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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.



# INSTITUTO INTERAMERICANO DE CIENCIAS AGRICOLAS DE LA OEA

## ZONA NORTE

El Instituto es un organismo especializado de la Organización de los Estados Americanos. Fue establecido por los Gobiernos de las Repúblicas Americanas en 1942 para promover su desarrollo económico y social a través de la educación y la investigación.

### OFICINA EN MEXICO

Londres 40, 1er. Piso México 6, D. F.  
Teléfonos: 11-22-12 y 11-24-18 Cables: IICAGROEA MEXICODF

ZN/R/60-68  
February 26, 1968

Dr. David J. Rogers  
University of Colorado  
Department of Biology  
Armory 101  
Boulder, Colorado 80302  
U. S. A.

Dear doctor Rogers:

SUBJECT: YOUR LETTER OF FEBRUARY 23

With reference to the above mentioned letter I would like to inform you that Dr. Luis A. Montoya is not in Mexico City at the present time.

Please be sure that as soon as he returns your letter will be brought to his immediate attention.

Sincerely yours,

(Miss) María Victoria Carballo V.  
Executive Secretary

23 FEBRUARY 1968

Dr. Luis A. Montoya  
Official Representative IICA in Mexico  
Londres 40, 1er Piso  
Mexico 6, D. F.

Dear Luis,

Under separate cover I am sending the Nickerson color fan, which I promised earlier. I trust you will find it useful.

We are still reliving the memories of our very excellent trip with you to Vera Cruz and the extremely pleasant evening we spent with you and your wife in Mexico City. Please give your wife our best regards.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

2 January 1968

Dr. Luis A. Montoya  
IICA en Mexico  
Londres, 40, 1er Piso  
Mexico 6, D.F.

Dear Dr. Montoya:

This is the first opportunity I have had to sit down and tell you how much I appreciate your magnificent efforts to make our stay in Mexico successful. I am deeply indebted to you for your kindness and generosity, and I trust that sometime I shall be able to repay in part this debt we have to you and your wife. I shall be corresponding with you in the future but in the meantime be assured of our best wishes for a successful and happy New Year.

Very sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

30 November 1967

Dr. Luis A. Montoya  
LLCA in Mexico  
Londres 40, 1<sup>er</sup> Piso  
Mexico 6, D.F.

Dear Dr. Montoya:

This is to let you know that we are still planning to arrive in Mexico on 14 December via American Air Lines at 2:14 P.M. (1414 hours).

I have decided not to send ahead any equipment but bring the material with me. I think the airlines will allow me to carry sufficient weight so it will not be necessary to make a special shipment. Therefore you will not have to worry about a box before my arrival.

My wife will be accompanying me and we look forward to our visit to the Manihot growing in Vera Cruz. I trust that you have had an opportunity to reserve a hotel room for us in Vera Cruz for the nights of 15 and 16 December.

Sincerely yours,

David J. Rogers  
Professor of Botany

DJR:gm

18 Deteber 1967

Mr. L. A. Montoya  
IICA, Oficena en Mexico  
Londres, 40  
Mexico, 6, D. F.

Dear Mr. Montoya,

I was very disappointed that there was not an opportunity to see you at the meetings in Texas. We are still planning to come to Mexico at Christmas time, specifically the days are December 14 to 23. We would like to spend the first two days (Friday and Saturday, the 15th and 16th) in Vera Cruz, looking at the Manihot cultivars there. I will be very pleased if you will make reservations at a good hotel for me and my wife during that time in Veracruz. I will also be pleased if you can suggest whether we can get transport easily through your office to assist us in the collecting of the Manihot data.

I would like to send you in advance some collecting equipment. Would it be all right to send plant presses to IICA Oficina en Mexico in your care? I hope that this will be satisfactory.

As you may know part of our visit will be to a meeting sponsored by the Nacional Universidad dealing with biological information retrieval. You might be interested in those meetings.

I trust that it will be convenient on the dates given. We look forward to seeing you and the Manihot in Vera Cruz. Please let me know the answer to the question above as soon as you can so that we can make our plans well in advance.

Sincerely yours,

David J. Rogers  
Professor of Biology

DJR:gm

Oct. 18, 1971

Dr. John Popenoe, Director  
The Fairchild Tropical Garden  
10901 Old Cutler Road  
Miami, Florida 33156

Dear John:

Don't assume from the above address that I have moved permanently from Colorado. I am spending the academic year here as a visiting scholar, on sabbatical from Boulder.

In my letter of July 12th, I indicated that we might be continuing our work for A.I.D. in Africa. We are now proposing that we be given the opportunity to do so, and in our proposal, we would like to be able to say that you want to participate in that part where both wild species and cultivars are grown under your direction, at Fairchild, before being transmitted to Africa. Hopefully, AID will want to support such an effort, and you might be thinking about what you would need in order to enlarge your activities with Manihot species.

At the moment, I think we should know, in a preliminary way, whether you are willing to participate in a genetic improvement program. Later, we will ask for your budgetary requirements, if AID gives us a green light.

I wonder, however, whether AID might want the USDA Introduction Station there to carry on. Would there be any difficulty or competition between you? I raise this question without any previous discussion about such a program with AID, but I feel almost certain that someone in Washington will bring up the station in Miami. I would like your comments on this before any further proceedings.

How are the plants you have there progressing? I am still very interested in M. pringlei. There may be a chance for me to go to Mexico this winter, and I am particularly interested to get another species, M. rubricaulis. Would you like cuttings or other propagating material?

Looking forward to hearing from you.

Sincerely,

David J. Rogers  
Visiting Scholar



## Fairchild Tropical Garden

10901 OLD CUTLER ROAD

MIAMI, FLORIDA 33156

July 15, 1971

Dr. David J. Rogers  
Department of Biology  
University of Colorado  
Boulder, Colorado 80302

Dear Dave:

The cuttings and seeds of Manihot glaziovii arrived in good shape. Thanks for thinking of us and sending them to us.

I hope they are not carriers of the mosaic virus. We will keep the cuttings isolated just in case. Is there any information on whether or not M. glaziovii could be a symptomless carrier of the virus?

Best regards,

Fairchild Tropical Garden

John Popenoe  
Director

JP/pw

July 12, 1971

Dr. John Popenoe, Director  
The Fairchild Tropical Garden  
10901 Old Cutler Road  
Miami, Florida 33156

Dear John:

Under separate cover I am sending some cuttings and seeds of Manihot glaziovii collected in the city of Kinshasa, Congo. These were made on July 4, and should be still viable, if planted immediately. The fruits are the most mature that I could find, and I think the seeds will mature if the fruits are left to air-dry.

M. glaziovii is planted everywhere in and around Kinshasa, and used as a shade tree, as well as for "spinach" from the leaves. It is not used for its rubber-bearing quality, at least not by the Congolese.

I don't remember that you have this species in your collection, but you might grow these on for comparison, if you do have this species already.

The soils of Kinshasa are almost pure sterile sand, without any evidence of lime in it anywhere, so if you have a sandy place to put these, they should do very well.

I was in the Congo as a consultant to A.I.D. on the manioc problem. They have tremendous problems with mosaic virus there, as well as insufficient supplies of food. I hope that we can, through them, get a program going whereby wild species breeding stock can be collected in your place, and then transferred to various areas where needed. You may know that M. glaziovii has been used successfully in east Africa to build some resistance to the virus. I don't think it is the best potential source of new germ plasm, but it is interesting.

Let me know if the cuttings arrive, and if they grow.

Sincerely,

David J. Rogers,  
Prof. of Biology.



## The Fairchild Tropical Garden

10901 OLD CUTLER ROAD  
MIAMI, FLORIDA 33156

December 9, 1969

Dr. David J. Rogers  
Dept. of Biology  
University of Colorado  
Boulder, Colorado 80302

Dear Dave:

I have your letter of November 24th and I'm glad to hear that Howard Irwin will be back in Manihot country and may send us some material.

M. pringlei is doing all right and so is R. and A. #525 and M. walkerae. M. sp. from Baja California appears to be one of the so-called annual types for the tops have died down eventhough there has been no frost or moisture stress. It must die back during short days. We expect it to come up from the roots in spring just as the specimen at Chapman Field has for 20 years. I hope it will bloom next year. M. flabellifolia has died for us. I believe it requires an acid soil.

Has your paper on cultivars come out yet? We have been digging various of our cultivars and most are so hard that they won't cook up for eating. I'm not sure whether this is a problem of over maturity, under maturity, or a result of our alkaline soil. I've got a lot to learn about Manihot.

I hope we can start getting more species into the collection because I feel that that is the best way to learn more about the cultivars. I don't think it will do us much good to grow all of von Bülow's cultivars here, however. I am wondering whether he has any species material. I will write him in April.

Yours very truly,

Fairchild Tropical Garden

John Popenoe,  
Director

JP:gc

TAXIMETRICS LAB.  
ARMORY 101

303-443-2211  
Ext. 6712  
May 11, 1970

Dr. John Popence  
Fairchild Tropical Garden  
Miami, Florida

Dear John:

This is just to summarize what I said over the phone, to be certain that we are clear about it.

We believe that Manihot studies are much more appropriately done in Miami than in Colorado, and that, since you already have invested considerable time and money on Manihot, that it would be ideal if we could collaborate with you. We hope to approach A.I.D. for some funds to do a study of the protein content of the products of Manihot, with respect to additional amounts built up by fermentative techniques. We would like to see the work done in Miami, by some suitable arrangement between us, which remains to be worked out.

We have no formal request in with A.I.D., but expect to go to Washington next week (May 18) to discover their interest in the financial sponsorship of such a study. If they are interested, we will ask them if they are agreeable to fund the work through Fairchild Tropical Garden, under your direction, and with our collaboration. We will explain the advantages that such an arrangement has, particularly since you have already started worked with Manihot, and you have laboratory facilities for such effort.

If we can come to some sort of agreement with A.I.D., I will then call you, and perhaps come on down to Miami to work out the most agreeable arrangements. I think the prospects for the study are good, and I was pleased that you are interested. As soon as I can, I'll let you know what happened in Washington.

Sincerely,

David J. Rogers  
Professor of Biology



667-1651



## Fairchild Tropical Garden

10901 OLD CUTLER ROAD

MIAMI, FLORIDA 33156

April 22, 1970

Dr. David J. Rogers  
Department of Biology  
University of Colorado  
Boulder, Colorado 80302

Dear Dave:

Thanks for your letter of April 17 with the seeds. I'm glad you haven't forgotten our project here. Unfortunately, the seeds were completely crushed in the mail so there wasn't enough left to plant.

Our plants are growing well. I have 12 cultivars of M. esculenta and could get an infinite number more, but I think I already have too many. I have been able to distribute material to several other institutions who requested it. I have gotten no additional species, however. The only species I have lost is M. flabellifolia and I'm not too worried about this because it's available in north Florida. Have you got a name for the Roger and Appan species from Mexico yet? It's growing well as is M. pringlei. The Texas species has flowered and set fruit.

I hope you get some more species in Brazil this summer. We don't really have enough to do anything with yet.

Sincerely yours,

Fairchild Tropical Garden

John Popenoe  
Director

JP/pw

Phone conversation about AID Proj.

1. Int. at Fairchild in collaboration on protein product. by fermenta?
2. How can we arrange it?
3. You have labs + facilities?



# The Fairchild Tropical Garden

10901 OLD CUTLER ROAD  
MIAMI, FLORIDA 33156

May 8, 1969

Dr. David J. Rogers  
University of Colorado  
Dept. of Biology  
Armory 101  
Boulder, Colorado 80302

Dear David:

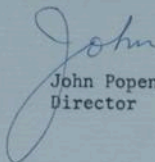
The *M. walkerae* arrived in good shape and has been planted.  
Thanks for sending it.

We will try to get a photo or two locally for your paper.  
It should go to the printer in a week or so.

When will your monograph on varieties be published?

Sincerely yours,

Fairchild Tropical Garden

  
John Popenoe,  
Director

JP:gc

5 May 1969

Dr. John Popenoe, Director  
The Fairchild Tropical Garden  
10901 Old Cutler Road  
Miami, Florida 33156

Dear John:

A cutting from the University of Texas M Walkerae went off to you via Air Parcel Post on Thursday. I would expect that you would have it planted by now, but in any event, expect it.

Can you publish the paper without a photo? I don't know when I can get one.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:GM

April 1, 1969

Dr. John Popenoe, Director  
The Fairchild Tropical Garden  
10901 Old Cutler Road  
Miami, Florida 33156

Dear John:

Here, finally, is a short summary of my talk, "Manihot, Man and Computing Machines." Please feel free to edit this manuscript in any way you see fit.

The Manihot species in Texas, I believe, can come from Dr. Billy Turner, Chairman, Department of Botany, University of Texas. If you care to wait, I will be in Austin toward the end of this month and can lift a root or two at that time.

Sincerely,

David J. Rogers  
Professor of Biology

Enc. 1  
srh



## The Fairchild Tropical Garden

10901 OLD CUTLER ROAD

MIAMI, FLORIDA 33156

March 3, 1969

Dr. David J. Rogers  
University of Colorado  
Biology Department  
Boulder, Colorado

Dear Dave:

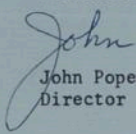
I am enclosing a check for your expenses plus an honorarium of \$100 for presenting the David Fairchild Lecture in Botany. I have heard a lot of favorable comment about your lecture. Thanks for coming.

Can you send me a two or three page summary of your talk and a black and white photo to publish in our quarterly bulletin? Actually a longer paper would be better if you can prepare it for me.

The Manihot species are beginning to grow now with supplemental light. I hope you can get some additional species soon for our collection. Who could we contact to get the Texas and Arizona species?

Sincerely yours,

Fairchild Tropical Garden

  
John Popenoe  
Director

JP/pw

Enclosure



667-1651

APR 10 1969



## The Fairchild Tropical Garden

10901 OLD CUTLER ROAD

MIAMI, FLORIDA 33156

April 7, 1969

Dr. David J. Rogers  
University of Colorado  
Taximetrics Laboratory  
Armory 101  
Boulder, Colorado 80302

Dear Dave:

Your paper on Manihot is just what I was looking for. Thanks a lot. I'll see that you get copies of it when it is printed. I'll be glad to get a picture or two when available.

I'll be glad to wait until toward the end of this month to get roots or cuttings of Manihot species from Texas. If there are any leaves available, I'd be glad to get some for my student to determine crude protein. I think about 10 grams dry weight is enough for him to get a little information, although it won't be strictly comparable to locally grown material.

Now that the weather has warmed up here, all the Manihot plants are in active growth. I'll soon be planting the seedlings out in the field. I noted with interest the recent abstract on photoperiodicity of Cassava. It won't make enlarged roots during short days.

Best regards,

Fairchild Tropical Garden

John Popenoe,  
Director

JP:gc

Taximetrics Laboratory

23 January 1969

Armory 101

Dr. John Popenoe  
The Fairchild Tropical Garden  
10901 Old Cutler Road  
Miami, Fla. 33156

Dear John:

Please thank Mrs. Sweeney for putting us up in Dr. Fairchild's former house. You may have heard from Mrs. Julia Morton, an old friend of mine, that she would like to arrange some time for dinner for us, and has also been kind enough to arrange for a skin diving expedition in Saturday. We will therefore probably spend Saturday and Sunday nights somewhere in the Keys, though this is not at all certain at the moment. I hope this fits into plans.

I have sent two of the introduction permits out, one to Dr. Howard Irwin who is collecting now in Brazil in the states of Bahia and Minas Gerais, and to Dr. Ian Prance who is collecting in the area surrounding Manaus. Both these people are experienced in the area and are former colleagues of mine when I was at the New York Botanical Garden. I have more confidence that we will get something from them than from any of the people mentioned in earlier letters.

The enclosed copies of letters, one in reply to me from Ralph Richardson and the other a letter to Jerry Grant in Colombia are self-explanatory.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm  
Enc.

This Package Contains  
PLANT QUARANTINE MATERIAL

37-2555  
PERMIT NO.

**DELIVER TO**

**U.S. DEPARTMENT OF AGRICULTURE**

AGRICULTURAL RESEARCH SERVICE  
PLANT QUARANTINE DIVISION

Plant Inspection House—P.O. Box 59-2136

**MIAMI 59, FLORIDA**

PQ Form 515 F (1-59)



## The Fairchild Tropical Garden

10901 OLD CUTLER ROAD

MIAMI, FLORIDA 33156

January 14, 1969

Dr. David J. Rogers  
University of Colorado  
Department of Biology  
Armory 101  
Boulder, Colorado 80302

Dear Dr. Rogers:

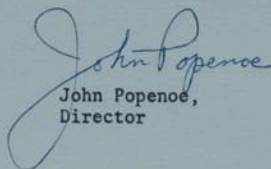
One of our board members, Mrs. E. C. Sweeney has invited you and your son to be her guest during your visit to Miami to present the Fairchild Lecture in Botany. You would be interested to know that she lives in the former home of Dr. David Fairchild and is actively maintaining his excellent collection of tropical plants.

I or someone else from the Garden will meet you at the airport and we can arrange your schedule for the week-end after you arrive.

I am enclosing 3 copies of our import permit so that you can send them to whomever is a good prospect for getting material. Your letter to Dr. Richardson was very good.

Sincerely yours,

Fairchild Tropical Garden

  
John Popenoe,  
Director

JP:gc

cc: Mrs. E. C. Sweeney

6 January 1969

Dr. John Popenoe  
The Fairchild Tropical Garden  
10901 Old Cutler Road  
Miami, Florida 33156

Dear Dr. Popenoe:

I enclose herewith a copy of a letter recently mailed to Dr. Richardson of the Rockefeller Foundation. I have also heard recently from Jorge Leon, whom you may know who regularly is in the Instituto Interamericano de Ciencias Agrícolas de la OEA, Andean Zone, Lima, Peru. Dr. Leon and I have had long contact on problems of Manihot and he has now written that he wants to send out an expedition in the area mentioned in the copy which should pay off in very rich dividends in Manihot, so I took this opportunity to wrap up some interests of yours and mine as well.

From your letter of December 17, I will identify myself to you at the airport in February by a nametag on my jacket. It is all right to reimburse me after the whole thing is over. I will get letters off to some of the people mentioned by Dr. Teixeira to send materials directly to you. Do you have USDA plant introduction permits? If so, perhaps I could send some along to them. With respect to importing cultivars I would not recommend it and for reasons which I will tell you about when we are together.

I would like to get down to the keys to do some skin diving if at all possible, on Saturday or Sunday, following my lecture. Have you any idea about the best way to do this?

Sincerely,

David J. Rogers  
Professor of Biology

DJR:qm  
End.: Letter to R. Richardson



## The Fairchild Tropical Garden

10901 OLD CUTLER ROAD

MIAMI, FLORIDA 33156

December 17, 1968

Dr. David J. Rogers  
University of Colorado  
Dept. of Biology  
Armory 101  
Boulder, Colorado 80302

Dear Dr. Rogers:

Thanks for your letter of December 4th with the details of your trip. I can go ahead now and make arrangements for your lodging etc. We will plan to meet you at the airport so I presume you will notify me of some garb or other means by which you may be identified.

We generally prefer to reimburse our speakers for all expenses after they have been incurred. If this is not satisfactory for you please let me know. The honorarium will be sent you after the program also.

We have an auditorium that seats about 300 people and a good carousel projector for your 2 x 2 slides. There is a P. A. system with a neck mike.

If you are personally acquainted with any of the contacts that Dr. Teixeira has suggested it might be possible for you to get results where I can't. Otherwise I will plan to correspond with the various people suggested. Can Dr. Teixeira himself send us any material from Sao Paulo?

Because of our growing season in Miami it is best to wait till March to get material in from abroad. The tropical species make little growth during the cool weather and may lose their leaves.

I just came back from a short trip to Venezuela but I didn't see any wild Manihot species. I was in the Guiana area, up the Caura river. I brought back cutting of a cultivated type grown in the village of Maripa but I'm not sure of what value it is. There seems to be an unlimited number of cultivated forms and no one could collect and grow a very high percentage of them. I will want to discuss this matter with you while you are here. If collectors are sent out for the specific purpose of collecting Manihot some special funding will be necessary. I don't know where this will come from at present because of the tight situation on grants. At any rate we can discuss the whole problem in detail in February.

Yours very truly,

Fairchild Tropical Garden

*John Popenoe*  
John Popenoe,  
Director

JP:gc

6 December 1968

Dr. Alcides R. Teixeira  
Director General  
Instituto de Botanica  
Caixa Postal 4005  
Sao Paulo, Est. de Sao Paulo, Brasil

Dear Alcides:

Thank you very much for your letter of the 27th  
November. We will hope to be able to receive Manihot  
propagating materials from the men whom you have listed  
for us.

Best regards for the Christmas holidays.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

SECRETARIA DA AGRICULTURA  
INSTITUTO DE BOTÂNICA  
CAIXA POSTAL 4005 — SAO PAULO  
ESTADO DE SAO PAULO — BRASIL

November 27th, 1968.

N.º.....

Dr. David J. Rogers  
Department of Biology  
Armory 101  
University of Colorado  
BOULDER - COLORADO 80302 - U.S.A.

Dear Dave:

Thank you for your letter of October 25 on Dr. Popenoe's interest for seed or other propagating material of both wild and cultivated species of the genus Manihot.

I have sent copies of your letter to: Eng. William Rodrigues, Instituto de Pesquisas da Amazônia, Manaus, Amazonas; Eng. João Murça Pires, IPFAN, Caixa postal 48, Belém, Pará; Dr. Dárdano de Andrade Lima, Instituto de Biociência da Universidade Federal de Pernambuco, Caixa postal 2976, Recife, Pernambuco; Diretor, Escola Superior de Agricultura, Universidade Rural, Viçosa, Minas Gerais; Diretor, Escola Superior de Agricultura de Lavras, Lavras, Minas Gerais; Diretor, Escola Superior de Agricultura, Universidade Rural, Quilômetro 47, Estrada Rio-São Paulo, Estado do Rio de Janeiro; Diretor, Escola Superior de Agricultura "Luiz de Queiroz", Piracicaba, Estado de São Paulo; and Diretor, Instituto Agrônomico de Campinas, Campinas, Estado de São Paulo.

I have asked them to be of assistance to you and Dr. Popenoe. I think those names cover the most important areas and institutions of Brazil which could be of any help in the matter.

Beulah and I are already back to our old jobs and life is thriving as usual. Our best wishes to you.

Sincerely,

*Alcides*

Alcides R. Teixeira  
Director General

ART/rf.



## The Fairchild Tropical Garden

10901 OLD CUTLER ROAD  
MIAMI, FLORIDA 33156

November 4, 1968

Dr. David J. Rogers  
University of Colorado  
Dept. of Biology  
Armory 101  
Boulder, Colorado 80302

Dear Dr. Rogers:

I am delighted to hear that you will be here in February to make the Fairchild Lecture. I am looking forward to showing you our collection and the commercial cassava plantings in this area.

I think it would be a good idea to discuss the use of computers for the taxonomic problems with Manihot along with the study of Manihot. Perhaps computer should be in the title, but I'll leave that all up to you.

Our auditorium seats about 300 and we have a Kodak carousel to show 35 mm. slides. There is a neck mike and a podium mike. Please let me know if you will need any other props. The audience will contain garden enthusiasts, students and perhaps a few botanists.

We will meet you at the airport and arrange for a place for you to stay.

The cassava is all coming along fine, but we need to find sources in the tropics for the wild relatives. We will probably have to make collecting trips of our own as we get further along with this project. There are undoubtedly many species outside the range of botanists who will cooperate.

You will be welcome to get documentary material on any of our plants when you are here. Unfortunately nothing is in flower now.

Sincerely yours,

Fairchild Tropical Garden

*John Popenoe*  
John Popenoe,  
Director

JP:gc

4 December 1968

Dr. John Popenoe  
The Fairchild Tropical Garden  
10901 Old Cutler Road  
Miami, Florida 33156

Dear Dr. Popenoe:

Herewith is my flight schedule for my trip to Miami in February. My son, Richard, aged 14, will be coming with me. We arrive in Miami on the 20th at 5:41 P.M. via TWA 478. Departure will be at 12:40 P.M. on Monday, February 24, via Eastern.

Incidentally, a suggested title (if you need one) for my presentation in February is Manihot, Man and Computing Machines. I will need a projector for Kodachromes (2 x 2) but no other projecting equipment.

Dr. Teixeira has responded to the request for Manihot propagating materials handsomely. I am enclosing a copy of his letter. We (either or both of us) will now have to correspond directly with the listed men. Would you care to write to them, or do you want me to? I frankly am not sanguine about response from any of the listed men, and fear that the only way we can get materials is by sending out our own collectors. In this connection, I'd like to suggest my graduate student, Mr. S. G. Appan, who would be an excellent man on such a trip. We can talk about this possibility when I come to Miami.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

28 October 1968

Dr. John Popenoe  
The Fairchild Tropical Garden  
Miami, Florida 33156

Dear Dr. Popenoe:

I am pleased and honored by your invitation to deliver the David Fairchild Lecture in Botany. Friday evening, February 21, is satisfactory. I will probably come a little earlier and spend some time in the garden and surrounding areas. I will give you more details about the title when I have given thought to the scope of the lecture. I would like to combine the study of Manihot to some extent with our efforts on the use of the computer on such studies, but whether I can make a meaningful whole of both in one lecture I have not fully decided. It might be too much to try to tell people about the application of computers to these studies at the same time as talking about the interesting research on the plants themselves. More on this when I have put the ideas together.

Enclosed is a carbon of a letter to Alcides Texiera, the director of the Sao Paulo Botanic Garden, now on leave at the New York Botanical Garden. If we get any cooperation from collectors in South America to send seeds and other propagating material to you, we will get it through Dr. Texiera. I am compiling a list of other potential contributors to the Manihot collection and should have that list to you shortly.

I was very pleased to hear of the growth and health of the plants you have there. We have looked up the collections made by Gentry and have not found the documenting herbarium specimen supposedly at the National Arboretum. We do have the National Arboretum collection here. Perhaps a letter to Fred Meyer, curator, would discover whether some of the materials are still in their collection that I do not have. If the M. flabellifolia specimen you have from Quincy is in good health and of sufficient size to spare a document from it, I would like either to gather one when I come in February, or ask you for a specimen. Incidentally, the species, M. carthagenensis is an epithet which has been used as a sort of "garbage pail" when nobody knew what to call a particular specimen. As I recognize carthagenensis it is a well defined species occurring only along the dry coastal Caribbean areas from the northeastern end of Venezuela to the west, and stopping in Colombia.

I'll be in contact with you again shortly.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

25 October 1968

Teixeira

Dr. Alcides Teixeira  
c/o Dr. Clark Rogerson  
New York Botanical Garden  
Bronx, New York 10458

Dear Alcides:

Recently a very fine opportunity for improving our research capabilities with the genus Manihot has occurred as a result of Dr. John Popenoe, director of the Fairchild Tropical Garden in Miami. Dr. Popenoe has become interested in the genus and has an opportunity to raise many of the species there. I am encouraged by his interest because it offers an opportunity to have a source of living material for various types of studies much closer at hand than has been the case in the past. Dr. Popenoe has asked me to find for him people who would be interested in sending seed or other propagating material of both wild and cultivated species of Manihot.

Since you are in much closer touch with many of the workers in Brazil other other countries of South America I wonder if you would be willing to use your good offices to encourage not only the people at your own botanical garden but in other institutions (such as Rio, Recife, Belem, Brasilia, etc.) to cooperate with both Dr. Popenoe and me in getting material in. Please let me know if you have time and are willing to initiate the correspondence with these other workers and how we may best achieve a viable working arrangement. If you are hampered by lack of secretarial help at the moment, perhaps you could provide me with the names of the most likely persons who would cooperate.

Best regards to you and Beulah.

Sincerely,

David J. Rogers  
Professor of Biology

DJR: gm

CC: Dr. John Popenoe



## The Fairchild Tropical Garden

10901 OLD CUTLER ROAD  
MIAMI, FLORIDA 33156

October 18, 1968

Dr. David J. Rogers  
Taximetrics Laboratory  
Armory 101  
University of Colorado  
Boulder, Colorado 80302

Dear Dr. Rogers:

We have gotten one plant out of the seed of your #525 from Nuevo Leon. The three plants of M. pringlei continue to grow satisfactorily.

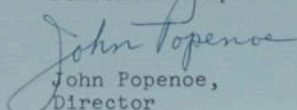
I have decided that our M. carthaginensis is probably identical to M. flabellifolia since I have found that the seed came from Quincy in North Florida.

We have gotten starts of plants of Manihot sp. (P.I. 200153) collected by Gentry at Comondú, Baja California. This has persisted at the Plant Introduction Station near here for more than 10 years in spite of being mowed off every time the lawn is mowed. I have asked them to stake the sprouts so that we might get flowers for a voucher. Have you seen the voucher of this collection at the National Arboretum?

Every year we hold the David Fairchild lecture in Botany at the Fairchild Tropical Garden. The lecturer's expenses are paid as well as an honorarium of \$100.00. Last year Dr. John Torrey gave the lecture. In previous years we have had Dr. Donovan S. Correll, Dr. W. H. Wagner and various others. The lecture is generally a somewhat popularized account of the lecturer's research and is published in our bulletin. Would you be interested in giving the lecture in February 1969? There would be a choice of dates but Friday evening February 21 would suit us best. The preceding or following Friday would be all right.

Yours very truly,

Fairchild Tropical Garden

  
John Popenoe,  
Director

JP:gc



## The Fairchild Tropical Garden

10901 OLD CUTLER ROAD

MIAMI, FLORIDA 33156

September 19, 1968

Dr. David J. Rogers  
University of Colorado  
Department of Biology  
Armory 101  
Boulder, Colorado 80302

Dear Dr. Rogers:

Thanks for your letter of September 13th which answers many of my questions. The seeds of Manihot sp. (Rogers and Appan 525) also arrived in good shape and thanks for them also.

I received your letter about Manihot flabellifolia and have already received seeds from Dr. J. W. Thieret.

The Fairchild Tropical Garden maintains a genetic stock center or germ plasm bank of perennial maize relatives which is recognized by the American Genetic Association. This is quite a large collection containing many clones of all known species and many hybrids. Maintenance of this collection is supported by a grant from the National Science Foundation. The collection is being used actively by research workers from about six universities.

I have in mind developing a similar collection of Manihot relatives and I think that outstanding clones of Manihot esculenta should be included. I do not have the resources to handle all known species of Manihot if they were to be sent to me next week, but it will be a gradual process to assemble the collection anyway. As the collection grows I would hope to get support from some foundation to help maintain it. Being more optimistic I would like to see a program of fundamental botanical research on the genus and especially genetic and cytogenetic research which would take place at the Garden. As the collection grows perhaps some foundation can be interested in this. As you are well aware, cassava is one of the major food crops that stand between mankind and starvation and it is essential that basic work begin on its genetic potential as soon as possible.

I am a horticulturist by training and am personally interested in horticultural aspects of this crop. Yet the horticultural aspects are very broad so there is much to do. I have an adjunct appointment with the University of Miami and I have just recently gotten a graduate student who

is interested in this group. I tentatively am planning to have him study the proteins in the leaves. This would include a survey of protein levels in the leaves of as many different species as I can obtain. This is one reason I am in somewhat of a hurry to get this collection off the ground. Surveying the genus for such important horticultural characteristics should stimulate genetic research.

I have also been trying to assemble the various clones of cassava that are being grown in Florida. I am eagerly looking forward to your classification system so that I can systematically classify the clones we get. Of course, I am also looking forward to your taxonomic monograph of the genus as this will be essential in developing a good collection.

Our plants of Manihot pringlei continue to grow satisfactorily. We will be glad to send you cytological material when the plants are a little larger. Indeed, that's what this collection is for.

I am looking forward to receiving your list of sources and hearing from you further on this subject of mutual interest.

Sincerely yours,

Fairchild Tropical Garden

John Popenoe  
John Popenoe,  
Director

JP:gc

Geo. Freytag - Esc. Agr. Agr. Zamorano, Honduras. (Cultivars)  
Julian Steyermark - Inst. Bot., Caracas - wild Ven spp.  
Dept. Agric, Jamaica - W.I. cultivars  
(also collection in Virgin Islands by Brachmal, don't know  
who is now in charge ~~of~~ but USDA in St. John's.  
Jerry Grant - Bogota - (Columbia)  
Luis A. Montoya - Mex ex Mex., Londres 40,1 + Piso  
Mexico, D.F. - Mexican + other imported C.U.S.

17 September 1968

Dr. John Popenoe  
Fairchild Tropical Garden  
10901 Old Cutler Road  
Miami, Florida 33156

Dear Dr. Popenoe:

I have mailed a small packet of seeds of the undescribed Manihot species. The seeds may, or may not, be sufficiently mature to germinate. As indicated in my earlier letter, this species is quite different from M. pringlei, sent earlier, and fits into a different section of the genus. As indicated on the vial, these seeds are from my collection, Rogers & Appan #525. Incidentally, the seeds of M. pringlei are from my collection, #528, which I think it would be useful to have a record on. There are documenting herbarium specimens of both these in my own herbarium, not yet distributed to the various large institutions.

The collection site of #525, the undescribed species, is Nuevo Leon, Mamulique Pass, just off the road on old highway, near milestone Km. 1051, on east-facing slopes, 38 mi. N. of Monterrey, alt. ca. 600 m. The habitat is described as loose, rocky, disturbed, limestone base, in soil dumped after road construction.

The plant is a sprawling shrub, 2-2 1/2 feet high, many branched from base. Roots tuberous, penetrating 1-3 feet.

We can provide further descriptions of both collections, if you want this information.

Good luck with these plants.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

September 13, 1968

Dr. John Popenoe  
The Fairchild Tropical Garden  
Miami, Florida 33156

Dear Dr. Popenoe:

I am really pleased to hear of your success in germination of M. pringlei, and I hope you can keep them going until they become vigorous plants. While in Mexico last June, we collected quite a bit of material for cytological examination of the species, but unfortunately, none of the collected material was in the right stage for chromosome studies. We have a single seed germinated, but I do not hold much hope that we can continue the plant in good health because of our very primitive greenhouse facilities. Perhaps we can prevail upon you later to collect some root tips for us when you are assured of having sufficient living materials to continue the species in cultivation.

I hope to be able to send you a few seeds of a quite different species (as yet undescribed) from Tamaulipas, but will have to check to see how many we can part with before sending them.

It is very gratifying to hear of your increased interest in Manihot. I am only sorry that I didn't know of this interest sooner, for I might have been able to send you a number of different species that I have collected as dried herbarium samples over the past few years. Whether or not these same species can again be collected with propagating material unfortunately now depends on the reliability of Latin American botanists, with whom I am sure you are familiar.

To my knowledge there is no present living collection of Manihot species anywhere. There was an extensive collection of wild species in Sao Paulo, collected by Ahmes Viegas, but I know that that collection was wiped out when they needed space for a new building. Other than that one, there are no others to my knowledge, and I have fairly extensive contacts with South American Botanists.

I have almost all of the extensive herbarium collections of the genus here in Boulder. I, with a graduate student, should have completed the classificatory work for a monograph this academic year. I now have a completed ~~subdivision~~ classification of the cultivars of M. esculenta, and am writing it up for publication, very probably in the Annals of the Missouri Botanical Garden. Of course the monograph does not include much cytological data, practically no physiological data, and only very primitive phenological information. This is true because of the difficulty of gathering such data for wild tropical species. Therefore, any work that you can do in this direction will be of very fundamental importance.

For collection of materials, I am now collecting a list of people who might help us gather significant and interesting materials. But before I complete the list, I would like to know just how extensive you care to get with it. Do you want only relatives of the cultivars, or do you want to try any and all species? There are a number of interesting, but not closely related species to M. esculenta, some with very specialized morphology.

There is a whole section of the genus which has been used to produce rubber, *M. glaziovii* the main species in this section. I'm not sure yet how many more species I will recognize in this section, but Ule named 15 or 20 more, all from the dryer areas of eastern Brazil. I know that *M. glaziovii* crosses readily with *M. esculenta*, and was used in Africa to develop resistant variants (to virus) of cassava. I know that wherever in Africa and Asia that these two species occur together, they form a swarm of natural hybrids, producing some rather weird-looking plants.

Our knowledge of this genus, and of *M. esculenta* itself, is very primitive. We will have to do some rather fundamental work in order to make hybridization a useful tool, for we have no ideas about the inheritance patterns, the genetic composition, etc., of any of the species. The physiology of HCN production in *Manihot* is a fascinating but unsolved problem. There is a wealth of folk information about sweet and bitter variations, none of which has been investigated on a scientific basis.

You mentioned the problem of shortening the length of time necessary for maturity, whether or not genes exist for 6-8 month maturity versus 12-18 month. My knowledge is empirical, but I do know that cultivars are grown on the mud-flats of the Amazon, and there, if you don't get a crop in six months, you get inundated. But maturity is a poorly defined concept with regards to these plants. How do you judge maturity? Those cultivars with longer periods to "maturity" clearly are not going to be inundated, but what yard-stick is used when saying the plants are mature when they harvest? I have not uncovered anyone who has used objective measurements when judging maturity. Mostly, the plants are taken out of the ground when needed, and that doesn't tell us much.

I could go on documenting our ignorance, scientifically, about these plants, but I think you understand what I'm trying to say. For almost eighteen years I have been "crying in the wilderness" to get more good work done on these plants. It is therefore very encouraging to know of your interest. From basic agriculture ~~is~~<sup>is</sup> pure botanical study, there is much to be learned from intensive study of the cultivated and wild species. Recently there has been an upsurge of interest in the cultivated species, for which I am gratified, for I have gone to many places looking for help in this work. Anything that you can do will, therefore, be a terrific contribution.

Please forgive the lousy typing job--my secretary is on vacation. But I hope that we can continue to collaborate, and you will shortly be receiving seeds of the undescribed species, and somewhat later, a list of people who might supply propagating materials.

Thanks for writing, and if anything else comes up, please let me know. Incidentally, did you get the letter which said that Bob Gaffrey in Tallahassee could get material of a species from Argentina now naturalized in that vicinity?

Sincerley,

David J. Rogers  
Prof. of Biology.



## The Fairchild Tropical Garden

10901 OLD CUTLER ROAD  
MIAMI, FLORIDA 33156

September 9, 1968

Dr. David J. Rogers  
Taximetrics Laboratory  
Department of Biology  
Armory 101  
University of Colorado  
Boulder, Colorado 80302

Dear Dr. Rogers:

I returned from the west coast last week and found that all the cuttings you sent me of Manihot pringlei had rotted. However, three of the seeds germinated and are growing into nice plants. I am very happy with the way these seedlings are growing and I wonder if you might have seed available from other species.

Since writing you earlier I have gotten even more interested in Manihot and I am determined to build up as complete a collection as possible of the species. I believe they will all grow in our climate and soil and there is a great need for such a collection. Do you know of any good collections of the species of Manihot? I would like to enlist your support and help in developing this collection.

My objectives in developing such a collection are to have material available for genetical, physiological, agronomic and chemical studies. For example are there possibly some genes in the genus that would help shorten the production cycle from 12 to 18 months to perhaps 6 or 8 months? How about higher protein in the leaves etc? Much of this work could be done at our institution and our institution is the only one in the continental United States that can maintain such a collection.

I hope to hear from you soon on your own work of monographing the genus and what leads you can give on other collections.

Sincerely yours,

Fairchild Tropical Garden

*John Popenoe*  
John Popenoe,  
Director

JP:gc

Put on Roger's desk



The Fairchild Tropical Garden

10901 OLD CUTLER ROAD

MIAMI, FLORIDA 33156

August 5, 1968

Dr. David J. Rogers  
Taximetrics Laboratory  
Department of Biology  
Armory 101  
University of Colorado  
Boulder, Colorado 80302

Dear Dr. Rogers:

The cuttings of Manihot pringlei arrived in good time. Although three of them appeared to be pretty dried out the fourth had a little sprout coming on it so I have hopes that I will get at least one plant. Thanks for going to the trouble of sending these as this would seem to be a valuable species to maintain in cultivation as a source of germ plasm for future study and use.

I am leaving day after tomorrow for three weeks but when I return I hope we can resume correspondence and that you will have time to tell me more about your present work with Manihot.

Yours very truly,

Fairchild Tropical Garden

*John Popenoe*  
John Popenoe,  
Director

JP:gc

*P.S. The seeds arrived just as I was signing this. They also look good so I hope they will sprout. JP*



## The Fairchild Tropical Garden

10901 OLD CUTLER ROAD

MIAMI, FLORIDA 33156

July 26, 1968

Dr. David J. Rodgers  
Department of Botany  
University of Colorado  
Boulder, Colorado 80907

Dear Dr. Rodgers:

I am getting interested in the botany of cassava and particularly in the possibility of establishing a small collection of closely related species of Manihot here at the Fairchild Tropical Garden.

I have been unable to find any references to further botanical work on the genus since your article in the Torrey Bulletin in 1963. Have you published on this subject since January 1963? Do you know of someone else who has? Also do you know of any good collections of the species closely related to M. esculenta?

The species we have tried grow well here. So far I only know of M. esculenta, M. glaziovii, M. dichotoma and M. carthaginensis being grown in Florida. Perhaps others are around.

I would appreciate hearing from you on this matter.

Sincerely yours,

Fairchild Tropical Garden

*John Popenoe*  
John Popenoe,  
Director

JP:gc

TAXIDERMIC LABORATORY  
DEPARTMENT OF BIOLOGY  
ARMORY 101  
UNIVERSITY OF COLORADO  
BOULDER, COLORADO 80302

July 31

Dear Dr. Popenoe:

Please forgive this informality, but I'm just leaving on a trip, and did want to answer yours of the 26th, concerning Manihot. Under separate cover, I am sending a few cuttings of M. Pringlei which we collected as herbarium specimens in the last week of June in Mexico. These may, or may not, be viable, but I certainly hope they are, for this species is very closely related to M. esculenta, and should prove interesting if you can get it to take. I don't hold out very high hopes. Too bad I didn't know of your interest sooner, because we could have sent fresh cuttings to you earlier. It just occurs to me that you may be able to germinate some seeds of this species, and I will have these sent separately from the cuttings. Habitat information which is being included with the cuttings may give you some notion as to how the plants will best survive.

You may have found a Manihot species growing along the Gulf coast, from Tallahassee west, and Bob Godfrey at Fla. State, Tallahassee can probably send you cuttings. This is NOT M. esculenta, as is frequently designated, but an introduced species M. 'labellifolia, whose native habitat is near Buenos Aires, Argentina, and environs. If you can't get any cuttings from Godfrey, then write Dr. John Thieret, SW Louisiana State, in Lafayette, La., (Dept. Biology), and I'm sure he can provide them. This plant will grow into a modest-sized tree--very interesting.

With regard to those you're presently growing, I would sometime like to get cytological materials from you to determine  $X$ -some number, etc. I would like also to discover if your materials with these names are real or just parading under those names. We've got about 3 names for almost all the species.

Monographic work is progressing slowly, but we expect a finish within a year. Thanks for your inquiry, and I'll respond at length on return.

Sincerely,  
Doris  
Rivers

Department of Biology  
WISCONSIN STATE UNIVERSITY  
LA CROSSE, WISCONSIN 54601

SEP 27 1967

September 23, 1967

Dr. David J. Rogers  
Taximetrics Laboratory  
Department of Biology  
University of Colorado  
Boulder, Colorado 80302

note ch.  
of address

Dear Dave:

Thanks for your recent note. The reason I never sent you a copy was that I would not have been able to have gotten over the impression that I was being pretentious if I had. It is an article of no great significance.

I have halted my graduate work and am an instructor here in La Crosse. Therefore, I am betraying nothing and none and none can betray me.

Really, it was good to hear from you.

Sincerely,  
Ly.

18 September 1967

Dr. S. H. Somer  
Department of Botany  
University of Tennessee  
Knoxville, Tenn.

Dear Sy,

There was an indexing of your article "Possible Evolutionary Development of Manihot esculenta" in the ASB Bulletin in BioResearch Index. Why didn't you send me a copy without my asking?

Are you still betraying Manihot for Juncus?

Please note my new address. We moved down here in July.

Sincerely,

David J. Roberts  
Professor of Biology

DJR:gn

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE 37916

DEPARTMENT OF BOTANY

January 20, 1967

Dear Dave:

I am sending you my personal duplicate set of the manihot specimens. I am sentimentally somewhat attached to these plants after having worked with them, but that is hardly an excuse to keep them while someone could make use of them. Therefore, as far as I'm concerned, they are yours to deposit in the herbarium of Colorado State.

These specimens are unmounted, and, of all the duplicate sets I made, are the least complete. All of them are numbered, but some of them do not have labels. These labels can be gotten for these by your officially requesting a loan of the duplicate set possessed by the herbarium here.

In checking through this set this morning (the set in the herbarium) I noticed that only  $\frac{1}{4}$  of the total are mounted; the rest are in a box waiting for a pair of hands, paper and glue. I will round them all up so that when your request for a loan reaches Sharp, you won't be sent merely the mounted specimens.

These specimens were taken from all the cultuvar present at the I.I.C.A. in 1965. They are referred to by the cultuvar numbers they bore in the field — not by any collection numbers (which she never used). The I.I.C.A. has a "Lista de las Variedades de Yuca" mimeograph publication. The <sup>plants</sup> ~~numbers~~ referred to in the field, <sup>by number</sup> can be traced to the area or country of origin by using this list (which is, however, rather incomplete). I suppose you have this, if not I will ~~write~~ and send it to you.

Also; I took color shots of representative leaves + flowers of every cultuvar (about 80-85). I do not know if something like that would help you, but if you want them, let me know. The numbers in each slide correspond to the cultuvar numbers from which the representative plant parts were taken.

Sincerely,  
Sey.

- Taxinmetrics Laboratory

January 17, 1967

Mr. Seymour H. Schmer  
Department of Botany  
The University of Tennessee  
Knoxville, Tennessee 37916

Dear Sy:

The specimens that we have are listed here: 632, 633, 635, 636, 638, 640, 642, 643, 645, 646, 648, 649, 651, 653. If you have any other than these, then I would like to have them too, either on personal loan or on some arrangement convenient to both of us.

We stand corrected on Hanukah.

Sincerely,

David J. Rogers  
Professor of Botany

DJR:ch

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE 37916

DEPARTMENT OF BOTANY

January 19, 1967

Dear Dave:

It was good to hear from you and get your Hanukkah  
(not the spelling) greetings, even though I have not  
been cognizant of any religion as of late.

My memory is not very good and I now have no  
~~idea~~ idea whether I sent you duplicates of all the  
material I had collected in Costa Rica; duplicates  
which I know the U.T. herbarium received and also  
the I.T.C.A.. If I had not sent you any it was  
oversight, and, if you do not have those duplicates  
I will send you the personal duplicates I kept for  
myself. Please let me know exactly what duplicates  
you were referring to in your letter.

The Manket esculenta cultivars that were supposed  
to reach <sup>you</sup> never survived our ill-run greenhouse.  
The week or so before I had intended sending them  
to you, a voracious, voracious and tenacious

population of red mites hit them and the greenhouse staff attempted to <sup>get</sup> rid of them. Unfortunately, their efforts succeeded in ridding the greenhouse of red mites and Manihot. I took some cuttings home with me during the summer and they are now coming up again in the greenhouse. Will see what happens this time.

I still have to hear from one member of my committee, if I passed his exam I passed my prelims; My course work is over and I am considering a teaching appointment at Duke University for next year. My work with Juncus is progressing but the research will take much longer than I thought.

I will be hitched on the fifth of August, this year. The woman who is to be my wife and who is everything I wanted my wife to be, is a native East Tennessean who is now getting her Masters degree in History at Wisconsin. You get a yankee and I get a Reb. I guess that evens the score.  
Give my regards to Henry.

Sincerely,  
L. J.

- Taxinetrics Laboratory

January 10, 1967

Mr. Seymour Sohmer  
Department of Botany  
The University of Tennessee  
Knoxville, Tennessee 37916

Dear Sy:

Thank you muchly for your Christmas card. Happy Hunnucks!

I am writing to ask if you deposited all your Manihot specimens there at Knoxville, whether or not you have any more duplicates (other than the ones I have already) which you would like to dispose of. Our work seems to be progressing fairly nicely. We are now writing up the Manihot esculenta classification and will soon start on the genus. How goes it with your work?

Best regards,

David J. Rogers  
Professor of Botany

DJR:ch

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE 37916

DEPARTMENT OF BOTANY

June 30, 1966

Dr. David J. Rogers  
Department of Botany  
Colorado State University  
Fort Collins, Colorado 80521

Dear Dave;

Alright, so I have abandoned M.C., but you may still write a note and let me know how things are! right?

Anyway, ~~she~~ I've got two hurdles to jump before I become a candidate - Spanish and the prelims. If I get through them, I then face the real problem...

Junco.

I'm teaching the first part of the summer session, and will hang around and read for the prelims, the second part. If you have a chance drop me a line.

Sincerely,  
Ly

- Taxonomy Laboratory

July 6, 1966

Mr. S. H. Schner  
Botany Department  
The University of Tennessee  
Knoxville, Tennessee 37916

Dear Sy:

Dave has left for Mexico to collect Manihot. We used to have a chap further south who had a very bright future and was working on a very small segregate of Manihot, a species M. esculenta, I believe. However, he has fallen by the wayside and will or has come to a very sticky end.

I do hope he does not confuse Juncus with Junco but it would be exciting if he did. Dave will be back near the end of the month.

Sincerely,

Henry S. Fleming  
Professor of Botany

HSF:ch

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE  
DEPARTMENT OF BOTANY

April 30, 1966

Dr. David J. Rogers  
Department of Botany  
Colorado State University  
Fort Collins, Colorado

Dear Dave;

I received your card... please excuse the delay in this reply.

I am shifting off Manihot for various reasons, all of which can be summarized with, or by means of, one word---impracticable. No matter how dedicated one is to a certain something or other( and do not mistake me, I am dedicated to nothing ~~than~~ other than getting myself a Ph. D.; I would be lying if I admitted otherwise) the certain something or other must be in striking distance. That or the someone who is dedicated should be the son of the Aga Kahn or a reasonable facsimilie. I know that is 'nt in the realm of true scientific ideology but I have come up a bit since the pleasant days of City College(some may say down a bit...but there are always a few of those lunatics running around) and it isn't what you are that is important, but what you seem. Of course this is not the right attitude, and goes against my grain, but it is the realistic one.

Well, you've got the main reason and a little of my philosophy to boot. I did enjoy working with yuca, and it did serve as a key to a foreign country and many new ex-

periences that I would otherwise not have had, but I would like to ~~earn~~ my real union card before I have a head full of gray hairs. Not that I have anything against gray hairs...some of my best friends have them.

So, I have decided to work with Juncus. I am in the process of learning a little about the genus and I have been receiving answers to some queries I made to the people who have been working with it. I think it will be possible to perform some sort of cytotaxonomical and genetical study with ~~it~~ it.

I would really like to get out to C.S.U. someday and take a look around. However, such an undertaking will have to await my next car...the one I have will hold together just long enough to finish carting me around Knoxville. Perhaps by then I will have finished my duties here and you perhaps will sponsor me to a position on the custodial staff at C.S.U. I'm hell with a broom.

If you have any comments to make on my choice of a Ph. D. problem and the thesis I sent you; go ahead--I would welcome them. Also, you need not worry about hurting my feelings, so speak your mind.

Sincerely,

*Sy*

Possible Evolutionary Development of  
*Manihot esculenta* Crantz

SEYMOUR H. SOHMER, *University of Tennessee*

*Manihot esculenta*, endemic to the American Tropics is cultivated throughout the world's tropics as its tuberos roots are an important source of starch. The species is known only from cultivars . . . there perhaps never having been a natural, uncultivated, species but a complex of species from which the "ancestral" cultivars were selected. Vegetative propagation and a man-made environment produced changes that the related species and/or the ancestral species have not experienced. The changes, occurring by spontaneous mutation would have eliminated those plants carrying them in the wild. These changes, added to the original genetic complexity of the man-selected plants, have yielded a very morphologically variable species.

Eighty-five cultivars of *Manihot esculenta* were studied under the auspices of the Organization for Tropical Studies in Costa Rica, and an artificial key was constructed as a means of isolating cultivars for genetical and cytological work.

Reprinted from *The ASB Bulletin*,  
Vol. 13, No. 2, April 1966, p. 46.

Schmer

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE 37916

DEPARTMENT OF BOTANY

Dr. David J. Rogers  
Department of Botany  
Colorado State University  
Fort Collins, Colorado

Dear Dave;

I have just heard from a little bird in Costa Rica. This little bird informed me that you placed an order for certain plant items from a certain plant that we both hold in common esteem. Anyway, the informant said, your order has been in the hands of a certain individual of Oriental extraction who, for whatever reasons occur to unbalanced individuals, decided to test whether or not he could or should send you these plants by putting them into a freezer for a couple of days and then trying to germinate them. The object is to simulate the environment around the Colorado State University, in order to prove, to that aforementioned Oriental individual, that it would be useless to send you the requested plant material. However, as my informant states, it is difficult to see the similarity between the inside of a freezer and the area around the C.S.U., or a hothouse where I assume you were to grow them.

To make a long story short, Dave, you're not going to get your plants unless you press it a little more. And if you still dont get

no pen intended

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DEPARTMENT OF BOTANY

them after a little applied pressure, fear not. I have about ten eight-foot tall yucas in the Greenhouses here and they will soon be ready for transplanting or rather vegetative propagation. And if you do not want any of the cultivars I have, my informant in C.R. will send you, through me, any of the lines that you desire.

It is all over, at least for this stage. I got my sheepskin a couple of days ago. I am looking around for a problem to work on for my Ph. D. I have also moved into a cabin outside Knoxville where I am finally putting my nearly twenty years of education to use---I'm farming.

Let me know if you have gotten my thesis. Several copies that I have sent out have had trouble in reaching their destinations.

Sincerely,

- Taxonomy Laboratory

February 11, 1966

Mr. S. H. Sohmer  
Department of Botany  
The University of Tennessee  
Knoxville, Tennessee 37916

Dear Sy:

Thanks for your info on Uvularia. I have sent a letter to Jack Sharp requesting the loan of this material.

Sincerely,

David J. Rogers  
Professor of Botany

DJR/pam

FEB 11 1966

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE  
DEPARTMENT OF BOTANY

February 7, 1966

Professor David J. Rogers  
Department of Botany-Plant Taxonomy Laboratory  
Colorado State University  
Fort Collins, Colorado

Dear Dave;

This is in answer to your letter of 3, February:

Species of Uvularia in herbarium at the University of Tennessee.  
Species of Uvularia collected in Tennessee:

<u>Uvularia</u>	<u>caroliniana</u>	-----7	sheets
"	<u>grandiflora</u>	-----40	sheets
"	<u>sessilifolia</u>	-----16	sheets
"	<u>perfoliata</u>	-----40	sheets

Species of Uvularia present in herb., collected in the Smokies:

<u>Uvularia</u>	<u>caroliniana</u>	-----5	sheets
"	<u>grandiflora</u>	-----3	sheets
"	<u>perfoliata</u>	-----1	sheet

Species of Uvularia in herbarium collected from the following states: Arkansas, Michigan, Illinois, Alabama, North Carolina, Virginia, Missouri, Indiana, Florida, New Jersey, Massachusetts, New York, New Hampshire, Pennsylvania, West Virginia, Ohio.

<u>Uvularia</u>	<u>sessilifolia</u>	-----9	sheets
"	<u>perfoliata</u>	-----9	sheets
"	<u>grandiflora</u>	-----8	sheets
"	<u>floridana</u>	-----1	sheet

Besides the sheets listed above ( 139 in all), there are a number of undetermined Uvularia species. Also, when I use the term sheet, I am referring to the number of seperate collections, not duplicates.

If there is anything I can do in regard to this to help further, please let me know. I think that at any rate, you might let me know when you formally request the herbarium sheets; so that I can peer over the shoulder of the assistant who will be mailing them.

Sincerely,



- Taxonomy Laboratory

February 3, 1966

Mr. S. H. Sohmer  
Department of Botany  
The University of Tennessee  
Knoxville, Tennessee 37916

Dear Sy:

Will you please check in the herbarium and determine the number of specimens and species of the genus Uvularia? If there is a good representation of this genus in the U. T. Herbarium I may wish to borrow these. *Please* let me know at your earliest convenience about this question. I will send a letter later with a formal request for a loan, depending on your answer.

Thanks.

Sincerely,

David J. Rogers  
Professor of Botany

DJR/pam

FEB 8 1966

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE 37916

DEPARTMENT OF BOTANY

February 4, 1966

Prof. David J. Rogers  
Dept. of Botany, Tax. Lab.  
Colorado State University  
Fort Collins, Colorado 80521

Dear Dave;

I am in the process of redrafting the thesis, but I wanted to get a quick letter off before I completed the job to thank you for your time spent ~~on~~ reading the monstrosity.

I have not only appreciated your efforts but I have enjoyed reading your comments. In all fairness to the staff here, I must point out that two of my committee members also commented on my defeatist attitudes, especially the taxonomist~~s~~---Dr. A. Murray Evans.

Ah well, back to the drawing board...

Sincerely,



- Taxonomy Laboratory

January 31, 1966

Mr. S. H. Sohmer  
Department of Botany  
The University of Tennessee  
Knoxville, Tennessee 37916

Dear Sy:

Herewith are my comments and your manuscript returned. The work that you have here really is a contribution. I take it from your summary and conclusions that you do not feel that it is much of one. Let me assure you that it is. Having said this, now let me make a few comments about the way the paper is written as much as anything else.

First, I would suggest that you get together with a buddy, a graduate student who is majoring in English and see what he can suggest to you about the proper use of the English language. As many young and budding biologists, I can sense that you have not much use for the niceties of the language, but believe me, it is a critical matter and one that you can certainly profit from by going and getting your head knocked against a wall by an English major who can tell you lots and lots about the way to set up your sentence structures, your paragraphs, and so forth. This is something we all constantly need assistance with. I do and I've been at it considerably longer than you. There are far too many popular expressions included in this paper and they do not serve it well. You may not think that this work will ever see the light of day in print and it may not in its present form, but don't forget that such manuscripts as this have a way of being stashed away by librarians, and sometime, we can't tell when, someone may pick this paper up. With this in mind be careful how you express yourself.

Secondly, I made a few comments which I think are important in terms of the biological interpretation of the organism. You will see notes along in the margins where I have made such comments. I have not caught all of them. You will have to review it again. Consistency in terminology is very important in this field and you will do well to get a reference source

which gives you a good background in morphological designations of parts of the organism.

As far as the content of the content of the paper is concerned, I think that you have included enough material to more than satisfy a master's thesis. You will note, however, that I rather strongly disagree with your summary and conclusions. It is my opinion that you are doing yourself a disservice to make the types of negative statements that I have underlined. If you can't say good about your own research, don't say anything. It isn't required. I think you must have been at the bottom of some psychological cycle when you wrote that end part, and I think that you can do better by yourself and others with it.

Don't forget that you have all kinds of learning to do at this stage of the game, not only about your science, but about the way you talk about it. Any comments that I make are intended to give you some extra in both the content and how to say what you mean.

I hope that I haven't rubbed too much the wrong way and that you will let me see the paper after you have revised it once more.

Sincerely yours,

David J. Rogers  
Professor of Botany

DJR/pam

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JAN 27 1966

THE UNIVERSITY OF TENNESSEE  
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DEPARTMENT OF BOTANY

January 19, 1965

Dear Dave;

Here she is: the product of 2 1/2 years of sweat and blood. Actually not much to show or see but it feels good having it written up and just there. Please feel free to cut, slash and in other words, criticize. If I have left off mentioning your work in certain sections of the paper, let me know — for it is hard to judge, after reading and wallowing in the material long enough, where certain ideas have come from, or where one fellow's previous work has ceased and another's ~~beginning~~ begins.

I am waiting to hear from you;

Sincerely,

Sy

P.S. unfortunately, I do not have the copies of the plates yet, therefore, I can not show you the photos + drawings until a later time. Also, the bibliography is not in this copy, nor in the other — yet.

- Taxonomy Laboratory

January 26, 1966

Mr. S. H. Sohmer  
Department of Botany  
The University of Tennessee  
Knoxville, Tennessee 37916

Dear Sy:

In response to your letter of January 17, 1966 and your sad tale of woe on your Mexican trip - all I can say is 'tis ever such with the study of Manihot. There are more rocks in the road than just the study of the plants.

Are you sure you still want to stay at Tennessee for the PhD?

Sincerely,

David J. Rogers  
Professor of Botany

DJR/pam

JAN 21 1966

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE 37916

DEPARTMENT OF BOTANY

January 17, 1965

Dr. David J. Rogers  
Department of Botany  
Colorado State University  
Fort Collins, Colorado

Dear Dave;

I received both of your letters sent me in Mexico —  
— however, I received them in Knoxville! Not  
because they didn't reach the correct address, but  
because the party to whom you sent them had  
skipped the country. Before I proceed with the rest of my  
story let me first say that whether I would have gotten  
your letters or not, and had I found anything, you  
would have gotten half of the collected material.

The trip, for me, was a dismal failure. After two  
weeks with Dr. Sharp (and two ~~non~~ mute and  
non-driving Japanese students) I had managed  
to get only into Colima (along the loop road that  
runs into Manzanillo on the coast) — and

I was only able to do that when I threatened old Sharp that I'd return to Mexico City if he didn't concur in running out there. Sharp had the notion that for the privilege of paying for 1/4 of the travelling expenses (it was a remarkably car) and doing half the driving, I would assist him in all things and only faintly hope to run into a maniot. Well the trip ended for me when I was reached, somehow, in the hotel we were in Mexico City (on our return from the field) by my sister who told me that my old man had had a blood clot which endangered his life. Frankly I could have been stirred to leave for a lesser thing, but that bit of news really put the lid on the thing and I flew back to N.Y. the next morning.

Incidentally, it was the dry season (which I am sure the old boy knew, but wasn't speaking) and I didn't find anything in any of the places you described on the info you sent me. I didn't even see M. stems, which I know I would recognize.

p.s. I am forwarding you  
the manuscript of my thesis for your comments.

Sincerely,  
Sig

- Taxonomy Laboratory

December 14, 1965

Mr. S. H. Sohmer  
c/o Dr. Gomez-Pompa  
Jardin Botanico  
Universidad Nacional de Mexico

Dear Si:

Thanks for your Christmas card. I hope this letter reaches you, but I have my doubts. In case it does, be sure to include some propagating material of any Manahot that you run across. We can use it all here.

Merry Christmas, Happy New Year,

David J. Rogers  
Taxonomy Laboratory

DJR/pac

DEC - 2 1965

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE 37918

DEPARTMENT OF BOTANY

November 23, 1965

Dr. David J. Rogers  
Department of Botany  
Colorado State University  
Fort Collins, Colorado

Dear Dave;

Once again I must thank you for taking time from  
your affairs and bestowing some words on me.

At the moment, after two months, I am steadfastly  
wavering to a decision. I do not know whether it is  
because I have grown to like U.T., or lost my awe  
of "Big Name" schools, that I have been undecided at  
this stage of my career; but after much thought, I have  
come to the conclusion that I enjoy the freedom and  
independence made available to me at this institute;  
so much so, that I am willing to forego the obvious ad-  
vantages afforded by a school such as California at S.A., or  
for <sup>example</sup>, C.S.U.. I will probably, therefore, remain at U.T..

Another factor that has helped me in my decision is the fact  
that Dr. Sharp, fresh from the Orient, invited me recently, to  
accompany himself and two Japanese students for a  
month of field work in Mexico — at long last, I  
will be using the map you prepared for me.

We are scheduled to leave sometime this week, and will  
return in January. I have armed myself with equipment  
and it will be no fault of my own that I do not  
bring 'em back this time.

My sincere appreciation for your time.

Sincerely,

xy.

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5.

- Taxonomy Laboratory

November 15, 1965

Mr. Seymour Sohmer  
Department of Botany  
The University of Tennessee  
Knoxville, Tennessee

Dear Sy,

I have your letter of the ninth with your request for advice. These decisions about which you are asking my opinion are things upon which I can only make suggestions, and you eventually will have to make up your own mind depending upon the best possible deal for you.

First of all, I don't know but what a Ph.D. from the University of Tennessee is about as good as a Ph.D. from anyplace else. That is, you will probably get as much of an education there because of your own push as you might at any other institution. The only drawback to a Ph.D. at Tennessee is that it is not a "name" institution as far as botany is concerned. A name institution will serve you well for the first few years past your doctorate. That is, you can ride the reputation of the Ph.D. if it is from one of the "big stick" schools. Big stick schools in botany are Harvard and California at Berkeley or California at Los Angeles. Wisconsin has a pretty good one. The University in St. Louis -- the one I graduated from -- is no longer a good institution because the staff has completely fallen apart there. You can get a good degree and a good name school by going to the University of Indiana. Charley Heiser there would be able, I believe, to give you the best kind of advice on the subject that you are interested in. He is, as you probably already know, a taxonomist interested in biosystematics. And also, he is interested in cultivated plants. His thinking on this subject is very good.

An alternative that I can suggest is that you come to S.S.U. where you will be able to get the advice that you need, not only from me about the classical taxonomy of *Manihot* but there is also on our faculty now a young man trained in biosystematics working for his own interest on Oenothera. His name is Bill Klein. The drawbacks

Letter to S. Sohmer  
November 15, 1965

Page 2.

to this institution as far as a Ph.D. is concerned is the same as you would have at the University of Tennessee, namely it is not considered as a big stick institution for training of taxonomists. That is, not yet -- we are building our taxonomic group up here, and I think that it will give a respectable education but the name as you know, has not spread far and wide. The reputation for an institution takes a long time to build and usually the reputation is built after a considerable amount of work by the staff.

If you wish to consider a degree here, I would suggest that you right away write to the Dean of the Graduate School here at Colorado State University, Fort Collins. The Dean's name is Dr. Wendell H. Bragonier. You should ask Dean Bragonier for entrance forms, information and applications for graduate assistance. The sooner you get this application in, the better. I frankly would be very pleased to have you come here and will do all I can to see that you get financial assistance commensurate with the position of graduate assistant or whatever else -- we may make it a research assistant, I am not sure. You see, I'm new here myself and don't know all of the possible arrangements. As you point out, another year will be whacked out of your life if you transfer from U.T., but frankly I don't think that this will be too much of a strain. My recommendation to you is that you get a Master's there at U.T. and move to another institution of your own choice. I hope this helps -- I am not certain that it does.

Sincerely yours,

David J. Rogers  
Professor of Botany.

November 9, 1965

Dr. David J. Rogers  
Department of Botany  
Colorado State University  
Fort Collins, Colorado

Dear Dave;

I am in the midst of trying to decide what my next step (in life) should be. There are three possibilities at the present moment, all of ~~which~~<sup>which</sup> might, now, be acted upon:

- 1) Get my M.S. here at U.T. and apply to another University for my Ph.D.
- 2) Do not get my M.S. here at U.T.; instead, go on straight towards a Ph.D.(at U.T.)
- 3) Get my M.S. and Ph.D. at U.T..

The factors that enter into the decision that I am going to make is that once I leave U.T., it will cost me a year no matter where I go. Also, no matter where I go, I think I will run into the same problem I had here...that is, not really having a person to supervise the work that I have been doing, since it encompasses many things at once.

I would greatly appreciate hearing some of your advice on the matter---if you wish to give any.

Sincerely,

*Sej*

October 15, 1965

Mr. Seymour Sohmer  
Department of Botany  
The University of Tennessee  
Knoxville, Tennessee

Dear Sy,

I have about six epistles from you, plus your grouping of clones of manihot esculenta. I have gone over these in some detail. I had the afternoon off yesterday with a bout of local variation of some virus or other, so perhaps I wrote legibly and perhaps incoherently about some of the things. The paper that you sent, I think, will serve if my suggestions are taken up (they aren't holy, however).

You worry about the first chapter of your thesis dealing with the description of the species and where to get the information. You are strictly on your own, Sy. I would suggest strongly that you read my paper that is coming out, I hope within the next few weeks, in the No. 4 issue of this volume of Economic Botany. This will give you my ideas about the descriptions which are adequate for the species. Your own knowledge of the morphology of these plants should be brought to play as well. Don't act as a shy violet. You have considerably more acquaintance with these plants than do the people for whom you are writing the thesis.

It is pleasing to see that you have turned into a botanical diplomat. I talked to Moh here at the meeting of the Genetics Society and think I can understand how you might have had difficulty. But, he seemed at least not to have noticed your possible animosities, so you must have done a good job working with him.

Letter to Seymour Sohmer  
October 15, 1963

Page 2.

Henry sends his regards. Marge did not come with us here. Her husband had two more years to go before retirement in New York, so that she did not feel justified in breaking off to come along. There were other reasons as well. I hope that my scribblings on your manuscript are meaningful. If they are not, or if you disagree, for gosh sakes, let me know.

Sincerely,

David J. Rogers  
Professor of Botany

DJR/ec

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE  
DEPARTMENT OF BOTANY

October 11, 1965

Dr. David J. Rogers  
Department of Botany  
Colorado State University  
Fort Collins, Colorado

Dear Dave;

Here ~~are~~ the papers that I warned you about. I was afraid you might try to move away again before I could send them to you. Anyway, you ~~are~~ now stuck with them and I would greatly appreciate your browsing through them and marking all the many mistakes that are no doubt there. I would also appreciate any suggestions that you might have concerning anything about the key, and especially any suggestions as to where I might send the monster to be published.

Also, I am beginning to plaster my thesis together, and am having difficulty with, of all things, the first chapter---which will consist of a history of the species. Actually, a more realistic way of ~~saying~~ that, is that the first chapter will consist of a summary of what is known about the species, with the proper citations of course. The difficulty arises in that I do not know whether, for example, I should use whatever knowledge I gained this summer and write my own description of the plant, ~~of~~ whether, as I am inclined to do, to use someone else's description. If I choose the latter course whose descriptions should I use, there have been many?

I do not know if you have already found out or not, but even though there was difficulties in my relations with the most honourable Dr. Moh, as you well knew, we parted on the best of footings---I think, I am not foolish enough to leave an enemy, even a slightly demented one, at a place like the I.I.C.A., or anywhere for that matter---especially if I can't shoot them.

Well, I hope that you will give "them that" papers some of your time and that I hear from you as soon as possible

Please give my regards to Henry and Marge---if they are still there with you.

Sincerely,

*Sej*

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE  
DEPARTMENT OF BOTANY

October 21, 1965

Dr. David J. Rogers  
Professor of Botany  
Colorado State University  
Fort Collins, Colorado

Dear Dave,

Thank you very much for your time and consideration in reading my letter and key. I want to answer as much of the questions raised in your letter as I am able.

The reason I tend to think that use should primarily be made of those cultivars that did not tend to form morphological clusters, in immediate genetical work (by which term I mean all phases of classical genetical research, whose major tool is breeding---though not necessarily for a better food cultivar, as most people would think), is that those cultivars, being clearly separated from the others, under the specified morphological conditions, would have genetic complexes more or less extreme for the phenotypic characters considered. PHEW!!! Therefore, in investigating, for example, the actual gene action reasons producing the phenotypic distribution of the carmine pigments, one has a head start in using plant A, which has little or no carmine pigment to cross with plant B which has carmine pigment galore. This is in fact what I have started. Some of the plants that I sent to the University made it through, and are doing nicely. As soon as they begin to flower I will begin some of this immediate genetical work.

Unfortunately, I could never see any consistent branching pattern in the plants. Some did, to be sure, tend to branch far less times than most of the others, and, therefore, had a "tall" straight habit instead of a creeping or prostrate habit, but those that did exhibit this fairly unbranched habit keyed out by use of other characters and then became lumped together.

I want to make clear at this point just what my thoughts consisted of as I made the key and searched for characters. I wanted characters that I could see, that were clear, at least, ~~to~~ to me, and for the sake of being able to split a group of cultivars, I couldn't bring myself to use characters that I thought were variable. I was looking for "genetical" characters. This brings me to the reason I didn't use the color fan. I tried, at the beginning, to use it in labeling the colors, but I felt that the distinctions, the fine shades that might be distinguished, would not serve because they were as variable and as intergrading as any of the other characters that I could not use. I wanted clear-cut distinctions: color present or color not present; if present, where--etc.

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE  
DEPARTMENT OF BOTANY

If I use the term disc rather than nectary, will all persons who chance to look at this key, know what the disc is?

Ovulary seems to be another term for ovary, at least here at U.T., brought down from Ohio University by the big four---- Shanks, Sharp, Morris and Heilman (big at the University at least, that is). It is one of the points on which I have been indoctrinated, as all schools do to their students; frankly, I don't care which one is used----but, when in Rome....

If the pigmentation of the flowers, as I used them, is truly as variable as the petiole pigments, I might as well discard this key and start all over again. What I hope you meant is that the amounts and intensity of pigments present will vary, but that if recorded as being present, they will be present in future generations, and that if recorded as being present as stripes, or as tinges, it will continue being present as stripes or tinges.

The cultivars at the I.I.C.A. were in a quite mature condition, on many plants there were no vegetative branches whatsoever. Therefore, I was constantly plagued with the array of lobe numbers presented by the reproductive branches. The way I usually went about getting this information was by recording the least amount of lobes a particular reproductive branch possessed and the maximum, then seeing if the plant had any vegetative branches and counting the lobes on the leaves present. This number was stable, but it was either 5, 7, 9, usually 7, and in rare instances only were distinctions able to be made.

Thanks for the clarification of lobes vs. leaflets. That is one point I did not know or bother looking at very carefully. Thanks also for catching tuber=root; a careless mistake.

The cultivars never numbered more than five plants to a row, some had only one or two. If I had used the tubers, I might have ruined the plants, and <sup>Confucious</sup> ~~Confucius~~ (Dr. Moh) would have blown a gut. In most of the cases that I've checked. It is very difficult to separate any <sup>of</sup> groups of cultivars, at least by any means that could be duplicated when running into these plants in the field.

Any way, I have probably burned out your  $\frac{1}{2}$  retinas long enough. As soon as I rewrite the key, bearing your comments, I will send it to you.

Sincerely,



Seymour H. Schner

Sincerely,



← excuse the attempted formality, and my girl typed it.

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE 37916

DEPARTMENT OF BOTANY

September 30, 1965

Dr. David J. Rogers  
Department of Botany  
Colorado State University  
Fort Collins, Colorado

Dear Dave,

I made it back with a minimum of trouble, although I almost had to shoot a chap who attempted to pilfer my belongings as I slept in the car the first night back in Nicaragua. Fortunately nothing came of it and the rest of the trip was as uneventful as any such a trip might be.

I completed a key and I will be sending it to you for your comments. One thing that struck me most of all while working the key is the fact that most characters involved appear so varied that it almost is impossible to set up a definite 100% perfect unit. For this reason I cannot see how some of the characters and attributes that are listed in the "list of

characters and attributes" holds. But, again,  
I was dealing with "varieties" of perhaps one  
species of this plant. Another fact I noticed  
is that characters will appear different at  
different stages of the life history of a particular  
plant.

Give my best to Henry and Marge, and please  
let me hear from you.

Sincerely,

Lj

August 26, 1965

Dr. David J. Rogers  
Curator of Quantitative Taxonomy  
The New York Botanical Garden  
Bronx, New York 10458

Dear Dave;

Glad to hear from you again. Your last letter showed me that my last letter (or two) did not make things very clear.

• You are right in assuming that the key I am making is simply a key of convenience, I started making it so that I could hang whatever knowledge I obtain cytologically, onto, or into, a proper bracket. Also, the work with the key will show me just what it is I am working with, so that I might then select those cultivars, that seem best to my mind for breeding, etc., for further study — I will send stem cuttings to Tennessee for future propagation.

As for as Meh is concerned — that is something else again, and really has nothing to do with me. In other words, it has all to do with the way Meh is constructed. I really can't explain what

I mean without giving an example or two; which  
are almost meaningless out of context. About a  
week or so ago, Julio, the chap who works  
near me, borrowed a needle (from my Lab's Laboratory  
table, his "personal stuff") to dissect some flowers  
which is part of the work this fellow is doing for  
me; and, although me hardly ever uses his equipment,  
he somehow saw that the needle was gone and he  
flew into a near rage yelling that "no one should  
touch his stuff." He has this mania about personal  
things which is fantastic. His assistants work in  
terror of him, and in a way it's not his fault because,  
I think, he is just plain nuts! This is not to  
say that he is not a good scientist — on the contrary;  
but, if I meet any more like him, I think I  
shall retire from all scientific endeavors and  
raise sheep in Wyoming.

Give my regards to Henry and Marge.

Sincerely,  
Sy

July 3, 1965

Dr. David J. Rees  
Curator of Quantitative Taxonomy  
The New York Botanical Garden  
Bronx, New York, 10458

Dear Dave;

I am busy at work with the key, it is much harder and time consuming than I imagined it would be, but I am not sorry; for with it, and the herbarium specimens (and live cuttings I hope to take), I will have a firm basis for the cytological work I have been doing.

Moh's attitude is typical for him and of many Cytologists: a kindly benevolence that cannot comprehend the meaning or importance of such work and also cannot visualize the effort required. Incidentally, he is giving me no aid whatsoever, and rather than my helping him, (he has no intention of wasting time) it is I who am doing the work. He even refused the request of a fellow who has helped me quite a bit, a Julius Valeris who works for NEP, to help me in getting the herbarium sheets & specimens.

For love of money, and I certainly don't dislike that sort of all evil, I would never work under, or in any way subservient to, this Dr. Moh. And I also feel that whoever made this monkey head of the nucleus

energy program must have been out of his mind.

(It will, be a professional, or occupational hazard, as they say, and I'm not perfect either.)

Out of the 30 or so varieties, I can see, after getting all the data on most of them so far (I collected the data and afterwards the key was started, after that I will collect specimens and take photos of them all - in color slides). that there is more or less a general break-down on the basis of trunk (main) color. Most seem to be of a grayish - reddish - brown type, and others are silver-gray, or silver-grayish-tan, or silver-orange-tan etc: I am trying, after that, within each major group of trunk colors, ~~to~~ <sup>will try</sup> to get them on the basis of young leaf, petiole, flower ♂ & ♀ colors and an index of leaf size I have thought up. Since the leaves vary in size, I will take an index of their length to their width - so, even though the leaves of a variety may vary, the proportion will not (at least to the same degree).

Let me hear from you if you have a moment.

Sincerely,  
Lj

July 24, 1965

Dr. David J. Rogers  
Curator of Quantitative Taxonomy  
New York Botanical Garden  
Bronx, New York 10458

Dear Dave,

Wow; that's quite a haul, a two-thousand  
mile move. My only question is, how in  
heavens name will they get the Museum  
building to Colorado? The Egyptians used  
rollers under their massive blocks, but  
think of the traffic on the George Washington  
Bridge.

Well, the car is back, it's running fine now,  
I only hope it holds together for the trip  
back. If I have any money left by  
the end of the summer, and that is  
problematical, I will try to pick up the  
plants I couldn't stop for on the way  
down.

I received your letter on the afternoon

of the day I sent you my previous letter.  
It of course answered my question about  
the key; for in the construction of the key,  
at which I am working now, I intended making  
herbarium sheets and leaving a set for  
you.

Your tentative offer to continue graduate  
work in Colorado has a very attractiv  
ring to my ears, for I have no commitments  
after I obtain the masters degree at U.T.,  
which should follow my summer's work here.  
The only fly in the ointment at this moment  
appears to be my relationship to a young lady  
in Knoxville. Remember, two can't live as  
cheaply as one.

To make a short story even shorter: if there's  
money I can come.

I want to go to the Genetics meeting this fall.  
If I can work that in on the way back, I  
will try to visit you at Fort Collins.

Please keep me posted.

P.S. Thanks for the color fan. I didn't  
think it cost \$7.50.

Sincerely,  
Sj

July 21, 1965

Dr. David Rogers  
Curator, Quantitative Taxonomy  
New York Botanical Garden  
Bronx 58, New York

Dear Dave;

I have really gotten into my work now and have hopes of accomplishing a great deal. I would like to present the problem(s) as I've set it up and get your views on it.

Basically, I want to compile a chromosome map of the normal (fertile) varieties of Manihot esculenta they have here and compare it to the sterile varieties. Principally, I am interested in the defects during meiosis of the sterile or nearly sterile varieties. However, prior to getting into that I thought it would be a good idea to construct a key to the varieties present here, thus aiding perhaps, future studies, and having a reference to my work with the chromosomes. As you may or may not know, Moh has over 80 varieties, planted with only a number to distinguish it from the rest. Each line, though, possesses its own history (name, origin, etc.). Moh is building information

on these numbers — I think that was your suggestion  
to him. Also, in the future, I might, or someone else might,  
be able to use the key in picking out characteristics  
that are controlled by a one or two gene effect.  
aiding, thereby, in breeding experiments.

So far, all is well at the laboratory, although  
Moh is a strange character and very difficult to  
get along with. I am not difficult to get along  
with, and I am an affable sort, therefore, I suspect  
that the honorable Dr. Moh really doesn't  
appreciate my presence here, as much as he would  
allow. He may just jump into his radioactive pool,  
however, when he discovers my cousin will sit  
on the A.E.C.

Well, it's been at least three years since she  
worked for you, but I still consider you my  
first, if not only, mentor. So let me know  
what you think of my very, short outline  
of my plans.

If Henry + Margie are still around + kicking,  
give 'em my regards.

Sincerely,  
By

P.S. The ol' car cost a bit, but  
the motor's fine now

June 9, 1965

American Horticultural Society, Inc.  
1600 Bladensburg Road, N. E.  
Washington 2, D. C.

Gentlemen:                    Re: Our purchase order 36369-3453

The above purchase order has just been returned to my office with your note about the change in price.

Because of the delay in sending out the color fan, it will now have to be sent to Mr. Schmer in Costa Rica. Please send it immediately via air mail to

Mr. Seymour Schmer  
c/o Dr. Carl C. Moh  
Inst. Interamericano de Ciencias  
Agrícolas de la OEA  
Turrialba, Costa Rica

Please send your bill for the fan at \$7.50 plus the postage to me at The New York Botanical Garden.

Sincerely yours

David J. Rogers  
Curator of Quantitative Taxonomy

DJR:MDF

CC: Mr. Seymour Schmer

June 3, 1965

Mr. Seymour Sohmer  
Department of Botany  
The University of Tennessee  
Knoxville, Tennessee 37916

Dear Sy:

In reply to your of the 26th, the following answers to your questions are given in the order of the questions:

1. The materials necessary for cultivation are stem sections, not the root stock or rhizome. There is no rhizome in Manihot. They should be viable if kept in plastic until you reach Costa Rica if you can get them into the ground shortly after arrival. With the wild materials you will probably want to get things with at least 5, 6, or 8 nodes on them. Were I you, I would preserve as much of the length of the stem intact as possible. Some of the specimens that you will see will be quite woody, and the best materials on them are the young matured branches (unless, of course, the plant is in fruit and the fruits matured sufficiently so that the seeds can ripen).

*nada*  
2. As long as you are taking materials through a country and not stopping in that country, I don't think you will have any difficulty in taking them through Honduras, San Salvador, etc. If you do get a question from a border guard, tell him that it is "*anda mas d'yuca*." When you have done that, almost all of them will understand it is a common plant and nothing to worry about.

3. Dr. Efraim Hernandez X is the botanist at Chapingo some 25-30 miles east-northeast of Mexico at the National Agricultural College. He is very knowledgeable and speaks excellent English. (He was bourhgt up in Brooklyn, or was it the Bronx?)

4. This question is answered in question 3. I don't know that it will do much good for me to send a letter ahead, but I will, to Hernandez. I will send a packet of herbarium labels. I don't know whether or not the color chart will arrive in time. When do you leave? I have sent a purchase order to Washington today with instructions for the chart to be sent directly to you.

Good luck and good hunting this summer.

Sincerely

DJR:MDF

DEPARTMENT OF BOTANY

May 26, 1965

Dr. David J. Rogers  
Curator of Quantitative Taxonomy  
New York Botanical Garden  
Bronx, New York

Dear Dave;

Thanks for the details and your letter. My most precious variable during my trip down there will be time — and I will not have as much as I would like to have of it. Nevertheless, most of these species you have listed are in my direct route of travel and I hope to get many of them. I have several questions:

- ① What is the best way of preserving the root stocks (and I assume it's the root stock — rhizome — that is needed for cultivation) so that I can be reasonably assured that they reach C.R. alive?
- ② What difficulties will I run into with the border countries (Honduras, San Salvador etc.) in attempting to take them through?
- ③ Where and who can I contact in Mexico for aid in obtaining, locating and securing the plants?
- ④ Do you know anyone at the Institute of

DEPARTMENT OF BOTANY

agriculture in Chapingo?

I would very much appreciate your selection of individuals you know and who would at least be willing to talk to me and firing off — to those individuals — a few words to let them know that I might seek them out.

Now that you mentioned it, I would appreciate a color chart and some herbarium labels.

No, I thoroughly agree with you, I do not want any of the Brazilian stuff.

I got final word on my grant about two weeks ago, they were a little better organized this time.

Sincerely,

Sig

my regards to Marge and Henry.

June 3, 1965

Dr. Efraim Hernandez X.  
Laboratorio de Botanica Systematica  
Escuela Nacional de Agricultura  
Chapingo, Mexico

Dear Dr. Hernandez:

A graduate student whose work is on the cytology of Manihot will shortly be passing through Chapingo. If you have a few moments, he will be pleased to talk to you about distributions, etc. of Manihot.

I have already given him localities from herbarium materials. He will be much assisted if you can give him some advice on the areas in Mexico of major interest as far as both the wild and the cultivated species are concerned.

I will appreciate your giving him some of your valuable time.

Sincerely yours

David J. Rogers  
Curator of Quantitative Taxonomy

DJR:MDF

CC: Seymour Sohmer

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE 37916

DEPARTMENT OF BOTANY

March 27, 1965

Dr. David J. Rogges  
Curator of Quantitative Taxonomy  
New York Botanical Garden  
Bronx 58, New York

Dear Dave;

Still no word from O.T.S.. I should hear from them within two weeks. I am, however, determined to go down there even if I do not obtain a grant, for I will need the facilities and live material available at Turrialba to complete my thesis.

Most of the fixed and stored material will not stain.

Incidentally, I have written Sr. Moh, in regard to equipment, etc.:

I will make it a point of honour to get to New York before I leave for Costa Rica, for beside the directions I want to look at the herbarium specimens of Monilod

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE 37916

DEPARTMENT OF BOTANY

species I will encounter on my trip.

Sincerely,

Sej

March 8, 1965

Mr. Seymour Sohmer  
Department of Botany  
The University of Tennessee  
Knoxville, Tennessee 37916

Dear Sy:

Enclosed is a Xeroxed copy of a letter from Moh which you will be glad to see, I think.

As soon as you find out about the possibility of your coming up here before going to Costa Rica, let me know. If you can not come, I will provide you with a list of localities of areas that will be of particular importance, I think.

Sincerely

DJR: MDF \*  
Enclosure



# INSTITUTO INTERAMERICANO DE CIENCIAS AGRICOLAS DE LA OEA

El Instituto es un organismo especializado de la Organización de los Estados Americanos. Fue establecido por los Gobiernos de las Repúblicas Americanas en 1944 para promover su desarrollo económico y social a través de la educación y la investigación.

Centro de Enseñanza e Investigación

TURRIALBA, COSTA RICA

Cable: IICA - Turrialba

March 2, 1965

Dr. David J. Rogers  
Curator of Quantitative Taxonomy  
The New York Botanical Garden  
Bronx, New York 10458

Dear Dr. Rogers:

I was very happy to hear from you again. As a matter of fact, I have an assistant now checking the pollen sterility in our Manihot collection in Turrialba, and eventually we hope to go into the work on the heterosis. Before we start the heterosis work, we should like to have a clear picture on the cytology of the species we have, so Mr. Sohmer's work will fit into our project very well. If Mr. Sohmer comes to Turrialba to work on the cytology, I will help him as much as I can.

Our laboratory is equipped with common optical equipment and chemicals for cytological work. If Mr. Sohmer needs specific items for doing his work, he may let me know sometime in advance, or he may bring them along on his trip.

The Agricultural Experimental Station of the University of Costa Rica is located on the Pacific side, 30 Km west of San José. I do not think we shall have any problem to have a small plot for growing yucca there, should some materials not adapt to Turrialba. However, hotter and drier locations are on the pacific coast and I do not know any station there where I can have a lot for cultivating yucca.

As far as I know, people can bring plant materials into Costa Rica by car rather freely, and the customs officials here rarely raise any questions. Should Mr. Sohmer have any problem in bringing the yucca into Costa Rica, he may inform the customs officials that

El Instituto tiene su Dirección General en Costa Rica: Apartado 4359, San José. Sus tres Oficinas Regionales abarcan los siguientes países: Zona Andina (Apartado 478, Lima, Perú) (Bolivia, Colombia, Ecuador, Perú y Venezuela); Zona Norte (c/o Instituto Interamericano de Ciencias Agrícolas de la OEA, Apartado 4359, San José, Costa Rica, México, Ictus Centroamericano y Antillas Mayores); Zona Sur, Cañilla de Costos 1217, Montevideo, Uruguay (Argentina, Brasil, Chile, Paraguay y Uruguay). Mantiene dos centros: Centro de Enseñanza e Investigación, Turrialba Costa Rica; y Centro de Investigación y Enseñanza para la Zona Templada en el Instituto Pluritecnico del Uruguay, La Esmeralda, c/o Instituto Interamericano de Ciencias Agrícolas de la OEA, Zona Sur, Cañilla de Costos 1217, Montevideo. Administra los Proyectos 39 (Enseñanza Técnica Profesional) y 201 (Crédito Agrícola del Programa de Cooperación Técnica de la OEA, patrocinados por el Consejo Interamericano Económico y Social (CIES). Mantiene también núcleos de investigación y enseñanza para graduados en instituciones de los países miembros.

Dr. David J. Rogers

-2-

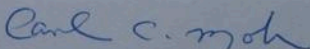
March 2, 1965

the materials are for the Nuclear Energy Program of this Institute, and we shall obtain a permit to get the materials out of customs.

Anyhow, I am checking the local regulations to see if it is necessary to have an entry permit in advance.

If I can be of further assistance, please let me know.

Sincerely yours,



Carl C. Moh, Cytogeneticist  
Head  
Nuclear Energy Program

ccm/mg

THE UNIVERSITY OF TENNESSEE  
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DEPARTMENT OF BOTANY

February 27, 1965

Dr. David J. Rogers  
Curator of Quantitative Taxonomy  
The New York Botanical Garden  
Bronx, New York 10458

Dear Dave,

Thank you for your letter to Dr. Moh.

As of this moment I do not know if  
I will be in New York again before  
I go; as the situation clears a little  
bit within the coming week or two, I  
will be able to let you know if I will  
be in New York or not.

I will keep you advised. Thanks again.

Sincerely,  
Siz

P.S. my regards to Henry  
& Marge.

February 16, 1965

Dr. Carl C. Moh  
Cytogeneticist, Nuclear Energy Program  
Instituto Interamericano de Ciencias  
Agrícolas de la OEA  
Turrialba, Costa Rica

Dear Dr. Moh:

I have just recommended that Mr. Seymour Sohmer be included in the summer research program for the Organization for Tropical Studies. The object in Mr. Sohmer's mind is to spend more time working with the cytological problems of Manihot. His program would be greatly enhanced and improved if he were to have the opportunity to work with you at Turrialba.

If he is selected to participate, and I have high hopes that he will, he will probably be able to drive down to Costa Rica this time, and on the way he would have an opportunity to collect some of the wild species of Manihot in areas where I have collected materials and to bring propagating materials along with him if he comes to Turrialba.

The wild species that are particularly interesting are those that are relatives of the cultivated complex. As you may recall, I am thinking that the Meso-American areas are the ones in which cultivation originally started. He could then bring with him those wild species that are in my estimation of particular interest for studies concerning the relatedness through their cytological evidence. I really hope that you will be able to collaborate in this project by finding places and means of propagating some of these species. I have a feeling that the immediate location at Turrialba is not the most ideal environment for some of the species inasmuch as they are from limestone areas and in general a drier habitat. If you could find ways in which to collaborate with some of the Costa Rican experiment stations on the Pacific slope where the conditions are a bit more similar to the Mexican areas where the species is derived, they might be more successfully grown. These are just suggestions, however, and I leave it to you to suggest the best methodology to use in cultivating these plants.

I would think that Mr. Sohmer might have to have some sort of a permit from the I.I.A.A. to allow him to bring these materials with him. Again, you will probably know the regulations necessary for the importation of materials there. Inasmuch as these are wild species and are not of commercial value, chances are good that they are not harboring types of diseases that could be troublesome. Again, your knowledge about this will be very helpful to Mr. Sohmer.

I trust that you can work closely with Mr. Sohmer on this project, and I want you to know that he has my full confidence as far as his ability is concerned. May I hear from you as to whether this type of work appeals to you and if it is possible to carry out such a combined project.

Very sincerely yours

David J. Rogers  
Curator of Quantitative Taxonomy

DJR:MDP

CCZ dr. Seymour Sohmer

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE 37916

DEPARTMENT OF BOTANY

February 14, 1965

Dr. David J. Rogers  
Curator of Quantitative Taxonomy  
New York Botanical Garden  
Bronx, New York 10458

Dear Dave,

Your idea appeals to me very much, and I would appreciate your writing to Dr. Moh. I thank you very much for your letter of recommendation.

As far as getting into the areas where Manihot is found, that will be no trouble. I bought a Volkswagen about two months ago and had the intention of taking the land route to Costa Rica in the event of my being awarded the research participancy. Now, there would even be a stronger reason for taking the land route.

Thanks once again.

Sincerely,



February 10, 1965

Dr. William H. Hathaway  
Executive Director  
Organization for Tropical Studies  
Apartado 16  
Ciudad Universitaria  
San Jose, Costa Rica

Dear Dr. Hathaway:

I am writing to support Mr. Seymour Sohmer's application to the Organization for Tropical Studies for summer work. Mr. Sohmer and I have collaborated in the past on studies of the genus Manihot with special reference to the cultivars of Manihot esculenta.

Mr. Sohmer, who worked there with you last summer, has continued his interest in the cyto-taxonomic problems of the cultivars, and his project could be greatly forwarded were he to participate in the research program under your direction. Mr. Sohmer has already made contact with Dr. Charles Moh at the I.I.A.A. at Turrialba, and Dr. Moh is, as I understand it, much interested in a collaborative study in which Mr. Sohmer would participate.

I have considerable faith in Mr. Sohmer's ability and capacity for carrying out a good program to make a start in the complex studies of the cytological problems of Manihot esculenta. I am sure that he will make some worthwhile contributions, given the opportunity to work in Costa Rica.

Sincerely yours

David J. Rogers  
Curator of Quantitative Taxonomy

DJR:MDF

February 10, 1965

Mr. Seymour Sohmer  
Department of Botany  
University of Tennessee  
Knoxville, Tennessee 37916

Dear Sy:

Enclosed is a copy of a letter which I have just written to Dr. Hathaway on your behalf. Much as I would like to participate in the program this summer, I don't think that the time is going to be available to me to do so.

It would seem well to me that, if you do go ahead with the project, you and Dr. Moh begin to work very closely with the idea of bringing in some of the wild species to grow at Turrialba. It would seem to me to be very useful to compare wild species of yuca with the cultivars.

There are a number of such species available in southern Mexico and down into Guatemala and Nicaragua. These, I believe, could be collected rather easily. I have made collections of these specimens myself, and if it were possible for you to go down to Costa Rica by surface transportation you could very likely collect some propagating materials of these specimens. I know that there is good bus service in Mexico, and I would suspect that you could get to some of the areas where I collected without too much difficulty. Most of the places that I went to were on major highways and would, I believe, provide some interesting materials that you could get without too much difficulty. Let me know if this idea appeals to you and if Dr. Moh is interested.

Incidentally, do you think it would be a good idea for me to write to Dr. Moh myself to help you along; you will certainly need his assistance in Costa Rica. I might in a letter not only commend your work and the continuation of the collaboration between the two of you but also say a word about getting the specimens from Mexico to go along. If you like, I will write to Moh in these terms.

Sincerely

DJR:MDF  
Enclosure

THE UNIVERSITY OF TENNESSEE  
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DEPARTMENT OF BOTANY

I would appreciate it if you would send  
a letter of recommendation to those folks  
for me. The name and address of the  
person you should send such a letter to  
is as follows:

Dr. William H. Hathaway  
Executive Director  
Organization for Tropical Studies  
Apartado 16  
Ciudad Universitaria  
San Jose de Costa Rica

Other than all the above, everything is  
pretty much the same.

Give my regards to Henry and Mary;  
if they still remember me that is.

Sincerely,  
Seymour H. Sohmer

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE 37916

DEPARTMENT OF BOTANY

February 6, 1965

Dr. David J. Rogus.  
Curator of Quantitative Taxonomy  
New York Botanical Garden  
Bronx 58, New York

Dear Dave,

We have just finished digging ourselves out of a pretty big snow, I'm sure that you must have had as much and more. I am also digging my way through thirty varieties of manihot, so far my luck has been poor and I am attempting many different techniques.

I have another fellow on my committee, a Dr. Murray Evans, who got his Ph.D. under Wagner at Michigan and who is officially the cytotaxonomist here. He is helping me quite a lot.

Have you applied to O.T.S. for this summer yet?

October 22, 1964

Mr. Seymour Sohmer  
Department of Botany  
The University of Tennessee  
Knoxville, Tennessee 37916

Dear Sy:

You asked about cytological endeavors going on in Brazil. I am sorry that I have not heard about any.

Dr. Carl C. Moh is the full name of the cytogeneticist at Turrialba. I hope that he will be more productive of information.

Sincerely

DJR:MDF

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE 37916

DEPARTMENT OF BOTANY

October 14, 1964

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

Dear Dave,

Many thanks for your reprints, I received them in excellent condition, due, I suspect, to Marge's excellent packing.

The University has Das Pflanzenreich and I have been using it as a reference work for some time now.

I would like to know whether or not you know of any cytological enclosures (recent) which have been going on in Brazil or Argentina. I got wind of something at Turrialba and if it might be useful I would want to track it down.

Also, could you give the full name of that Dr. Mo (?) from Turrialba. His assistant, the fellow I have been writing to for more information, has not given reply and perhaps I will get better luck with the boss-man.

Thank you for letting me bother you again,

Sincerely,  
Sy.

October 8, 1964

Mr. Seymour Sohmer  
Department of Botany  
University of Tennessee  
Knoxville, Tennessee 37916

Dear Sy:

We have just sent off some reprints of materials that you will hopefully find useful. In terms of the over-all study of Manihot the best summarization of the whole genus is to be found in Das Pflanzenreich. The authors are Pax and Hoffman, and it is in the Euphorbiaceae series. I am not sure whether this is in the library at the University of Tennessee or not. I have one working copy of the separate from Das Pflanzenreich, but I don't want to let that out of my hands at the moment because it is used almost daily.

I am enclosing the two lists of the cultivars that I sent you. I hope that you can now go ahead, and we will look forward to some hot chromosome studies on the material that you have. We still have nothing from the other South American people to whom we sent collecting materials.

Sincerely

DJR:MDF  
Enclosures

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE 37916

DEPARTMENT OF BOTANY

October 1, 1964

Dr. David J. Rogers  
Curator of Quantitative Taxonomy  
The New York Botanical Garden

Dear Dave,

Hope this letter finds you in good health and spirits; as for myself — I think I may have finally beaten Montezuma's revenge.

I wish to prevail on you to send me any and all information, reprints and references which might, in your opinion, be useful to a cytogenetical study of Manihot. Also send anything remotely connected with an understanding of the genus. All of these materials will be returned to you in the same condition I will receive them in — if you know by now you know that I will not be careless with them.

please also send me the two lists concerning the cultivars that I sent you.

Hope to hear from you soon. Give my regards to Harry and Marge.

Sincerely,  
L. J.

July 15, 1964

Dr. David Rogers  
Curator of Quantitative Taxonomy  
New York Botanical Garden

Dear Dave,

Things have settled down here and now I can more or less see how the course will run for the rest of the summer. First thing noticeable is the complete lack of organization and orientation for the botany course. Second, is the complete lack of facilities for almost any endeavor. Our prof., a man whom you know, Señor Ferrayra of Peru, is doing the best he can, and has an appropriate saying: "Casi es la vida en el tropico."

I am learning a good deal. However, the course is barely more than collecting plants and pressed specimens.

I met with Jorge Soria the first weekend here. He took me to the Agricultural Institute

at Turrialba where I collected some specimens  
of cultivated manihot. All was well & good  
but then, after placing the specimens in the  
lab at San Jose, I discovered a few things;  
no dye, no microscopes, no nothing. Jorge  
Soria said I could use the facilities of Turrialba  
but that is impossible due to my commitments  
at San Jose. I will continue to collect any  
manihot I see, and bring them back with me.

If you have any suggestions, please let  
me have them. Give my regards to Henry &  
Março.

Sincerely,  
Lj.

July 10, 1964

Dr. A. J. T. Mendes  
Head, Cytology Laboratory  
Secretaria da Agricultura  
Instituto Agronomico do Estado de Sao Paulo  
Caixa Postal 28  
Campinas, Brasil

Dear Dr. Mendes:

In a separate package we are forwarding to you as of this date the cytological materials for the collections of Manihot.

We have incorporated a set of instructions in the package. These are identical to the ones that we have sent to you earlier.

Thank you for your fine collaboration in advance.

Sincerely yours

David J. Rogers  
Curator of Quantitative Taxonomy

DJR:MDF

April 22, 1964

Dr. A. J. T. Mendes  
Head, Cytology Laboratory  
Secretaria da Agricultura  
Instituto Agronomico do Estado de Sao Paulo  
Caixa Postal 28  
Campinas, Brasil

Dear Dr. Mendes:

We are very pleased to have your letter of April 3 with your kind offer to collect Manihot material for cytological studies.

We enclose herewith a set of instructions required for this work and will very shortly send a separate package of materials necessary for the collecting.

We appreciate your cooperation and thank you very kindly. Please give my best regards to Dr. Normanha.

Sincerely yours

David J. Rogers  
Curator of Quantitative Taxonomy

DJR:MDF  
Enclosure



SECRETARIA DA AGRICULTURA

INSTITUTO AGRONÔMICO DO ESTADO DE SÃO PAULO

CAIXA POSTAL, 28

CAMPINAS — BRASIL

S. P.

||

cit.64-112.

April 3rd, 1964.

Dr. David J. Rogers  
Curator of Quantitative Taxonomy  
The New York Botanical Garden  
Bronx Park  
New York 58, N.Y.  
U. S. A.

Dear Dr. Rogers:

My colleague Normanha forwarded to me your letter dated January 8 and this is to inform you that we can collect the Manihot material for cytological studies. Will you please send the necessary instructions.

Very truly yours,

A. J. T. Mendes

Head Cytology Laboratory

June 15, 1964

Dr. Jorge Leon  
Instituto Interamericano de Ciencias  
Agrícolas de la OEA  
Apartado 478  
Lima, Peru

Dear Jorge:

We are very pleased to have the cytological materials which arrived safely last week. Thanks for your co-operation--we appreciate it muchly.

If you have an opportunity to get over the Andes to the montana and to the Tingo Maria area, it would be interesting to have more materials of the same sort, although we have some cytological materials from there now.

Thanks again for your help. We will let you know the outcome of the chromosome studies as soon as we have been able to complete them.

Sincerely

DJR:MDF



## INSTITUTO INTERAMERICANO DE CIENCIAS AGRICOLAS DE LA OEA

El Instituto es un organismo especializado de la Organización de los Estados Americanos. Fue establecido por los Gobiernos de las Repúblicas Americanas en 1944 para promover su desarrollo económico y social a través de la educación y la investigación.

### ZONA ANDINA

Teléfono 32090

Apartado 478

Lima, Perú

Cable: AGROEA — Lima

N° 100

June 8, 1964

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

Dear Dave:

By air parcel post I sent you a box containing seven vials with yuca flowers and buds. They belong to the following cultivars:

Colorada, from La Rinconada, a place close to Lima.

Huacho 1 and Huacho 2, originally collected in a place called Huacho, about 100 kilometers north of Lima.

Amarilla, from La Molina.

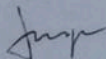
Norteña, from Tumbes, a locality in northern Peru.

Palmira 1, originally collected in Palmira, Colombia and introduced at La Molina.

Tanguí, from Mala, a locality on the coastal area about fifty kilometers south of Lima.

The botanical samples are being prepared and will be sent to you as soon as they are dry.

With best regards, yours,

  
Jorge León

JL/jr

El Instituto tiene su Dirección General en Costa Rica, Apartado 4359, San José. Sus tres Oficinas Regionales abarcan los siguientes Países: Zona Andina, Apartado 478, Lima, Perú (Bolivia, Colombia, Ecuador y Venezuela), Zona Norte c/o Instituto Interamericano de Ciencias Agrícolas de la OEA, Apartado 4359, San José, Costa Rica (México Istmo Centroamericano y Antillas Mayores) Zona Sur, Casilla de Correos 1217, Montevideo, Uruguay (Argentina, Brasil, Chile Paraguay y Uruguay). Mantiene dos centros: Centro Tropical de Investigación y Enseñanza para graduados, Turrialba, Costa Rica, y Centro de Investigación y Enseñanza para la Zona Templada en el Instituto Fitotécnico del Uruguay, La Estanzuela, c/o Instituto Interamericano de Ciencias Agrícolas de la OEA, Zona Sur, Casilla de Correos 1217, Montevideo, Uruguay. Administra los proyectos 39 (Enseñanza Técnica Profesional), 201 (Crédito Agrícola) y 206 (Reforma Agraria), del Programa de Cooperación Técnica de la OEA, patrocinados por el Consejo Interamericano Económico y Social (CIES). Mantiene también núcleos de investigación y enseñanza para graduados en instituciones de los países miembros.

June 9, 1964

Mr. Jorge Soria  
I.I.A.A.  
Turrialba, Costa Rica

Dear Jorge:

A former student of mine, Mr. Seymour Sohmer, has been selected to participate in the program of the Institute of Tropical Studies in San Jose. He is planning to be in Costa Rica for about eight weeks, arriving on July 2. He is very interested in cyto-taxonomic problems of Manihot, and for this work I have encouraged him to contact you upon his arrival there. I hope that it will be possible for you to give Mr. Sohmer some of your time, probably on the third of July.

He has been instructed as to how he may contact you from San Jose through the office of the Director. What he probably will want to do is to make a few collections of cytological material of Manihot cultivars and also will want to try to find some of the wild species of Manihot that have been sporadically collected over the past half century in Costa Rica.

Mr. Sohmer will, I am sure, be greatly helped in this if you can suggest to him how to get to various areas of interest and how to contact people who may help him with such basic problems as where to stay overnight and how to get transportation. I am sure he will have some advice on these problems from the university there, but, inasmuch as he is working on a problem in which I think both you and I have some interest, he may get some additional help in this direction from you.

Mr. Sohmer has been given all of the collection locality data for the wild species that I have. I think that I recall that there was an assistant there at Turrialba who formerly worked for Jorge Leon. His name escapes me, but his nickname, I believe, was "Pequin." I believe that this gentleman recalled a few localities from which one might collect a species called Manihot carthaginensis

Mr. Jorge Soria

-2-

June 9, 1964

or "yuca silvestre." I hope that Mr. Sohmer will be able to profit by his stay in Costa Rica and that you will not mind giving him a few moments to help him get started. We desperately need more folks working on such problems with Manihot and I believe that Mr. Sohmer will do a very creditable job. Thank you for your assistance to Mr. Sohmer.

Very sincerely yours

David J. Rogers  
Curator of Quantitative Taxonomy

DJR:MDF

Recife, 8 de junho de 1964

Ilmo. Sr.  
Dr. David J. Rogers  
The New York Botanical Garden  
Bronx Park  
Bronx, New York 10458


Prezado David

Recebi os reagentes enviados por V. S. e logo estarei pronto para atender a sua solicitação.

Como é do seu conhecimento as maniçobas nativas em nossa região não estão em floração atualmente. Procurarei entre as cultivadas das coleções que visitamos e posteriormente as do Sertão e Agreste.

Devo esclarecer que devido a carência de pessoal técnico nesta Seção de Botânica estou com vários trabalhos o que dificulta atendê-lo de pronto. Espero todavia, dentro de 15 a 30 dias iniciar a remessa de material.

Cordialmente

  
\_\_\_\_\_  
A. Sarmiento  
Eng. Agrônomo Pesquisador nível 3

acs/acs

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE

May 20, 1964

Dr. David J. Rogers  
Curator of Quantitative Taxonomy  
The New York Botanical Garden

Dear Dave;

Thank you for the check but as I had said, it was not necessary for you to go through any trouble to get it; I appreciate your effort, however.

I finally heard from Costa Rica; I have been accepted. Acceptance took as long as it did for the National Science Foundation had not come through with money, and as far as I know now — still has not. I assume that the officials in charge of this summer program are playing a sure bet that there will be no difficulty. I, not being a gambling man, hope that they win.

I will be in New York during the first week of June. I leave on July 2. If you require anyone, during this period, to lick stamps, staple sheets, sweep floors or punch cards, — I want you to know that my services are available, [I also sing and dance at weddings and Bar-mitzvahs]. ~~As~~ ~~with~~ seriousness, if you need my help during this period of time — I would be glad to help out.

Give my warm regards, as usual, to Henry + Marge.

Sincerely,  
Sy.

P.S) As soon as pressure diminishes here, you will get the  
"Cyt-Kit" # 4.

May 15, 1964

Mr. Seymour Sohmer  
Department of Botany  
University of Tennessee  
Knoxville, Tennessee

Dear Si:

Finally we extracted the money for the postal expenses you had. I am sorry it has taken so long.

What plans do you have for the summer in the event that the Costa Rica thing does not go off? I think we will have some extra funds in our budget for help this summer; and if you don't get the Costa Rica thing and have nothing else to do, we might find some way to put you to work here. This perhaps will not be as satisfactory as some other form of education but in case you want to do something, we might be able to "wrestle" around enough money to give you at least \$2.00 an hour instead of \$1.50 as we did last year.

The kind of work we would probably want you to do would be to work with our Termatex punch machine. This would be under the ONR contract and has to do with the coding of data for taxonomic analysis. We think we can find enough to keep you busy even though I will be gone from the 21st of July to the 11th of August and then again the last week in August.

Let me know if you need any help in this direction.

Sincerely

DJR:MDF  
Enclosure

April 22, 1964

Mr. Seymour Sohmer  
Department of Botany  
The University of Tennessee  
Knoxville, Tennessee

Dear Sy,

I have your letter of the 18th. Very shortly you will receive a check to cover your expenses on the mailing.

We have just heard from another individual who is willing to help out, a man who is in the Agronomy Institute at Campinas in the state of Sao Paulo, Brasil. If you will send one more package of materials, I will forward it to him.

I note with special interest your continued observations of the distaff side of Homo sapiens in the South. I might just add one word of wisdom from a southerner to a Yankee--don't let the drawl throw you; there is a sharp edge underneath.

Sincerely

DJR:MDF

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE  
DEPARTMENT OF BOTANY

April 18, 1964

Dr. David Rogers  
Curator of Quantitative Taxonomy  
New York Botanical Garden

Dear Dave,

This is a postscript to the last letter I sent you. Did the packages get through to you alright? Has anyone else written you that he would be willing to collect?

Incidentally, I have been unable to collect the price of the postage from the Dept. of Botany here — they are flat broke!

Therefore, I have enclosed the receipt in this letter in the hopes that your grant might be able to cover it. I do not want you to send me any money unless it can be covered by your grant — I will be able to survive quite well without the \$4.14.

I have not heard anything from Costa Rica yet and I take their silence as a negative reply to my application; I guess I won't be getting any Manihot specimens for you in Costa Rica — Ca se ra, se ra.

The weather down here, after two weeks of torrential downpour, has turned into some of the most beautiful early summer days I have ever experienced (especially in April). Along with the multitudinous flowers blooming here, are some of the best specimens of Homo Sapien ♀♀ (Common name: Southern Bells) I have ever seen.

Give my warm regards to Henry + Marge.

Sincerely,

Sy

April 9, 1964

Ilmo. Sr. Alberto Sarmento  
Instituto de Pesquisas Agronomicas  
Recife, Pernambuco, Brasil

Dear Alberto:

Finally, we have prepared all the necessary materials that will be required for the collection of cytological materials of Manihot.

We enclose in this letter the instructions for the collections. In a separate box we are sending via air parcel post the necessary equipment and reagents for the actual collecting.

We hope that the work of collecting material for this study will not be too burdensome. We definitely appreciate your cooperation and hope that this will be a meaningful scientific endeavor. This information will be vital to the processes of classification and eventual practical plant breeding studies.

I think that we have covered all of the necessary instructions. If, however, there are still questions that you have on the collection of material, please feel free to write. Thank you kindly for your help. We look forward to receiving the material when you have had an opportunity to collect it.

Very sincerely yours

David J. Rogers  
Director of Quantitative Taxonomy

DJR: MDF  
Enclosures

April 9, 1964

Dr. Jorge Leon  
Instituto Interamericano de Ciencias  
Agrícolas de la OEA  
Apartado 478  
Lima, Peru

Dear Jorge:

Finally, we have prepared all the necessary materials that will be required for the collection of cytological materials of Manihot.

We enclose in this letter the instructions for the collections. In a separate box we are sending via air parcel post the necessary equipment and reagents for the actual collecting.

We hope that the work of collecting material for this study will not be too burdensome. We definitely appreciate your cooperation and hope that this will be a meaningful scientific endeavor. This information will be vital to the processes of classification and eventual practical plant breeding studies.

I think that we have covered all of the necessary instructions. If, however, there are still questions that you have on the collection of material, please feel free to write. Thank you kindly for your help. We look forward to receiving the material when you have had an opportunity to collect it.

Very sincerely yours

David J. Rogers  
Curator of Quantitative Taxonomy

DJR:MDF  
Enclosures

April 9, 1964

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

Dear George:

Finally, we have prepared all the necessary materials that will be required for the collection of cytological materials of Manihot.

We enclose in this letter the instructions for the collections. In a separate box we are sending via air parcel post the necessary equipment and reagents for the actual collecting.

We hope that the work of collecting material for this study will not be too burdensome. We definitely appreciate your cooperation and hope that this will be a meaningful scientific endeavor. This information will be vital to the processes of classification and eventual practical plant breeding studies.

I think that we have covered all of the necessary instructions. If, however, there are still questions that you have on the collection of material, please feel free to write. Thank you kindly for your help. We look forward to receiving the material when you have had an opportunity to collect it.

Very sincerely yours

David J. Rogers  
Curator of Quantitative Taxonomy

DJR:MDF  
Enclosures

## Collection of Material

The uppermost portions of the immature inflorescences are the most desirable; if these are lacking on the particular plants involved, vegetative leaf primordia will have to suffice. Take as many as ten samples from each plant if possible, but never less than five.

Make a documenting herbarium specimen for each cytological collection. Be sure to give the herbarium specimen the same collecting number given to the cytological specimen.

## List of Materials

1 bottle of 45% acetic acid  
1 bottle of 95% ethyl alcohol  
1 bottle of 75% ethyl alcohol  
1 large capped jar  
small vials  
labels and lead pencil

## Instructions for Use

1. Mix contents of bottle of 45% acetic acid (marked "A") with contents of bottle of 95% ethyl alcohol (marked "B") in large capped jar, just prior to collecting, and fill vials.
2. Place material in vials, labelling each as to species of material placed within, date, etc. (Labels and lead pencils will be used; labels are dropped in vials with material.)
3. After 24 hours, drain vials of 1:3 acetic acid and ethyl alcohol and replace with 75% ethyl alcohol (from bottles labeled "C").
4. As soon after collection as possible, send via air parcel post to

Dr. David J. Rogers  
The New York Botanical Garden  
Bronx Park  
Bronx, New York 10458

Place the enclosed label on the outside of the package. All mailing costs will be reimbursed.

5. If not convenient to send the vials immediately, the vials should be kept under refrigeration until they are sent.
6. Return only the vials with the specimens. Do not return the reagent bottles.

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE  
DEPARTMENT OF BOTANY

April 2, 1963

Dr. David J. Rogers  
Curator of Quantitative Taxonomy  
The New York Botanical Garden

Dear Dave,

I have sent the packages of cytological material to you today. You will receive the three large packages during the coming week. Do not be alarmed by their size, within each box there is a smaller box, and within the smaller box are the cytological materials ("Cyt-Kit," patent pending). All that you need do is remove the addresses I placed on the packages (to get them to you) and affix the addresses of those who will do the collecting.

Unless a herd of elephants walk upon the packages, or unless they get stuck in a cross-fire between the opposing sides of the civil war in Brazil, they, and their contents, should survive their journey through the labyrinths of the various post offices. In fact, most of the bulk of the packages consists of insulating newspaper shreds. Also, each tightly capped bottle has been sealed with paraffin.

I would like you to add two points, if possible, to the letters of instruction. I would like the process involving the draining of the 1:3 acetic acid & ethyl alcohol from the vials and its replacement by 70% ethyl alcohol stressed. Also, do you think it necessary to inform these men that they need not return anything but the vials and the herbarium sheets?

To conclude, I would like to add just one more thing; please have the collectors send the collections directly to you. The reason for this is that if they send the collections to me, at the University of Tennessee, during the summer, when I will not be here (and will not until the Fall) the cytological material may just rot away or get misplaced. However, if they send the collections to your office, someone will always be at hand to chuck them into the refrigerator---they will at any rate, be safer there.

Thank you for bearing with me through this letter. I hope all goes well.

Give my warm regards to Henry and Marge.

Sincerely,



### List of Materials

- 1 bottle of 45% acetic acid
- 1 bottle of 95% ethyl alcohol
- 1 bottle of 75% ethyl alcohol
- 1 large capped jar
- small vials
- Labels and lead pencil

### Instructions for Use

1. Mix contents of bottle of 45% acetic acid (marked "A") with contents of bottle of 95% ethyl alcohol (marked "B") in large capped jar, just prior to collecting, and fill vials.
2. Place material in vials, labelling each as to species of material placed within, date, etc. (Labels and lead pencils will be used; labels are dropped in vials with material.)
3. After 24 hours, drain vials of 1:3 acetic acid and ethyl alcohol and replace with 75% ethyl alcohol (from bottles labeled "C")
4. Refrigerate and ship as soon as possible.

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE  
DEPARTMENT OF BOTANY

March 3, 1964

Dr. David Rogers  
Curator of Quantitative Taxonomy  
The New York Botanical Garden

Dear Dave,

Thank you for your letter of the 28<sup>th</sup>,  
it cleared several questions I had but also  
raised another. Do you want me to send you  
the material also?

I will be sending each man who agrees  
to collect material, the following:

- 117 a bottle of 45% acetic acid.
- 127 a bottle of 95% ethyl alcohol.
- 137 a bottle of 75% ethyl alcohol.
- 147 a large capped jar.
- 157 small vials
- 167 labels + lead pencil

The instructions are as follows:

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE  
DEPARTMENT OF BOTANY

- 11) <sup>contents of</sup> mix <sup>contents of</sup> bottle of 5% acetic acid (marked "A")  
with <sup>contents of</sup> bottle of 95% ethyl alcohol (marked "B")  
in large capped jar, just prior to collecting,  
fill vials.
- 12) Place material in vials, labelling each as  
to species of material placed within, date, etc.  
(~~paper~~ <sup>labels</sup> and lead pencils will be used, labels  
are dropped in vials with material)
- 13) After 24 hrs, drain vials of 1:3 acetic  
acid + ethyl alcohol and replace with  
75% ethyl alcohol (from bottles labeled  
C)
- 14) refrigerate + ship as soon as possible. \*

Well, I hope these instructions are good  
enough. Give my regards to Marge + Henry.

Sincerely,

Sey

- \* Should that read "immediately" — if  
not sooner?



SECRETARIA DA AGRICULTURA  
INSTITUTO DE BOTANICA

3 Feb. 1964

N.º .....

Dr. David Rogers  
New York Botanical Garden  
Bronx Park 58, New York  
E.U.A.

00102


Dear Dave:

I have your letter of Jan. 8th. I will be glad to help you with material of *Manihot*. I will be on the lookout for it when I go in the field, although that may not be often (if at all) this year.

I have also spoken to Srta. Neuza here, who also works on the cytology of *Manihot*, but she is getting her own program underway, and figures she will not be out in the ~~field~~ field for several years yet. So I guess it's just me.

Please send me any reprints of yours that are available. Thanks.

Yours truly,



George Eiten

February 28, 1964

Mr. Seymour Sohmer  
Department of Botany  
The University of Tennessee  
Knoxville, Tennessee

Dear Si:

Why don't you send me your list of instructions and begin to get together the materials necessary for the cytological work. What with communications between us and the three men who have agreed to collect materials, it will take some time, first, to get the instructions and the materials to them and second, to get something back from them. It will take them more time than you would like, I am sure.

One of the men who has agreed to help is in Peru, another in Sao Paulo in Brazil, and the other in Recife in Brasil. These are three good places and will give you good materials if we ever get it from them. I think it best that I send the instructions on to them. There is something in the way of "prestige" for having it go through my office which may get a little bit more action sooner.

Incidentally, you probably have run across the book by Sokal and Sneath on Numerical Taxonomy by now. Someone reading this book without having much background concerning the whole field will find that it has some very strong positive statements as though the answers were already available. If you had spent as much time in this field as we have, you would take this book with a large grain of salt. If you are using this type of literature for "convincing" taxonomists of the value of it, I would proceed with extreme caution.

We look forward to seeing you when you come up with Jack.

Sincerely

DJR:MDF

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE  
DEPARTMENT OF BOTANY

February 21, 1964

Dr. David Rogers  
Curator of Quantitative Taxonomy  
The New York Botanical Garden

Dear Dave,

Thank you very much for your recommendation and your reprints. I will use the reprints as the basis of a talk of which one of the results may be that even Dr. Sharp will, perhaps, begin learning a little computer lingo <sup>(?)</sup>.

I have had ready for awhile, the instructions for the men who are willing to aid in collecting cytological material. I may have misunderstood you; I thought I was supposed to hear from you when you receive enough answers, and, then, send my directives and material to them. Do you think that the best procedure?

Incidentally, Dr. Sharp is coming to New York [via the Smithsonian & Harvard] to loose a locust-horde of herbarium-hungry graduate

<sup>(?)</sup> highly improbable.

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE  
DEPARTMENT OF BOTANY

at  
students of the Botanical Garden. I will accom-  
pany them to New York and during my visit  
drop in on you. Time: about the middle of  
March.

Say hello to Marge and Henry for me. I  
wish them good health as well as you.

Sincerely,  
Sey

February 18, 1964

Mr. Seymour Sohmer  
Department of Botany  
The University of Tennessee  
Knoxville, Tennessee

Dear Sy,

I am sorry to have delayed answering your letter of the 29th requesting papers on quantitative taxonomy. So far as your intention to convert old line taxonomists is concerned, all I can say is that I wish you luck, but I don't expect too much success. I am sending four papers that may be useful.

We have had word from George Eiten in Sao Paulo that he is willing to look after cytological materials of Manihot, and we are still waiting for your directions and other information as we previously discussed. We now have a total of three people who are willing to help out.

Sincerely

DJR:MDF

Enclosures-4

- *Seymour*  
*Burton*  
*Jerry*  
*Huber*

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE  
DEPARTMENT OF BOTANY

January 29, 1964

Dear Dave,

I was wondering whether or not you have on hand any reprints of papers dealing with the work in quantitative taxonomy you have been doing with Manihot. If you do could you, or rather, would you send me as many (up to 1/2 dozen) as you can spare. There are some old-line taxonomists here who have no idea, and what's more, do not want to have any idea, of what sort of work is actually being done in this area. I have tried, in my own very small and insignificant way to shed some light on this and perhaps some papers would be useful toward this end.

Other than the above I have nothing new to report. Everyone here is fine; Dr. Sharp, Hamilton etc; and the weather has turned cold again. I do not know how it was in New York during the past week, but we, here, had a sudden warm spell that would have tricked me into

believing it was spring — had not the trees been  
bare.

Give my regards and salutations to Henry and  
Margy.

Sincerely,  
Liz

February 6, 1964

Dr. Jay M. Savage  
Organization for Tropical Studies  
Apartado 16  
Ciudad Universitaria  
Costa Rica

Dear Dr. Savage:

Mr. Seymour Sohmer, now a graduate student in botany at the University of Tennessee, has asked me to write a letter of recommendation supporting his application to participate in the summer program in Costa Rica.

I am pleased to recommend Mr. Sohmer who worked on an hourly basis in my lab here at The New York Botanical Garden during the past summer. He is a knowledgeable young man, very competent, and deeply dedicated to biological studies. I am sure that he would benefit tremendously by having the experience there.

Sincerely yours

David J. Rogers  
Curator of Quantitative Taxonomy

DJR:MDF

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE  
DEPARTMENT OF BOTANY

February 1, 1964

Dear Dave,

I have received your latest letter and will begin to organize myself here.

I have also received, finally, my application from Dr. Jay M. Savage at the University of San Jose. He sent me a brochure listing this summer's offering at the biological station there and let me tell you, it looks damn good. The application also calls for some letters of recommendation, and I was wondering if you might send him one on my behalf. If you can bring yourself to do so, please send it to the following address:

---

Dr. Jay M. Savage  
Organization for Tropical Studies  
Apartado 16  
Ciudad Universitaria  
Costa Rica

---

I hope to learn quite a bit down there this coming summer, if I am accepted into the program. Please give my regards to Kenay and Margy.

Sincerely  
Jef

January 28, 1964

Mr. Seymour Sohmer  
Department of Botany  
University of Tennessee  
Knoxville, Tennessee

Dear Sy:

I have had a favorable reply from two people in South America who are willing to help out.

I suggest that what you should do now is prepare a very precise statement of the methods and procedures of collecting Manihot materials; also that you begin to think about preparing little packages to be sent to South America for this purpose.

We need not begin immediately but should be getting ourselves gathered together.

Sincerely

DJR:MDF

Recife, 16 de Janeiro de 1964

Ilmo. Sr. Dr.  
David J. Rogers  
The New York Botanical Garden  
Bronx Park  
New York 58  
New York USA

Prezado David,

Recebi com alegria a sua carta de 8 do corrente mês.


Não sei se eu poderei executar bem o trabalho que você me pede, em vista de ser algo diferente do que eu estou habituado a fazer. Entretanto estou a seu dispor para tentar. Inicialmente como experiência. Se tudo sair bem, então continuarei.

Gostaria de saber em que resultou o seu trabalho sobre o gênero Manihot.

Segue o novo endereço do Instituto de Pesquisas Agronômicas: C.P. 1022-Recife.

Sem mais pelo momento aproveito da oportunidade para desejar-lhe um próspero 1964.

Atenciosamente

  
Alberto Sarmiento

ACS/ACS



## INSTITUTO INTERAMERICANO DE CIENCIAS AGRICOLAS DE LA OEA

El Instituto es un organismo especializado de la Organización de los Estados Americanos. Fué establecido por los Gobiernos de las Repúblicas Americanas en 1944 para promover su desarrollo económico y social a través de la educación y la investigación.

### ZONA ANDINA

Teléfono 32090  
Apartado 478  
Lima, Perú  
Cable: AGROEA — Lima

January 18, 1964

Mr. David J. Rogers  
Curator of Quantitative Taxonomy  
The New York Botanical Garden  
Bronx Park  
New York 58, N.Y.  
U. S. A.-

Dear Dave:

In reference to your letter on getting fresh materials of yuca, I am as always very interested in cooperating. Please send the materials and directions to this office and I will put my graduate assistant to collect them immediately in this area and will made arrangements to obtain them from other areas.

While in Holland I discussed very briefly with Bolhius, his genetic research in Indonesia. He says that a proteia evaluation of the Latin America chlonens is badly needed. I discussed this with Bacigalupo and if something comes out, we hope you mya help us.

Best regards to you and your wife and our best wishes for New Year.

Sincerely yours,

Jorge León  
Botanist

El Instituto tiene su Dirección General en Costa Rica, Apartado 4359, San José. Sus tres Oficinas Regionales abarcan los siguientes Países: Zona Andina, Apartado 478, Lima, Perú (Bolivia, Colombia, Ecuador y Venezuela). Zona Norte c/o Instituto Interamericano de Ciencias Agrícolas de la OEA, Apartado 4359, San José, Costa Rica (México Istmo Centroamericano y Antillas Mayores) Zona Sur, Casilla de Correos 1217, Montevideo, Uruguay (Argentina, Brasil, Chile Paraguay y Uruguay). Mantiene dos centros: Centro Tropical de Investigación y Enseñanza para graduados, Turrialba, Costa Rica, y Centro de Investigación y Enseñanza para la Zona Templada en el Instituto Fitosécnico del Uruguay, La Estanzuela, c/o Instituto Interamericano de Ciencias Agrícolas de la OEA, Zona Sur, Casilla de Correos 1217, Montevideo, Uruguay. Administra los proyectos 39 (Enseñanza Técnica Profesional), 201 (Crédito Agrícola) y 206 (Reforma Agraria), del Programa de Cooperación Técnica de la OEA, patrocinados por el Consejo Interamericano Económico y Social (CIES). Mantiene también núcleos de investigación y enseñanza para graduados en instituciones de los países miembros.

Procedures for the fixing and handling of *Dianthus* specimens.

- [1] select inflorescences that contain a great deal of young material (unopened buds should not be more than hat-pin-head size)
- [2] mix 1 part 45% acetic acid with three parts 95% or absolute alcohol & place in material (this 1:3 solution should not be mixed until the fresh material is ready for fixing). ~~1:3~~
- [3] after no more than 24 hrs, the material should be transferred to 70% ethanol, and stored at low temperatures until ready for shipment.
- [4] ship!

January 8, 1964

Dr. Jorge Leon  
P. O. Box 478  
Lima, Peru

Dear Jorge:

I wonder if I might ask your assistance in helping out with some studies in Manihot. We have a student who is undertaking a problem for his Ph.D. on the genetics of species related to Manihot esculenta and of Manihot esculenta itself. We need fresh materials for this research, and we of course have very few living specimens of the genus.

Would you be willing to collect materials or to have one of your assistants collect materials from both the cultivars and from whatever wild species are available? If you are willing to help us out in this research, would you please let me know? If you do indicate that you are willing to help, then I will send you reagents, collecting bottles, directions for the collections, and whatever information I have about the locality where these collections may be made from some of the wild species.

This would be very helpful, and I would appreciate your help if you have time for it. Best wishes to you and your wife for the New Year.

Sincerely yours

David J. Rogers  
Curator of Quantitative Taxonomy

DJR:MDF

January 8, 1964

Dr. George Eiten  
Instituto de Botanica  
Caixa Postal 4055  
Sao Paulo, Brasil

Dear George:

I have a student who wishes to work on the genetics of Manihot for his doctoral dissertation. We very obviously will need cytological materials collected fresh from the plants, and I wonder if I might impose on you to help with the collection of any cytological material of Manihot that is available.

If you are willing to accept this job for us, please let me know and I will supply the necessary reagents, containers and instructions for appropriate collections.

I will be happy to have your acceptance of this job and will be pleased to hear from you. Best wishes to you and your wife for the New Year.

Sincerely

David J. Rogers  
Curator of Quantitative Taxonomy

DJR:MDF

Same letter sent to Senor Milton de Albuquerque  
Instituto Agronomico do Norte  
Belem, Para, Brasil

Dr. Edgard Normanha  
Instituto Agronomico do Estado  
Campinas, Sao Paulo, Brasil

Mr. Alberto Sarmento  
A.I.C., Instituto de Pesquisas Agronomicas  
Dois Irmoes  
Recife, Pernambuco, Brasil

January 8, 1964

~~Dr. Leandro Aristeguieta  
Inst Bot.  
Apartado 2156  
Caracas, Venezuela~~

*sent by t  
Dr. Steyermark*

Dear Leandro:

At last I have found a student who is willing to help out in some of the scientific studies of Manihot. We have been able to influence this student to study the genetics of the genus, and we are therefore in need of cytological materials collected fresh from the species.

I know that you have several species of Manihot now growing in the park there in Caracas, and we would be very much pleased if you would be willing to collect some cytological materials from these plants. If you are willing to do so, will you please let me know. I will supply the necessary materials and the directions for the appropriate collection of the same.

We trust that we may have your cooperation in this matter. With best wishes for the New Year, I am,

Sincerely yours

David J. Rogers  
Curator of Quantitative Taxonomy

DJR:MDP

Same letter sent to Dr. Julian A. Steyermark, same address

January 9, 1964

Mr. Seymour Sohmer  
Department of Botany  
University of Tennessee  
Knoxville, Tennessee

Dear Sy:

Enclosed is a copy of the sort of letter I have written to get plant materials of Manihot esculenta. I also enclose a list of the people to whom this letter was sent. As soon as we hear from them, I will let you know what the next step should be.

Sincerely

DJR:MDF  
Enclosures

December 10, 1963

Mr. Seymour Sohmer  
Department of Botany  
The University of Tennessee  
Knoxville Tennessee

Dear Sy:

Congratulations and commiserations on your finally opening the door on Manihot. It is a little difficult to get into an investigation as you outlined in No. 1 of your problem because of the fact that we have so little opportunity to get many of the "organized" species. I brought back some material from Mexico this summer which you are very welcome to have, and this would be a beginning toward a cytological analysis of the genus; but it is an extremely difficult thing to get good material from most of the organized species.

Therefore, it might be well for you to investigate the possibilities of hybridization of a few species that could be brought together. I suspect that, if you could show the flow of genes in a population that you might hybridize yourself, you would have some insight into the operation of the genetics of the genus. This would have the advantage of being a little more manageable in terms of obtaining materials. It also gives you the opportunity to sample the material at different stages and to get root tips as well as pollen mother cells. This, therefore, seems to me something that might be manageable in terms of time and material. However, it is not my duty nor my intention to have you pattern your own interest after mine; so I offer the above only as suggestion, and I would try to go along with you as best I can from here.

Are you coming up for Christmas? We will be around and would be happy to see you. All our best--

Sincerely

DJR:MDP

THE UNIVERSITY OF TENNESSEE  
KNOXVILLE  
DEPARTMENT OF BOTANY

December 3, 1962

Dear Dave,

I hope this letter still finds you and company in good health.

I approached the cytologist here with the suggestion that I begin my master's work. She was delighted and presented me with several suggestions (at my polite request), which I promptly — and again politely — discarded. Instead, I gave her a suggestion of my own... and it is settled — I am a manihotiist.

I believe that with your moral support and material, and my innate capability (no remarks), I can overcome any short-comings at this end.

Since I also believe that this first step, i.e. getting the masters degree, is the

key to the door of our better understanding of plant genetics in general, and Manihot in particular, I wish to choose the right key.

Therefore, I have several ideas of how best to attack this problem. Here are two of them:

[1] The investigation of the chromosomes of many, if not all, "recognized" species, recording the number in each as well as beginning morphological investigations of these chromosomes. Sort of a super-survey (cytologically).

[2] Investigate the problem of hybridization in the genus, attempting to see why there seems to be such few blocks to hybridization.

Personally, I think that [1] is the best starting point and one from which all further work will lean on. I need, for either [1] or [2], groups (I won't call them species) of recognizably different plants which are not ecotypes of the same genotypes. In fact, to start I would prefer

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geographically separated groups between  
which there has not been much known  
hybridization.

I would appreciate any of your  
comments, criticisms, and suggestions.

Give my regards to Henry & Marge.

Sincerely,

Sy

November 20, 1963

Mr. Seymour Sohmer  
Department of Botany  
University of Tennessee  
Knoxville, Tennessee

Dear Si:

Thanks for your interesting letter of the 14th. I can understand your problems with cyto-taxonomy. However, I should not, if I were you, worry too much about the problems involved and continue to acquire some significant concepts on plant taxonomy "as she is."

What have you found concerning mathematical courses or have you investigated this at all? I certainly hope that you can convince the department that this is a formal part of your training.

Oh yes, don't worry about the fried okra. If you go a little bit further south into Louisiana, they make a very handsome use of okra and other vegetables in various gumbos (thick soups to you, bud).

I will be interested to hear what hybridization has occurred to your present accent by the time you return. This should be an interesting combination.

I am glad to hear that you are still messing around with the Manihot materials. I hope that you don't forget them. We all send you our best regards.

Sincerely

P.S. Our program has just run through the computer for the first time with real data.

DJR:MDF

Department of Botany  
UNIVERSITY OF TENNESSEE  
KNOXVILLE, TENNESSEE  
November 14, 1963

Dear Dave,

I hope this letter finds you in good health and spirit and a good deal further along in your program. You must excuse me for delaying this letter, but the delay reflects my state of mind. At this moment, I have ~~as yet~~ not decided in what to do my master work. The reasons for this state of affairs are simple: first, I do not feel that there is anyone here who can act as my major professor if I were to enter, immediately, cytotoxonomy — although there is a cytologist here, and, second, I want to acquire a good knowledge of plant taxonomy — without strings attached. So, *voilà*, there I am: I do not want to do my cytotoxonomy work here, and, though I want to acquire a good knowledge of classical taxonomy, — I do not think I should become involved in any thesis work under Dr. Sharp. If you have any comments, they would be greatly welcomed and appreciated. I, at the moment, am learning and am, therefore, satisfied.

In general, as you pointed out, just being here is an education for me. The people, of course, think so much differently than I and many customs and usages are also different. (Though I like the black-eyed peas, who the hell got the bright idea of frying them?).

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KNOXVILLE, TENNESSEE

It took me approximately three or four days, at first, before I began being understood — I have had to slow my speech rate by at least  $\frac{1}{2}$ . Although I like the accent on the females, somehow it doesn't sound right on the males. Incidentally, I think the south definitely has it over the north, percentage-wise, in pretty girls.

The department here generally consists of nice folks, but beside Dr. Sharp and one or two others, nothing out of the ordinary. In general, however, outside of the difficulty mentioned above, I am enjoying my stay here. Also, I have, during my spare time, fussed about with some of the Manihot specimens I brought down here with me.

Give my sincere regards to Marge and Henry, and since you probably will not see me before Christmas, let me wish you a merry one now.

Sincerely,

Seymour Sohmer