is in need of a man who could possibly spend two to three months on this endeavor this coming summer. He asked me to write because I know you and he doesn't.

You might be interested to know that Nicholson was thinking of Edgar Anderson in this connection but has recently learned that Andy is at the moment rather sick and may or may not be able to handle the job anyway. Would you be interested in this and would you have the time? Let me know your reactions to this proposal as soon as is convenient.

Yours

DJR:MDF

CC--Dr. G. Edward Nicholson

January 4, 1960

Dr. Jorge Leon
I.I.A.A.
Turrialba, Costa Rica

Dear Jorge:

Thank you for your very agreeable letter of December 3. I am pleased to know of yours and Dr. Allee's favorable attitude toward the yuca studies. I delayed answering the letter until I had an opportunity to discuss the program further with Dr. Nicholson of U. N. Special Funds. Just before Christmas we had an extensive discussion covering many more aspects than the yuca studies. Dr. Nicholson suggested that he would be pleased if I passed along to you the full area of our discussion.

I will try to organize the thoughts of the discussion first and then fill in details. It is important to know that the objectives of the Special Fund group of the U. N. call for assistance in broad scope rather than in specific detail. They would like to see a whole institution strengthened rather than one project. They see their funds as of most value in giving institutions sufficient funds to develop their own programs at the discretion of the institutions. They would like to assist in the development of research and education in those particular items which the institution knows to be important, and which the institution cannot undertake without more financial assistance. They are interested in studies and activities which may be of vital significance to the peoples of a country, but which are not now being carried out because these studies are not those which will directly yield a bigger cash income.

I think that Dr. Nicholson and his associates are fully aware of the unique nature of the Inter-American Institute and its truly international operation. They would, therefore, like to put a considerable amount of funds behind it--to strengthen it as you who are intimately associated with the Institute, in consultation with the F.A.O., can best decide.

Dr. Nicholson mentioned that a recent grant request to the Special Funds from Turrialba for a forestry program was not considered favorably, not because the request itself was not meritorious, but because it was only one small item, and the Special Funds must consider their activities on a much broader scale. In other words, had the request for funds for the forestry study been one of a group of studies, all intended to strengthen both the agricultural knowledge and the institution which sponsored it, there would have been more likelihood of the program being approved by Special Funds.

An example of my meaning, and I think that of the Special Funds, is the recent program of assistance to The Central American Research Institute for Industry (ICAITI) with which you are probably familiar. Special Funds contributed nearly a million dollars to this organization to assist it in furthering their endeavors. These endeavors range from advice to private entrepreneurs interested in developing new industries in Central America to testing of techniques, productivity and management, laboratory tests and pre-investment surveys. The Special Fund contribution was specifically marked for the purchase of needed testing equipment and for salaries, but I feel sure that any other appropriate use of the funds could be arranged.

Dr. Nicholson and I spoke of the type of projects which would be acceptable for support. Certainly the forestry project earlier mentioned could be one. Studies on yuca, on Phaseolus (most important), perhaps on certain crops which could become vital cash crops (e.g. castor oil, or tannin-producing crops), drug-plant crops, vegetable oils, fruits, and even perhaps an ornamental crop--any or all of these, which you and Dr. Allee might have considered as valuable but at the moment unsupportable, including livestock-grassland research. Also, the education of students, with liberal allowance for travel and further study, would be welcomed as part of a request for funds. Even if you do not wish to build up a big permanent technical staff, perhaps requests for funds for temporary technical assistance on a consultation basis would be a part of your request. Certainly you would not wish to hire a man permanently to spend all his time on yuca, but would like to have several different workers (technical) on various endeavors--ecologists, agronomists, geneticists, physiological workers, soil experts, anthropologists, economists, etc., etc. Within the framework of your own needs, you could foresee some of the important expenditures of funds. You would certainly have to have additional funds to administer these projects--accounting and secretarial assistants with their specific equipment requirements and other financial needs. You would certainly need some additional farm equipment--tractors, et al. Your labor needs would expand. However,

the Fund will, in principle, only finance the foreign exchange component of personnel and equipment. "Local" costs and facilities must be financed by the participating government or governments.

Dr. Nicholson suggests that, if you are interested in such a request for funds, you start from the idea of working out a program that you consider important and build a budget on a basis that you know to be realistic and then add these items up, rather than requesting a flat sum, then try to fit the program to that figure.

That this is not a wild, unrealistic sort of plan is shown in the statements made by Dr. Nicholson, one that you will probably be contacted by FAO on these possibilities in the near future; two, that he would like to have a preliminary draft of your requests in about four months; three, that he would like to see the report and request discussed at the combined meeting of CAS and FAO in Mexico next August; and finally, that he would like to see the plan in operation by the beginning of 1961. I mentioned the probable contact by someone from FAO so that you will be forewarned and we hope forarmed. Again this suggestion was made by Nicholson.

If the program for yuca is to go forward, at least under the aegis of the U. N. Special Funds, it will have to be a part of the overall, integrated program of the Institute. If these further considerations are not too much for you, I will be glad to suggest how we could work out a detailed plan for yuca. I will suggest the type of personnel, the areas of importance (countries), and ways of involving students at several levels, including fellowships for study abroad. You could best give details of amounts needed to support students, of local costs for labor, for overhead costs, etc. I will be glad to suggest the type of equipment which would be useful, etc. In other words, for an individual study within the total study, I will be available for detailed plans, but I am obviously in no position to suggest to you the other types of activity in which you would like to participate.

With best wishes for a Happy New Year,

Sincerely

David J. Rogers
Curator of Economic Botany

DJR:MDF

CC--Dr. Ralph Ailee
Dr. G. Edward Nicholson
Dr. William C. Steere

February 25, 1960

Dr. Robert Carneiro
American Museum of Natural History
Central Park West
New York, New York

Dear Dr. Carneiro:

Finally I have completed the draft of the proposal to the National Science Foundation, at least to the point where I am willing to show it to you. I trust that you will read it with the practised eye of an expert, both on anthropology and on your general knowledge of the plants.

One of the points which I am least sure of are my statements on page 12 concerning the Ge people. I can be completely wrong on my interpretation of the South American studies and would appreciate your correction, if any has to be made there.

I trust that you will feel free to blue pencil the paper as is needed and make any recommendations which you feel will be useful to me.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF
Enclosure

February 24, 1960

Senor Francisco Alves Correia
Instituto Agronomico
Campinas, Sao Paulo
Brasil

Dear Sir:

If still available I would like to receive reprints of the following:

1. Tecnologia da mandioca. Brangantia 5: 213-237. 1945.
2. Acido Cianidrico em algumas variedades de mandioca. Bragantia 7: 15-22. 1947.

I am particularly interested in systematic studies of mandioca, and the information which you have published both on the variation and content of starch and HCN are very interesting.

I am enclosing herewith a reprint on protein content of Manihot in Jamaica which you may find of some interest.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF
Enclosure

February 16, 1960

Dr. J. R. Harlan
Department of Agronomy
Oklahoma State University
Stillwater, Oklahoma

Dear Dr. Harlan:

Thank you for the loan of your paper. I trust that you do not mind that I had a copy made of it. I thought it best to do this so that you would not be deprived of your copy too long.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

February 9, 1960

Dr. Claud L. Horn
U.S.D.A., A.R.S.
Office of Administrator
Washington 25, D. C.

Dear Dr. Horn:

Thank you for your recent letter. I might mention that since communicating with you last on my activities in cassava I have had the opportunity to meet Dr. G. Edward Nicholson, the agricultural advisor to the U. N. Special Funds. He too has considerable interest in the study of these plants both from the practical and theoretical standpoint, and through the Special Funds we are hoping that a sizeable project, which will attack both botanical and agricultural problems of cassava, can be undertaken. I will of course keep you informed of whatever develops in this connection.

A friend of mine and a staff member here at The Garden, Dr. Arthur Cronquist, will be in Washington next Tuesday. He is interested in doing some botanical investigation in Costa Rica. Knowing of your familiarity with Costa Rica, I recommended to him that he talk to you about several problems, particularly travel and areas of interest. Would you have an opportunity to see him some time on the 16th?

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
WASHINGTON 25, D. C.

OFFICE OF ADMINISTRATOR

Beltsville, Maryland

Mr. David J. Rogers
The New York Botanical Garden
New York 58, N. Y.

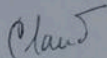
Dear David:

The unhappy fact that I have not already told you that I am glad to have your good December 23 letter about your doings on cassava is no indication that I have not been trying to promote cassava.

I would be mighty happy if ICA, in its programs to help Africans, would help set up and operate a few new African knowledge-developing centers and, in the appropriate ones of those, would include the long ago needed, thorough studies of cassava. I imagine that that would include your taxonomic (in its broadest sense) aims, human and animal nutrition studies of both underground and aboveground parts, cropping and selection, breeding, industrial utilization -- the works. Starting thus with one of the world's greatest and most efficiently producing crops which has really been little touched by science, tremendously valuable results would be promptly attained, which results would be the basis for better fed animals and man, and new and expanded industrial developments, using cassava products as a base.

I'll peck away in those directions as I can.

Sincerely yours,



Claud L. Horn
Technical Specialist

January 29, 1960

Dr. Elmer L. Severinghaus
Institute of Nutrition Sciences
Columbia University
600 West 168th Street
New York 32, N. Y.

Dear Dr. Severinghaus:

I am sorry I have delayed so long in returning to you the enclosed mimeographed paper on "Hydrocyanic Acid in Cassava." I have just had an opportunity to have this copied, and I find it a very interesting piece of work.

I also am very pleased to have the information on the amino acid composition of the leaf protein.

I had not heard that you were unsuccessful in getting a study of cassava leaf protein in Jamaica. Would you mind letting me know what happened there? It might be that I could help out in that respect.

Thank you for your continued interest.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF
Enclosure

Columbia University

SCHOOL OF PUBLIC HEALTH AND ADMINISTRATIVE MEDICINE

OF THE

FACULTY OF MEDICINE

600 WEST 168TH STREET, NEW YORK 32, N. Y.

INSTITUTE OF NUTRITION SCIENCES

December 15, 1959

Dear Dr. Rogers:

Thank you for remembering me with a copy of your reprint on cassava leaf protein. I have thought many times of our conference about this matter over a year ago now. We attempted to provide support for some extended study of the matter in Jamaica but without success, as I think I explained to you.

I have recently returned from three months in Indonesia where I was teaching clinical nutrition. Here I saw the nutrition staff at the institute which still carries the name of Dr. Ejkmann who did the early work on beriberi in 1896 there. This staff is seriously interested in the problems associated with cassava. They had hoped that the leaf might be used in improving multi-purpose food. This is of course directly analogous to the prospect which you and I discussed.

I am enclosing for your inspection my only copy of the recent report of the work to date. The significance of this will be so evident to you that I need not belabor the point. These people are frankly puzzled about the possibility of going forward in this rather urgent important field.

The only additional information I got in personal conference with them concerns the amino acid composition. They found: lysine 5.6%; tryptophan 1.5%; phenylalanine 4.6%; threonine 3.8%; leucine 6.8%; isoleucine 4.0%; valine 5.0%. The other amino acids have not yet been determined. They know that the leaf is high in vitamins A, B, and C, and in iron. The fresh leaf is about 8% protein; the dried leaf 30-35% of which only 50% is digestible by their tests. Unfortunately, their animals will not eat the cooked leaf material so that they cannot estimate the digestibility of cooked cassava leaf.

I should be glad for the return of this manuscript at your convenience.

Cordially,

Elmer L. Severinghaus
Elmer L. Severinghaus, M.D.

Dr. David J. Rogers
New York Botanical Gardens
Bronx Park, New York

Digitized by the Hunt Institute for Botanical Documentation

January 29, 1960

Dr. Jonathan Sauer
Department of Botany
University of Wisconsin
Madison, Wisconsin

Dear Jon:

Years ago, when you were getting ready to leave St. Louis, you gave me a photograph of a pottery vessel in the shape of the roots of Manihot. Up until very recently I could put my fingers on that photograph, but right now I do not know where it is.

I do not recall whether there was any data on the back of the photograph as to where the pottery vessel came from or any dates on it. I think, if I recall correctly, the photograph was taken by you and your father when you were in Peru. I wonder if you recall the particular photograph and if you recall any information which you or your father might have on the location, the dates, and any notion of the antiquity of this particular specimen.

I have just read Gordon Willey's paper in SCIENCE (8 January 1960) on "New World Prehistory." In that article he cites two pieces of pottery used in the preparation of mandioca but says nothing about pottery from Peru which can be attributed to Manihot.

If you have any information on this, I will be happy to hear about it. Or would you suggest that I write directly to your father?

Yours

DJR:MDF

දුරකථන
தொலைபேசி
Telephone } 3046



දුරකථන
தொலைபேசி
Telegrams } PROP

My No: TA. 3.

කාමිකම් දෙපාර්තමේන්තුවේ ප්‍රකාශන අංශය, අංක 19, සෝන්ඩර්ස් පෙදෙස
කොළඹ 12

கமத் தொழிற் பகுதி பிரசுரிப்புப் பிரிவு,
19, சௌண்டர்ஸ் பிளேஸ்,
கொழும்பு 12

DEPARTMENT OF AGRICULTURE PUBLICITY DIVISION,
19, SAUNDERS PLACE,
Colombo 12

26th January, 1960.

The New York Botanical Garden,
New York 58,
U.S.A.

Dear Sir,

Tropical Agriculturist.

Reference your letter dated 14.1.60.

I am herewith sending an Invoice No. TA 3 of 25.1.60 for Rs.5.00 (Ceylon currency) being the cost of the 2 copies of Tropical Agriculturist containing the article "Studies in Cassava" required by you. I shall send the books to you on receipt of the remittance.

Yours faithfully,

M. J. H. S. M. S. S. S.
Agricultural Officer,
(Publicity)

No. TA.3

Agricultural Officer (Publicity) A. S. P. 20
19, Saundar's Place, Colombo 12 (N 4) 8/48

INVOICE

DEPARTMENT OF AGRICULTURE,
PERADENIYA, CEYLON.

Date: 26th January, 1960

From THE AGRICULTURAL OFFICER (Propaganda),

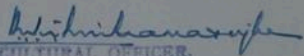
DEPARTMENT OF AGRICULTURE,

PERADENIYA, CEYLON.

To New York Botanical Garden, New York 58, U.S.A.

Details of Charges	Period		Cost Rs. c.	TOTAL
	From	To		
To Subscription—				
“ Tropical Agriculturist ” ...				
2 copies - “ Studies in Cassava ” ...			5 00	
Bulletins and Leaflets ...				
Publications— ...				
To Advertising Ref. letter dated 14.1.60.				
To Arrears ...				
		TOTAL ..	5 00	

N.B.—Early Remittance is requested, which will be duly acknowledged by formal receipt.


AGRICULTURAL OFFICER,
Agricultural Officer (Propaganda).

NOTE.—All remittances should be made payable to the Agricultural Officer (Propaganda), Department of Agriculture, Peradeniya, Ceylon.

J. N. B 40417—1,100 (11/54). GOVT. PRESS, CEYLON.

No. TA.3

(Duplicate)

Agricultural Officer (Publicity)
19, Saunderson's Place, Colombo 12.

A. S. P. 20
(S. 4) 8/48

INVOICE

DEPARTMENT OF AGRICULTURE,
PERADENIYA, CEYLON.

Date: 26th January, 1960.

From THE AGRICULTURAL OFFICER (PROPAGANDA),
DEPARTMENT OF AGRICULTURE,

PERADENIYA, CEYLON.
To New York Botanical Garden, New York 58, U.S.A.

Details of Charges	Period		Cost		TOTAL
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To Arrears ...					
		TOTAL ..	5	00	

N.B.—Early Remittance is requested, which will be duly acknowledged by formal receipt.

H. S. S. S. S.
AGRICULTURAL OFFICER,
Agricultural Officer (Propaganda).

NOTE.—All remittances should be made payable to the Agricultural Officer (Propaganda), Department of Agriculture, Peradeniya, Ceylon.

J. N. B 40417—1,100 (11/54). GOVT. PRESS, CEYLON.

No. TA-3

(Triplicate)

A. S. P. 20
(N 4) 8/48

Agricultural Officer (Propaganda),
19, Saunderson's Place, Colombo 12.

INVOICE
DEPARTMENT OF AGRICULTURE,
PERADENIYA, CEYLON.

Date: 26th January, 1960

From THE AGRICULTURAL OFFICER (PROPAGANDA),

DEPARTMENT OF AGRICULTURE,

PERADENIYA, CEYLON.

To New York Botanical Garden, New York 58, U.S.A.

Details of Charges	Period		Cost		TOTAL
	From	To	Rs.	c.	
To Subscription—					
“ Tropical Agriculturist ” ...					
2 copies - Studies in Cassava			5	00	
Business and Leases ...					
Publications ...					
To Advertising Ref. letter dated 14.1.60.					
To Arrears ...					
		TOTAL ..	5	00	

N.B.—Early Remittance is requested, which will be duly acknowledged by formal receipt.

[Signature]
AGRICULTURAL OFFICER,
Agricultural Officer (Propaganda).

NOTE.—All remittances should be made payable to the Agricultural Officer (Propaganda), Department of Agriculture, Peradeniya, Ceylon.

J. N. B 40417—1,100 (11/54). GOVT. PRESS, CEYLON.

January 14, 1960

Agriculture Officer in charge
of Publicity
19 Saunder's Place
Colombo 12, Ceylon

Dear Sir:

May I inquire if in The Tropical Agriculturist the remaining portions of the article entitled "Studies in Cassava" by M. F. Chandraratna and K. D. S. S. Nanayakkara which appeared in Volume C, No. 4, has been completed in a later issue. If this article has been completed and if you have copies of this issue, I will be happy to order one from you.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

THE NEW YORK BOTANICAL GARDEN

BRONX PARK
NEW YORK 58, N. Y.

PRESIDENT
CHARLES S. HARDING
TREASURER
BERKELEY GAYNOR

VICE-PRESIDENT
FREDERICK S. MOSELEY, JR.
DIRECTOR
WILLIAM C. STEERE

Rio de Janeiro
January 10, 1960

Dear Dave:

A few days ago in Belém we received notes from several of you. Now, just before leaving, we want to get a brief acknowledgment back to you.

Our work was finished with a visit to sandstone mountains near Diamantina in Minas Gerais. There we collected an interesting wild Manihot that we're bringing along to you. I understand that there are a great many endemic species in the region.

It's too bad that you couldn't have come down to see these things and collect them for yourself. Surely at another time your project will be approved, and we are certainly sure that you will enjoy a rich haul from this wonderful region of central and eastern Brasil.

Within a couple of weeks we'll be back and at our accustomed place at the luncheon table. In the meantime, give our regards to all the gang.

Thanks so much for your thoughtfulness in writing to us.

Sincerely,

Beckett

P. S. Dear Dave:

Please give our affectionate greetings to Connie.

Celia

January 21, 1960

Dr. Knowles A. Ryerson, Dean
College of Agriculture
University of California
Berkeley 4, California

Dear Dr. Ryerson:

Perhaps I had best acknowledge your letter to Dr. Steere inasmuch as he is indisposed at the moment, and it may be a few days before he can acknowledge receipt of your letter concerning Manihot esculenta.

I appreciate your considerations on this matter and hope that we can achieve some success soon. At the moment I am hoping that the U. N. Special Funds may be of some benefit for this crop. Inasmuch as it is a truly international problem and one which is in dire need of basic study, there is some hope that through an international organization (for example, the Inter-American Institute of Agricultural Science, Turrialba) money from the Special Funds may be available. I would suggest, incidentally, that this Special Funds group might be interested in the activities of the South Pacific Commission.

There have been some interesting developments in the N.S.F. since my application was rejected, and it is very likely that I will re-apply to them.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

CC--Dr. William C. Steere

UNIVERSITY OF CALIFORNIA
COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION

OFFICE OF THE DEAN AND ASSISTANT DIRECTOR
BERKELEY 4, CALIFORNIA

January 14, 1960

Mr. William C. Steere, Director
The New York Botanical Garden
Bronx Park
New York 58, New York

Dear Mr. Steere:

A copy of your letter of November 2, 1959, was forwarded to me down in the South Pacific where I was attending the annual meeting of the South Pacific Commission in New Caledonia. I have a hazy recollection that I answered it before I left there, but I am not certain and don't seem to have a copy of such letter, so I'll do so now.

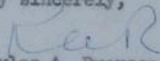
I'll be much interested in Dr. Rogers' studies of the cassava and the systematics of the Manihot esculenta. We have needed this basic information for a long time. I only regret that the National Science Foundation doesn't see its way clear to follow through on the basic botanical features of the study into their practical application, because of the importance of this food to so many peoples in tropical countries.

I wish our own South Pacific Commission were in a position to be of assistance, but the Commission is in somewhat similar position in regard to funds as is The New York Botanical Garden. We are having to depend upon outside grants for most of our technical studies, as the entire activities of the Commission in the fields of Economic Development, Social Development, and Health are carried out with a total budget of \$600,000, contributed by the six-member governments - which doesn't give us much leeway.

I wonder about the Huffield Foundation in England; and there may be one or two other British foundations that might be of help. I haven't the names of these at hand, but Dr. Harold J. Coolidge, Director of the Pacific Science Board, National Research Council, in Washington, D.C., knows of them, and we have discussed possible applications to them for a number of the Pacific Science Board projects, or projects in these tropical islands. Britain has a major interest in many of them.

I'll keep this in mind and if I can think of any other possible sources of funds that will help continue these studies, I certainly will let you know.

Very sincerely,


Knowles A. Ryerson, Dean
College of Agriculture

KAR:eab

cc: Dr. David J. Rogers ✓

January 19, 1960

Dr. Edgar Anderson
Missouri Botanical Garden
2315 Tower Grove Avenue
St. Louis 10, Missouri

Dear Andy:

I have your letter dated January 7. Most important, I think, is your news of health, both yours and Mrs. Anderson's. I am not just sure when you will be at Wesleyan University, but I am glad that you are giving the East Coast a break for a change.

I have heard from Conklin of your activities with Dave Keck. I have heard (in a Christmas card) from Dave Keck. I have talked to Dick Howard who was one of the reviewers of my application to N.S.F. I have asked Bill Steere to read my application and give me the benefit of his thoughts on it. From these I pieced together several interesting possibilities. The strongest of these, if I may look at it objectively, is that I put in a lousy application and did not explain my purposes. I feel, however, that the unspoken thought of many people is that Dave is too gadget-happy and was more interested in the techniques of analysis than in the analysis itself.

I will resubmit my application to N.S.F. for its spring deadline. In the meantime, I am working on an interesting idea which I should like to have you check me out on. In the herbarium collections that we have of the genus *Manihot*, we have many specimens collected by botanists who thought they were collecting wild plants. These specimens are labelled in such a way as to make them look suspiciously like weeds. The specimens themselves have an indefinable weedy look. I suspect that we have here a somewhat comparable situation to that of *Daucus carota*, the only difference being that carrots, being a temperate zone crop have been sufficiently observed by botanists so that they could recognize the relationships between the wild and cultivated races, whereas yuca, being a tropical crop, has not had this similar intensive examination of the "wild" and cultivated plants. If this relationship exists, it is going to take even more extensive field studies than I had anticipated before.

I would like to know if you have any observations to make from Colombia and other areas where yuca is found. Did you notice any things which were called "yuca cimarrona" or other such epithets used by natives who may have been more astute taxonomists than the rest of us. Apparently those botanists whom I have asked this question have not really considered it and are rather vague in answering it. I have asked George Eiten who is now working at the Botanical Garden at Sao Paulo to look for the possibility of weedy relations of the cultivated plants existing in his area. I hope to be able to make some observations of this nature myself. I must say that in my own experience in Costa Rica and Jamaica I saw no real evidence of such wild races, but then I was not looking here at that time, and it may be that I had my blinders on as much as any other botanist.

One or two other matters occur to me that I would like to ask you about. (1) Did you receive the paper that I sent you, "Modern Methods of Taxonomy"? If so, are you just being polite in telling me that it is no good by not saying anything, or is the paper worth publishing? (2) When and if you get an opportunity to do so, I would like to have your comments on the book entitled "Africa".

Looking forward to your comments on these diverse items,

Yours

DJR:MDF

CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES

202 Junipero Serra Boulevard • Stanford, California

DAvenport 5-0026

January 7, 1960

Dr. David Rogers
The New York Botanical Garden
New York 58, New York

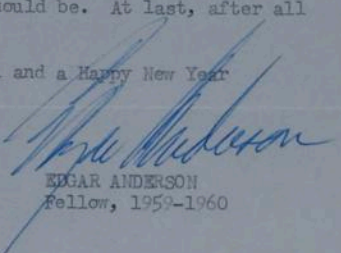
Dear Dave:

I've finally found a minute to write a little something about your letter of October 13th. I took care of this along with Conklin at the very highest levels and if all isn't going right, call me up collect at my home in St. Louis, Prospect 1-5701, person-to-person, as soon as I get home; which will be shortly after the 1st of February, as I should be home by the 1st and will be ready to talk to people any time of night or morning after the 2nd or third I expect.

It seemed to me by the time I left Chicago that you were in line for getting just exactly what you needed. If you don't see the way out or if you need some advice about how to go ahead, be sure to call me up.

Everything has come along fine here, including Dorothy's health and mine. My leg is virtually well and my weight is down somewhere near where it should be. At last, after all these years.

Merry Christmas to you all and a Happy New Year


EDGAR ANDERSON
Fellow, 1959-1960

See you home!

*I shall be a visitor at Wesleyan University, Middletown
all next year! E.A.*

January 12, 1960

Library of Congress
Photoduplication Service
Washington 25, D.C.

Gentlemen:

Please tell me the cost of a microfilm negative of the following:

Zehntner, L. "Estudo Sobre Algumas Variedades de Mandionas Brasileiras", published in 1919 by the Sociedade Nacional de Agricultura, Imprensa Ingles, Camerino 61, Rio de Janeiro.

Sincerely yours,

David J. Rogers

December 23, 1959

Dr. Claud L. Horn, Technical Specialist
Office of Administrator
USDA, ARS
Beltsville, Md.

Dear Dr. Horn:

It was indeed a pleasure to receive your recent letter and to hear of your continuing interest in Manihot and my activities with this genus and species. I too, have had my eyes opened to the world-wide importance of the crop by learning of its widespread use in Africa.

I have continued my interest in Manihot although I have not really accomplished anything of significance. While in Allegheny College, I worked at it only during summer time, and had to put it aside in the winter months. Since coming here to The New York Botanical Garden, I have spent most of my time getting the journal, Economic Botany, back on its feet.

Now that the decks are clear, I am hoping to become intensively involved with Manihot, both systematically, and agriculturally. Let me briefly review my activities in connection with my studies.

I set up a cooperative program with the Jamaican Dept. of Agric. and with the Inter-American Institute of Agric. Sci. at Turrialba, Costa Rica in the summer of 1953. In these two areas, by good cooperation with the institutions involved, we collected most of the locally-occurring cultivars in garden plots. In Jamaica alone, more than 100 named varieties were grown, and in Costa Rica, some 38 varieties were put under cultivation. I was able to observe these plants in the following two years, and to collect a considerable amount of information. With ~~this~~ data, I made a tentative classification, hoping to follow this up with an intensive examination of South American, particularly Brazilian, specimens.

This sounds like the back-door approach, and it certainly is, but with some reasoning. I did not want to go to the area of greatest diversity (Brazil) until I had some inkling of the size of the problem, nor did I wish to make expensive mistakes in data gathering so far from home base. Better to make mistakes where it wont cost so much, and both of the above mentioned areas are closer, therefore cheaper. I am now in a position to make maximum use of my time in Brazil, and other South American areas, and perhaps farther afield, in Africa. It took a considerable amount of time just to become familiar enough with the plants

to know how to make adequate herbarium specimens. Now that I have information of both a theoretical and practical nature well in hand, I am ready to proceed to the problem in South America.

An interesting sidelight on this study is covered in one of the two papers I am enclosing. It became quite apparent that to objectively analyze the complexity of this one species, it would be necessary to correlate huge quantities of data. I was fortunate in that a friend of mine, a mathematician, worked for IBM. After interesting him in the problems of classification, we cooperated to work out a program for classification using the IBM 704 electronic computer. We now have a program for the computers which essentially follows regular systematic procedures, but at a much more rapid rate than by hand. We can correlate many different types of information which would have been impossible by ordinary systematic methods. I have tried out the method with the data already accumulated and find it quite satisfactory for this type of endeavor. I am optimistic that we can now proceed to the analysis of Manihot and other crops which are in crying need of systematic study.

The second paper enclosed is an outgrowth of my work with the Dept. of Agric. in Jamaica. I had hoped to correlate data of agricultural importance in my studies, and the ag. chemistry division in Jamaica cooperated nicely. We analyzed the roots for starch content, minerals, etc., and the leaves for crude protein. Unfortunately for the systematic aspects, the samples became mixed (I had to depend on others to collect the samples, send them to the lab., to keep the records, etc.) with the result that I cannot now tell from which plants which information is derived. This was one of the casualties of having to spend my time on other aspects for a livelihood.

I stand now ready to go after this work with much more intensity. Unfortunately, I meet the same problems now that I have had right along--continuing support. I recently had a request for a three year grant to forward this work rejected. Part of the fault was mine, but a part also comes from the lack of understanding by botanists of the complexities of such a study.

I have been in recent contact with Dr. Hilbert, and through him with Dr. Robert Tyson (ICA, USOM, Brazil). Dr. Tyson recently wrote that he was circulating my proposal for Manihot studies amongst the various research institutions in Brazil, asking for judgements on it. I have also informally made proposals (indirectly, of course) to the United Nations Special Funds, but will not know of developments there for at least another year.

At any rate, my interest in these fascinating plants continues. I trust that I will have an opportunity to discuss my plans with you in more detail in the near future.

Best wishes for a Merry Christmas and a Happy New Year.

Sincerely yours,

David J. Rogers

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
WASHINGTON 25, D. C.

OFFICE OF ADMINISTRATOR

Beltsville, Maryland
December 18, 1959

Dr. David Rogers
New York Botanical Garden
Bronx, New York, N. Y.

Dear Dr. Rogers:

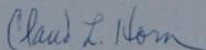
I remember that you were very much interested in Manihot a few years ago. As I have recently been studying - more than ever before - the agriculture of Africa I have wondered how far you got in your studies of that genus, and what you may yet expect to do. Would you please bring me up-to-date?

Our Government has set out to intensify its technical assistance to the rash of more independent political entities in Africa. I should think that some careful attention to cassava might lead to improvement in production of that tremendously important food crop there. What are your thoughts?

May I have a set of your reprints pertaining to cassava?
Thank you.

Best season's greetings to you.

Sincerely yours,



Claud L. Horn
Technical Specialist

December 17, 1959

Dr. G. Edward Nicholson
Special Funds
United Nations
New York, New York

Dear Dr. Nicholson:

Enclosed is a draft of a letter which might serve the purposes which you and I discussed yesterday. I am sure that there will be additions and corrections which you will wish to make herein. Please feel free to indicate these.

It was a pleasure to speak with you, and I hope that we will soon have an opportunity to get together again.

Sincerely yours

David J. Rogers

DJR:MDF
Enclosure

Dear Jorge:

Thank you for your very agreeable letter of December 3. I am pleased to know of yours and Dr. Allee's favorable attitude toward the yuca studies. I delayed answering the letter until I had an opportunity to discuss the program further with Dr. Nicholson of U.N. Special Funds. Yesterday we had an extensive discussion covering many more aspects than the yuca studies. Dr. Nicholson suggested that he would be pleased if I passed along to you the full area of our discussion.

I will try to organize the thoughts of the discussion first and then fill in details. It is important to know that the objectives of the Special Fund group of the U.N. call for assistance in broad scope rather than in specific detail. They would like to see a whole institution strengthened rather than one project. They see their funds as of most value in giving institutions sufficient funds to develop their own programs at the discretion of the institutions. They would like to assist in the development of research and education those particular items which the institution knows to be important, and which the institution cannot undertake without more financial assistance. They are interested in studies and activities which may be of vital significance to the peoples of a country, but which are not now being carried out because these studies are not those which will directly yield a bigger cash income.

I think that Dr. Nicholson and his associates are fully aware of the unique nature of the Inter-American Institute and its truly

international operation. They would, therefore, like to put a considerable amount of funds behind it--to strengthen it as you who are intimately associated with the Institute can best decide.

Dr. Nicholson mentioned that a recent grant request to the Special Funds from Turrialba for a forestry program was not considered favorably, not because the request itself was not meritorious, but because it was only one item, and the Special Funds must consider their activities on a much broader scale. In other words, had the request for funds for the forestry study been one of a group of studies, all intended to strengthen both the agricultural knowledge and the institution which sponsored it, there would have been more likelihood of the program being approved by Special Funds.

An example of my meaning, and I hope that of the Special Funds, is the recent program of assistance to The Central American Research Institute for Industry (ICAITI) with which you are probably familiar. Special Funds contributed nearly a million dollars to this organization to assist it in furthering their endeavors. These endeavors range from advise to private entrepreneurs interested in developing new industries in Central America to testing of techniques, productivity and management, laboratory tests and pre-investment surveys. The Special Fund contribution was specifically marked for the purchase of needed testing equipment and for salaries, but I feel sure that any use of the funds could be arranged.

Dr. Nicholson and I spoke of the type of projects which would be acceptable for support. Certainly the forestry project earlier

mentioned could be one. Studies on yuca, on Phaseolus, perhaps on certain crops which could become vital cash crops (e.g. castor oil, or tannin-producing crops), drug-plant crops, vegetable oils, fruits, and even perhaps an ornamental crop--any or all of these, which you and Dr. Allee might have considered as valuable but at the moment unsupportable. Also, the education of students, with liberal allowance for travel and further study, would be welcomed as part of a request for funds. Even if you do not wish to build up a big technical staff, perhaps requests for funds for temporary technical assistance on a consultation basis would be a part of your request. Certainly you would not wish to hire a man permanently to spend all his time on yuca, but would like to have several different workers (technical) on various endeavors--ecologists, agronomists, geneticists, physiological workers, soil experts, anthropologists, economists, etc., etc. Within the framework of your own needs, you could foresee some of the important expenditures of funds. You would certainly have to have additional funds to administer these projects--accounting and secretarial assistants with their specific equipment requirements and other financial needs. You would certainly need some additional farmequipment--tractors, et al. Your labor needs would expand.

Dr. Nicholson suggests that, if you are interested in such a request for funds, you start from the idea of working out a program that you consider important and build a budget on a basis that you know to be realistic and then add these items up, rather than requesting a flat sum, then try to fit the program to that figure.

That this is not a wild, unrealistic sort of plan is shown in the statements made by Dr. Nicholson--one, that you will probably be contacted by FAO on these possibilities in the near future; two, that he would like to have a preliminary draft of your requests in about four months; three, that he would like to see the final report and request discussed at the combined meeting of OAS and FAO in Mexico next August; and finally, that he would like to see the plan in operation by the beginning of 1961. I mentioned the probable contact by someone from FAO so that you will be forewarned and we hope forarmed. Again this suggestion was made by Nicholson.

If the program for yuca is to go forward, at least under the aegis of the U.N. Special Funds, it will have to be a part of the overall, integrated program of the Institute. If these further considerations are not too much for you, I will be glad to suggest how we could work out a detailed plan for yuca. I will suggest the type of personnel, the areas of importance (countries), and ways of involving students at several levels. You could best give details of amounts needed to support students, of local costs for labor, for overhead costs, etc. I will be glad to suggest the type of equipment which would be useful, etc. In other words, for an individual study within the total study, I will be available for detailed plans, but I am obviously in no position to suggest to you the other types of activity in which you would like to participate.

UNITED NATIONS
SPECIAL FUND



Distr.
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28 April 1959

ORIGINAL: ENGLISH

GOVERNING COUNCIL
Second session
Agenda item 7

PROGRAMME RECOMMENDED BY THE
MANAGING DIRECTOR

Addendum 2

Costa Rica, Guatemala, Honduras, Nicaragua, El Salvador; Central American
Research Institute for Industry (ICAITI)

Financial Provisions	:	Special Fund contribution of	:	\$ 900,000
		Government contributions	:	\$1,300,000
Duration	:	Five years		
Purpose	:	Industrial Research		
Executing Agency	:	The United Nations		

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III. The Project	4-5
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I. Introduction

1. The Managing Director submits the following report and recommendations on the application made by the Governments of Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua for assistance to the Central American Research Institute for Industry (ICAITI) to enable it to expand its activities over the five-year period, 1960-64.

II. Background

2. ICAITI is a Central American institute of industrial research situated in Guatemala. It was inaugurated in January 1956, under the joint auspices of the Governments of the five Central American Republics and the Economic Commission for Latin America, to advise and assist in the programme for the economic integration of the isthmus. Its function is to give technical advice to industry and to investigate the best utilization of the natural resources and raw materials of the region.

3. Initially, ICAITI's clients were mainly Governments, government entities and municipalities, to whom it gave advice on problems of industrial development, location of industries, etc., with special reference to the proposals to establish a common market and to carry through the regional integration of a number of specific industries. It now also gives a wide range of services to private entrepreneurs interested in developing new industries in Central America or in expanding existing ones. Such services range from advice on techniques, productivity and management, through laboratory tests, to pre-investment surveys. In addition, ICAITI also pursues a number of longer-term activities, including projects of applied research in fields selected for their potential social or economic impact; the establishment of uniform weights and measures and standards of quality throughout the region and the publication of technical information.

III. The Project

4. Demand for ICAITI's services, particularly from private industry, has been increasing steadily and already exceeds the Institute's present capacities of staff and equipment. The present proposal is to enable ICAITI to engage additional expert personnel and increase its facilities of plant and equipment in order to be able to meet effectively the growing needs of Central American industry.

5. For this purpose, it is proposed that the Special Fund should make a total contribution of \$900,000 over the next five years, of which \$400,000 would be for equipment and \$500,000 for expert staff. The \$400,000 for equipment would be applied to the purchase of laboratory testing equipment of various kinds. The \$500,000 for salaries would allow ICAITI to increase its permanent staff from nineteen to twenty-four, leaving a balance for experts to be engaged on a temporary basis for special assignments.

IV. Financial Provisions

6. It is estimated that of the Special Fund contribution, the \$400,000 allocated for equipment would be disbursed over the first three years, while the amount to be applied to salaries would be spread over the whole period, tapering off to \$50,000 in 1964. The assistance from the Special Fund would thus be disbursed as follows:

First Year	\$300,000
Second Year	\$275,000
Third Year	\$200,000
Fourth Year	\$ 75,000
Fifth Year	\$ 50,000

7. This contribution from the Special Fund would absorb and replace all assistance now received by ICAITI from the United Nations under the Expanded Programme of Technical Assistance. The sum budgeted in the Expanded Programme of Technical Assistance for 1959 is \$65,000.

8. Under its charter, ICAITI during its first five years (1955-1959) receives contributions from each of the five Central American Governments. The proposed contribution from the Special Fund is conditional upon the five Governments maintaining their annual subventions to ICAITI over the next five years at the 1959 level of \$52,000 each.

/...

9. ICATITI's other source of income is its earnings from fees. These already exceed \$100,000 for contracts so far signed for 1959, and are expected to grow sufficiently over the period to make up the gradual reduction in the annual contribution of the Special Fund. By the end of 1964, and the final tapering off of Special Fund assistance, the Institute expects that its income from fees will be adequate to cover all operating expenses without recourse to assistance from the United Nations.

V. Executing Agency

10. The United Nations has indicated its willingness to serve as Executing Agency, subject to the conclusion of an agreement with the Managing Director.

VI. Recommendations

11. The Managing Director recommends that the Governing Council approve an allocation of \$900,000 to this project and requests the authorization of the Governing Council to conclude the appropriate arrangements.

INTERNATIONAL COOPERATION ADMINISTRATION
UNITED STATES OF AMERICA OPERATIONS MISSION TO BRAZIL
POINT FOUR

Rio de Janeiro,
December 10, 1959

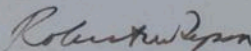
Dr. Daniel J. Rogers
Curator of Economic Botany
The New York Botanical Gardens
Bronx Park, New York 58
New York, N.Y., U.S.A.

Dear Dr. Rogers:

We are sending a copy of your letter regarding research with manioc to our principal Research Institutions of the Ministry of Agriculture in Brazil. We wish in this way to obtain an expression of their interest in the study that you propose.

In that manioc is grown in practically all parts of Brazil we wish to get an expression of general interest of the Research Agencies in sponsoring the study that you propose. We will advise you later of our findings and of our possible assistance in initiating a formal study.

Very truly yours,



Robert W. Tyson
Chief Food and Agr. Div.
ICA - USOM - Brazil

REU/est
cc: REU



INSTITUTO INTERAMERICANO DE
CIENCIAS AGRICOLAS

TURRIALBA, COSTA RICA

3 December 1959

El Instituto es un Organismo especializado de la Organización de los Estados Americanos. Fue establecido por los Gobiernos de las Repúblicas Americanas para promover el adelanto de las ciencias agrícolas por medio de la investigación, la educación y el desarrollo de servicios regionales.

*air
Mail*

PERSONAL

Dr. David J. Rogers
The New York Botanical Garden
Bronx Park
New York 58, N.Y.

Dear Dave:

I have talked to Dr. Allee on the proposed support for your project on yuca. We will be ready to send the request to UN if you inform us in detail about its terms. Dr. Allee mentioned that in the case of UN special funds the request had to come from several countries. Please let me know about this. It is also important that in laying out your program several institutions should be mentioned, and even economic help might be given to them; for instance, in the maintenance of living collections. Another attractive feature is training; if you consider the possibility of having one or more graduate students, you might direct them in such a way that assistantship jobs could be assigned to them for your project while they could profit from the training.

Of course, I will be glad to do anything here that might help you. So please send me, if possible, complete details on the request.

I have your letter informing me about the change of director of EB; what is going to happen to the Society?

Sincerely yours,

Jorge León
Jorge León, Head
Plant Industry Dept.

Please return to Dr. Rogers *WR*

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
WASHINGTON 25, D. C.

OFFICE OF ADMINISTRATOR

NOV 18 1959

Dr. David J. Rogers
Curator of Economic Botany
The New York Botanical Garden
Bronx Park
New York 58, New York

Dear Dr. Rogers:

Please refer to your letter of October 30 concerning research funds for studies of Manihot esculenta.

While we do not as yet have funds for a research program in Brazil, we have, nevertheless, discussed your proposal with Dr. Erlanson of the New Crops Research Branch at Beltsville, Maryland. He expressed keen interest in your work, but stated that since the results from it would be primarily of interest to tropical and not U. S. agriculture, the project would not qualify for a PL 480 grant. Moreover, he thought that it perhaps was not clear to you that funds under PL 480 were made available in foreign currency (cruzeiros in Brazil) and not dollars which is true of all of our PL 480 research grants.

At Dr. Erlanson's suggestion, we discussed with Dr. W. Cowgill of ICA, the possibility of obtaining financial assistance for you from that agency. Dr. Cowgill informed us, however, that as far as he was aware, ICA was not in the need of additional research on manioc, but since he did not have the complete picture, he believed that it would be worthwhile for you to write to Mr. Robert W. Tyson, in charge of the ICA agricultural program in Brazil concerning your request. Mr. Tyson is headquartered at the U. S. Embassy in Rio de Janeiro.

I regret that our response to your request cannot be more helpful.

Sincerely,

G. E. Hilbert

G. E. Hilbert, Director
Foreign Research & Technical Programs
Division

CC: Dr. C.G.King

November 2, 1959

Mr. Robert W. Tyson
In charge of ICA Agricultural Program
U. S. Embassy
Rio de Janeiro, Brazil

Dear Mr. Tyson:

At the suggestion of Dr. G. E. Hilbert, Director of the Foreign Research and Technical Programs Division of the U.S.D.A., I am writing to you about the possibility of obtaining research funds for studies of Manihot esculenta (manioc, cassava, yuca, or tapioca). I had asked Dr. Hilbert if there were any possibility of assistance through his office, but he said that it would not be possible directly through him. He suggested that perhaps, if I made my activities and needs known to you, there might be some assistance possible.

Briefly, my research with manioc has been directed primarily to the classification of the varieties. I have, however, kept other aspects of a more practical nature in mind and have tried to help several other agricultural scientists to work on projects with manioc which could be of more immediate usefulness to tropical people. Also, I have tried to incorporate findings of importance to agricultural endeavors with more strictly botanical findings. Until now, I have worked in Jamaica and Central America, making collections of the varieties found in these localities and collecting the different ones in "museum" plots in Turrialba, Costa Rica, and at one of the experiment stations in Jamaica.

These two areas are, I know, peripheral to the major areas of the growth and utilization of manioc. I am certain that the largest numbers of varieties are to be found in Brazil and that from Brazil certain of these varieties have been transported to Africa, Asia, and the islands of the Pacific. Now that I have made studies of the preliminary areas, I feel that I have a sufficient understanding of the plants to "attack" the problems of classification in the most critical area and come up with a workable, useful method for the determination of the different cultivars. I have specifically pointed the classification to people who could use the information most--the tropical agricultural workers who might wish to start breeding programs.

Because of the paucity of material available in the various institutions in this country, it is impossible to get any idea of the kinds of varieties which one might encounter in Brazil. Because Brazil is the center of variability and because it seems that most of the variations found all over the world have originated in Brazil, it is essential to see this material, much in the same sense as it has been important in breeding of any crop, new or old, to get germ plasma from the areas of the world where the crop has originated.

For the above reasons I would like to know if you have funds to assist workers in such endeavors as this. I would need a modest-sized grant for travel and subsistence funds while in Brazil. My salary will, of course, be paid by The New York Botanical Garden. If you have any possibilities of assistance for such an endeavor, I would be happy to hear from you.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

CC--Dr. G. E. Hilbert
Dr. William Steere

October 30, 1959

Dr. G. E. Hilbert, Chief
Bureau of Agricultural and Industrial Chemistry
U.S.D.A.
Washington, D. C.

Dear Dr. Hilbert:

At the suggestion of Dr. C. G. King of the Nutrition Foundation, I am writing concerning the possibility of research funds for studies of *Manihot esculenta* (manioc, cassava, yuca, or tapioca). I had asked Dr. King if there were possibility for assistance from the Nutrition Foundation, but found that applications to him would not be processed before February and not actuated until later in the spring. After outlining my activities with manioc to Dr. King, he suggested that you might be able to assist my endeavors through "480 funds". This suggestion was made because I would like to have funds at an earlier date and because the activities are not in direct line with the Nutrition Foundation's goals.

Briefly, my research with ^{manioc} cassava has been directed primarily to the classification of the varieties. I have, however, kept other aspects of a more practical nature in mind and have tried to help several other agricultural scientists to work on projects with ^{manioc} cassava which could be of more immediate usefulness to tropical people. Also, I have tried to incorporate findings of importance to agricultural endeavors with more strictly botanical findings. Until now, I have worked in Jamaica and Central America, making collections of the varieties found in these localities and collecting the different ones in "museum" plots in Turrialba, Costa Rica, and at one of the experiment stations in Jamaica.

These two areas are, I know, peripheral to the major areas of the growth and utilization of manioc. I am certain that the largest numbers of varieties are to be found in Brazil and that from Brazil certain of these varieties have been transported to Africa, Asia, and the islands of the Pacific. Now that I have made studies of the preliminary areas, I feel that I have a sufficient understanding of the plants to "attack" the problems of classification in the most critical area and come up with a workable, useful

October 30, 1959

method for the determination of the different cultivars. I have specifically pointed the classification to people who could use the information most--the tropical agricultural workers who might wish to start breedings programs.

Because of the paucity of material available in the various institutions in this country, it is impossible to get any idea of the kinds of varieties which one might encounter in Brazil. Because Brazil is the center of variability and because it seems that most of the variations found all over the world have originated in Brazil, it is essential to see this material, much in the same sense as it has been important in breeding of any crop, new or old, to get germ plasma from the areas of the world where the crop originated.

For the above reasons, I would like to know if you have funds to assist workers in such endeavors as this. As mentioned above, Dr. King suggested "480 funds". I would need something in the neighborhood of \$1,800 to expend for travel and subsistence while on a trip to Brazil. I will be happy to have your reactions.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDP

CC--Dr. C. G. King
Dr. William Steere

file copy 11/10/59
CC - Dr. Steere

Dear Jorge:

I had an opportunity to spend some time with Dr. G. Edward Nicholson last Friday. He is, as you may know, a consultant to the United Nations for special funds for research. He suggested that there might be a possibility for the UN to support a real program with yuca, if you and Dr. Allee would make the request in the name of the Inter-American Institute.

He seemed to think that the type of studies which I have wanted to do would be exactly the type of activity which they wish to sponsore with these special funds. It has been my feeling right along that I could not ever hope to accomplish anything unless I could spend more concentrated time on the project. The few short visists I have made to study M. esculenta have done no more than give me an idea of the size of the problem. You know, as few temperate zone botanists know, that the same herbarium techniques used for temperate zone plants, particularly cultivated plants, will not work. We both know that the problems of cultivated spesces are much more complex than the wild ones. I also have a strong desire to do more than just the systematics of yuca, though this is a big enough problem in itself. As I see it, a team of investigators should be hired to concentrate on the various problems--not only botanists, but also agronomists, plant breeders, plant pathologists, biochemists, etc.

If we could work together on such a project, I would be

happy to do as much as is necessary of the organization and paper work as is required. I would also like to assist in the organization and scheduling of the scientific endeavor, but would be happy to have your recommendations for the over-all work. Knowing your own interest in yuca, and knowing that Dr. Nicholson would welcome such a project, if it were sponsored by The Institute I think we could get sufficient funds to really put on a good, solid research program. He emphasized the point that they want to support scientists, not government bureaus.

~~xxxxxxx~~

Lately, I have been working with mathematicians from the International Business Machines Corporation on the use of electronic computers in the correlation of taxonomic and agricultural data. The program that we have worked out would be a great assistance to us in a study such as would be required for yuca. We would be able to proceed to the correlation and publication of much useful information in a much shorter time than is required by other techniques now employed.

I will be pleased to know your reaction to this proposal. If you are interested, we can work out details of how much time, money, and personnell would be needed.

Sincerely,

November 2, 1959

Dr. Knowles A. Ryerson
College of Agriculture
University of California
Berkeley 4, Calif.

Dear Dr. Ryerson:

Dr. David J. Rogers, Curator of Economic Botany at The New York Botanical Garden, is very much interested in the systematics of an important food plant of tropical regions, Manihot esculenta. Cassava is the staple food plant for an enormous number of people and exists in a very large number of poorly understood clones. Through grants from the National Science Foundation, Dr. Rogers has collected in the West Indies and in Central America. However, in spite of the basic botanical features of his research, Dr. Rogers' interest in the economic aspects of cassava, as its culture, nutritive qualities, etc., makes it increasingly hard for him to get National Science Foundation support.

It occurs to me that you, with your broad interests and broad knowledge of organizations, might know some source of funds to which Dr. Rogers might apply for his much needed travel in Brazil, which is apparently the real center of evolution and dissemination of the many types. Dr. Rogers has been offered facilities for the establishment of a collection of cassava in tropical America and will bring together in one place all the different kinds that he can obtain. I believe that the importance of his project to tropical agriculture is enormous and we are glad to sponsor the botanical aspects of this problem.

Any help or advice that you can give us will be appreciated.

Sincerely yours,



William C. Steere
Director

WCS/gd

cc: Dr. David J. Rogers

November 2, 1959

Dr. Rollin S. Atwood
Regional Director for Latin America
International Cooperation Administration
Washington 25, D. C.

Dear Dr. Atwood:

Dr. David J. Rogers, Curator of Economic Botany at The New York Botanical Garden, is very much interested in the systematics of an important food plant of tropical regions, Manihot esculenta. Cassava is the staple food plant for an enormous number of people and exists in a very large number of poorly understood clones. Through grants from the National Science Foundation, Dr. Rogers has collected in the West Indies and in Central America. However, in spite of the basic botanical features of his research, Dr. Rogers' interest in the economic aspects of cassava, as its culture, nutritive qualities, etc., makes it increasingly hard for him to get National Science Foundation support.

It occurs to me that you, with your broad interests and broad knowledge of organizations, might know some source of funds to which Dr. Rogers might apply for his much needed travel in Brazil, which is apparently the real center of evolution and dissemination of the many types. If the International Cooperation Administration has no spot for a short term (six months to a year) investigation of cassava in Brazil for Dr. Rogers, I am wondering if FAO has an interest in such a program and could find funds with which to support it. Dr. Rogers has been offered facilities for the establishment of a collection of cassava in tropical America and will bring together in one place all the different kinds that he can obtain. I believe that the importance of his project to tropical agriculture is enormous and we are glad to sponsor the botanical aspects of this problem.

Any help or advice that you can give us will be appreciated.

Sincerely yours,



William C. Steere
Director

WCS/gd

cc: Dr. David J. Rogers

October 26, 1959

The American Philosophical Society
104 South 5th Street
Philadelphia 6, Pennsylvania

Gentlemen:

Please send application blanks for a
Grant in Aid. I am hoping to further my
studies in the classification of the culti-
vars of Manihot esculenta with field work
in Brazil.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

THE ROCKEFELLER FOUNDATION

DIRECTOR FOR AGRICULTURE

J. G. HARRIS,
49 West 49th Street
New York 20, N.Y.

OFFICE OF SPECIAL STUDIES
S. A. G.

R. W. RICHARDSON JR., Director
D. HARRIS, Assistant Director
Calle Londres 40
Mexico 6, D. F., Mexico

October 14, 1959

Dr. David J. Rogers
The New York Botanical Garden
Bronx Park, New York 58, N. Y.

Dear Dr. Rogers:

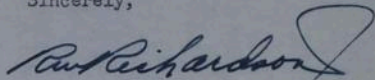
Thank you for your letter of October 6th concerning your interest in cooperative studies on the taxonomy of cassava and related problems.

I expect to be in New York for about ten days beginning October 20th and would be pleased to arrange a brief meeting during that visit to discuss in detail your interest in some sort of a cooperative program with the Cotaxtla Research Station in Mexico. We would be most interested in increasing our collection at that Station and in having the benefit of your counsel and advice on the production of this crop. As you undoubtedly know, it is of little economic importance in Mexico at the present time but we have found, in our very limited studies with cassava, that it has very interesting potential possibilities both as human and animal food. Our projects devoted to this crop have not been of major importance but it certainly merits more consideration in the tropics than it is receiving at the present time.

May I feel free to call you at the Botanical Gardens on the 21st of October to arrange a meeting? Unless you wish to reply before that date and suggest a definite time.

With kindest personal regards.

Sincerely,



R. W. Richardson, Jr.

*Visited here Oct. 28, and
ok'd cooperation - see other
correspondence -*

October 6, 1959

Dr. R. W. Richardson, Jr.
Office of Special Studies
Londres 40
Mexico 6, D.F., Mexico

Dear Dr. Richardson:

You have undoubtedly received a copy of a letter from Dr. Moseman in New York concerning my desire for co-operative studies on taxonomic and other studies in cassava. Perhaps I should correct one minor error in the letter from Dr. Steere to Dr. Harrar, a copy of which I understand you also have received. I did not meet Ing. Raymondo Gudino but heard of his activities through another of your workers in Mexico.

As pointed out in Dr. Steere's letter to Dr. Harrar, I have been engaged in the analysis of the varieties of cassava for quite some time now and have made studies in Jamaica and in Central America. I have had most of the known varieties from the island of Jamaica brought together in museum plots and have had a number of Central American varieties brought together at the American Institute of Agricultural Sciences in Costa Rica. Because I have run into difficulties in both places in maintaining museum plots, largely because of lack of funds, it is my hope that we could establish some sort of a varietal plot where we could grow and maintain the plants under uniform conditions.

I would like to have the plants available so that I might visit your experiment station from time to time for observation and sampling of their morphology, their biochemistry (particularly the production of HCN under uniform conditions), etc. I would hope that I could assist your workers on other significant agricultural studies of cassava.

As you probably know, the number of variations in cassava is very great, and the problems of the classification of these varieties are rather complicated. It is difficult to determine the exact influence of various environmental conditions on the plants when they are grown in many different soils, climates,

October 6, 1959

moisture conditions, etc. I would therefore welcome the opportunity of collaborating with you and to provide your station with the previously collected materials in Jamaica and Costa Rica as well as propagating material from my forthcoming trip to Brazil. I am looking forward to a two-month endeavor in Brazil this coming January and February with the hope of collecting a sufficiently broad sampling from the center of variations to allow a thorough-going analysis.

Since the whole field of agricultural studies of cassava is rather limited, there are literally hundreds of problems to be studied with these plants. Not only is the taxonomy of the group thoroughly confused, but the knowledge of genetics is very scanty. Some plant breeding has been done, particularly for mosaic resistance in Africa; some Indian agronomic studies have been made with local varieties, but little generally is known. Any area of study with the plants would be of extreme significance. For example, the fact that the foliage of the plants has a very high crude protein content sounds quite exciting. I am enclosing a reprint of an article of analyses made in Jamaica on the leaf protein.

If you are interested in these studies and would like to arrange for co-operative endeavors, I would be pleased to know to what extent you are interested. My own financial arrangements are such that The New York Botanical Garden provides my salary, and I expect to have most of my travel paid for through grants from The National Science Foundation. The amount involved for growing the plants and any experimental work which you might wish to have done is of course better known to you than to me.

I will be pleased to know of your reactions to this proposal for co-operative studies.

Sincerely yours

David J. Rogers
Curator of Economic Botany

DJR:MDF

CC--Dr. Steere
Dr. A. H. Moseman

Dr. Rogers

September 22, 1959

Dr. J. George Harrar
The Rockefeller Foundation
49 West 49th Street
New York 20, N. Y.

Dear Dr. Harrar:

Dr. David Rogers, our Curator of Economic Botany, met Ing. Raymondo Gudino, who works with cassava (yuca) at the Rockefeller station in Vera Cruz, on one of the AIBS field trips at State College. Dr. Rogers has been working for quite a few years on the taxonomy of cassava both in the field and through the use of modern computing machines, and so he was delighted to have a chance to talk to someone with a similar interests.

He is planning to go to Brazil next winter and would be glad to collect for your Mexican station if you are interested in new genetic stocks. He also has good sources in Jamaica from his previous field work.

In exchange for sending material to your field station, Dr. Rogers would like to have the privilege of being able to observe the plants and to carry out some experiments related to his morphological studies. He is especially interested in the HCN differences under the same environmental conditions and further, just how much effect soil differences make in the variation in prussic acid levels. One of the interesting discoveries that Dr. Rogers has made is that the leaves of cassava have a very high protein content which needs a great deal of study on different varieties and with reference to the real nutritive value of the protein.

If you plan eventually to study cassava with the same intensity that you have devoted to other tropical plants I know that Dr. Rogers would be glad to help in any way possible since he can draw from a large background

Dr. J. George Harrar

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of experience, information, and interests. I know that he would be delighted to have an opportunity to talk this whole matter over with you or one of your staff at your convenience.

Sincerely yours,

William C. Steere
Director

WCS/gd

FOOD RESEARCH INSTITUTE
STANFORD UNIVERSITY

STANFORD, CALIFORNIA

June 22, 1959

Dr. David J. Rogers
Curator of Economic Botany
The New York Botanical Garden
Bronx Park
New York 58, New York

Dear Dr. Rogers:

My colleague, Bruce Johnston, has shown me your letter to him and has invited me to comment further on the use of manioc leaves in tropical Africa.

I have included quite a bit of information about the use of manioc leaves in my book now in press, but it is so dispersed through the volume that it is not easy to reproduce it.

Manioc leaves are unquestionably an important source of protein in many parts of Africa, and they form part of the diet almost everywhere that manioc is grown. A number of other kinds of leaves are also used, suggesting that the eating of manioc leaves is essentially an African "invention." I have found no clear evidence that they were eaten by South American Indians prior to the Discovery.

Few diet studies report the amount of leaves eaten. In the Kwango, Belgian Congo, daily consumption per adult may amount to 100 or 200 grams of fresh leaves; in Elisabethville a daily ration may contain 300 grams, and near Stanleyville consumption of 500 grams per day is reported. A lot of spinach!

A diet study in the southern Cameroons found young manioc leaves to be widely eaten, but other leaves preferred. Manioc leaves were most important in the rainy season. (They are probably not available in the dry season). Average daily consumption of all leaves was 120 grams per person.

A preliminary study from the Koukouya Plateau of French Moyen-Congo found manioc leaves eaten on the average on 3.8 days out of the week. Near Brazzaville daily consumption varied from about 50 grams in February-May to 170 grams in October.

In the Zande district of the Republic of Sudan a dietary study showed manioc leaves to be a part of all diets, but other leaves preferred.

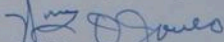
Typical workers rations in Elisabethville in 1956 included enough green leaves, presumably of manioc, to supply 130 calories daily.

In west and east Africa manioc leaves are probably less important quantitatively, although their use is widespread. I have no reports of

them from budget studies.

The enclosed reprint contains a little additional information on the use of leaves.

Sincerely yours,



William O. Jones
Executive Secretary

AIR MAIL
WOJ:hh
Encl: 1

FOOD RESEARCH INSTITUTE
STANFORD UNIVERSITY
STANFORD, CALIFORNIA

June 22, 1959

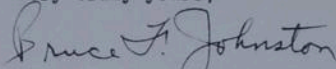
Dr. David J. Rogers
Curator of Economic Botany
The New York Botanical Garden
Bronx Park
New York 58, New York

Dear Dr. Rogers:

It was very kind of you to write concerning my book on the staple foods of western tropical Africa. My colleague, William Jones, may wish to add to my comments on the questions you raise with respect to manioc. He has studied that crop much more thoroughly than I have, and his book, Manioc in Africa, which is now in press contains a good deal of additional information on those points. He presents the results of several analyses of the nutrient composition of manioc leaves that confirm the Jamaican data with regard to the relatively high protein content of the leaves. The extent to which manioc leaves are used as a vegetable varies a good deal in different parts of Africa. There seem to be districts where this is not done at all, but there are certainly extensive areas in which it is an important practice.

I am most interested in your reference to studies that suggest a correlation between plantains and absence of protein deficiency disease. Dr. van den Berghe of IRSAC made a passing remark about evidence, of a highly tentative nature I believe, that seemed to suggest that the nature of the carbohydrate calories as well as the protein content of the diet might be important in relation to kwashiorkor. But I have not seen any published material bearing on this point and will be most grateful if you can call my attention to material I have overlooked.

Very truly yours,



Bruce F. Johnston
Associate Professor

cc: WOJ

BFJ:hjb
AIR MAIL

June 16, 1959

Dr. Bruce F. Johnston
Food and Research Institute of
Stanford University
Stanford, California

Dear Dr. Johnston:

I have been reading your book entitled "The Staple Food Economies of Western Tropical Africa" for review in ECONOMIC BOTANY and have found it a fascinating resume! It has been an eye opener to me to know the significance of manioc as a staple food material in Africa. I had known previously something about the value of this plant in Africa but your book brings this sharply to my attention.

I have been studying manioc as a systematic botanist for some years now trying to make some organization of the many varieties of these plants. All of my work has been confined to the western hemisphere and I have yet to make a world-wide visit for purposes along this line.

One of the interesting facets I have heard of in Africa is the use of the young foliage as a vegetable crop. This is of particular fascination because of the fact that the foliage has a very high protein content. At least varieties analyzed in Jamaica have shown outstanding crude protein content (Rogers, in ed.). I have never seen statistics on the extent of the habit of eating young foliage of manioc. This apparently is not a common practise in the new world and the reports of the use of the young foliage have come most consistently from western Africa. I wonder if in your extensive researches in African food plants if you made any observations on this use. You are no doubt familiar with the interesting studies on the protein deficiency diseases of Africa and may have seen some correlations made between areas where plantains are grown and the absence of the protein deficiency disease.

If you have information on the extent of the use of the foliage as a vegetable, I would be very pleased to hear of it.

Dr. Bruce F. Johnston

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If you happen to be in New York any time I would be pleased to talk to you about MANIHOT problems of Africa.

Sincerely yours,

DJR:mh

David J. Rogers
Curator of Economic Botany