



Hunt Institute for Botanical Documentation
5th Floor, Hunt Library
Carnegie Mellon University
4909 Frew Street
Pittsburgh, PA 15213-3890
Contact: Archives
Telephone: 412-268-2434
Email: huntinst@andrew.cmu.edu
Web site: www.huntbotanical.org

The Hunt Institute is committed to making its collections accessible for research. We are pleased to offer this digitized version of an item from our Archives.

Usage guidelines

We have provided this low-resolution, digitized version for research purposes. To inquire about publishing any images from this item, please contact the Institute.

About the Institute

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

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

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
916 Parrish Street
ST. LOUIS
4528 So. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK
Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

PLEASE REPLY TO
NEW YORK

September 27, 1940

Dr. Wilson Popenoe
c/o Tela Railroad Company
La Lima
Honduras, C. A.

My dear Dr. Popenoe:

Lukens is just back and I have had a long talk with him about the situation in Guatemala.

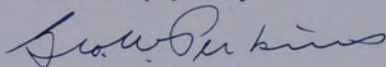
I can't tell you in writing - and I am not sure I could orally - how very grateful all of us here are to you for what you have done. You have been the greatest help to us in getting the situation in Guatemala straightened out and organized for the future. I do hope it is going to be possible for you to continue your contact with our project. I understand from Luke that you are going to take this up with Mr. Turnbull and we sincerely hope that you may be able to continue your contact with us.

I have today written Mr. Coolidge and Mr. Turnbull, thanking them for letting us borrow you.

I am terribly sorry I couldn't get down with Lukens to talk with you about the situation and see the progress that has been made, but I do hope to get down soon and hope that when I do I will have the pleasure of seeing you and Mrs. Popenoe.

Again, many, many thanks!

Sincerely yours,



GWP/ED

January 29, 1940.

Mr. George W. Perkins,
Merck & Co., Inc.,
Rahway, New Jersey.

Dear Mr. Perkins:

Much obliged for your card from Panamá.

I do hope that things in general pleased you here; but I wish to re-iterate that the lion's share of whatever credit is due should go to Dr. Popenoe and Benitez.

This afternoon I had a talk with Mrs. Hoehn and as you suggested she will go to Guatemala next week to purchase certain items that are lacking in the new house.

I will let you and Mr. Lukens know regarding the plans for the Cinchona Meetings when they materialize.

Tomorrow I plan to make as accurate a count as possible of the Krukoff seedlings that remain at "Los Andes", Panamá. From this we should get a clearer idea as to how we stand regarding distribution of seedlings to co-operators etc.

Hoehn and I plan to leave for Barillas on Saturday to start the experiment there.

Mr. Pennock will send up to Rahway shortly botanical specimens of the Jacaratia at Panamá.

You should receive your latest photographs sometime soon from Biener.

I am very grateful indeed to you and Mrs. Perkins for your many helpful suggestions and for your kindness to me during your recent visit,

With best regards to you both,

Sincerely,

FR Jr.

[Frederic Rosengarten, Jr.]

elj
Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
916 Parrish Street
ST. LOUIS
4528 So. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK
Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

PLEASE REPLY TO
NEW YORK

June 12, 1940

Dr. Wilson Popenoe
Antigua
Guatemala, C. A.

My dear Dr. Popenoe:

Lukens is back and reports that things are under control inasmuch as you are there. I don't need to add that I have been much happier ever since I knew you were in Guatemala and looking after our things. It is a great relief.

I have been over some of the major questions in connection with the work in Guatemala and have had very few comments to make on the proposals. Lukens will, I think, write you in detail about the various matters that need attention.

There is one thing, however, that I am not clear about and that is how we are to pay you. Shall we send you a check monthly or will the Fruit Company bill us? Also, how about expenses? I imagine that, in any event, we ought to pay these to you directly.

My best as ever,

Sincerely yours,

G. W. Perkins

GWP/ED

212
Antigua, Guatemala, 19 June 1940

George W Perkins Esq.,
Merck and Company,
New York City.

Dear Mr. Perkins:

Many thanks for your letter of the 12th, which has just reached me. At the time the United Fruit Company approved your request for loan of my services, they advised that they would bill Merck and Company for my salary at the termination of this summer's work. As regards expenses incurred here, I arranged with Mr Lukens that I would present a monthly statement to Mr Gibson in Guatemala City and be reimbursed by him. This plan is being carried out.

Incidentally I want to say that I think Mr Lukens did a fine job of arranging the administrative set-up covering our present situation. I am not required to use any of my time on accounting matters and can devote my undivided attention to pushing the work at Naranjo and elsewhere in the field. I cannot tell you how delighted I am that Frederic Rosengarten is here. He is tremendously energetic and has excellent judgment on all matters. I could never have cleaned up the labelling, bark sampling, and a hundred other odds and ends without his assistance; not to mention the value of his views on many of the administrative problems.

I am trying to keep Mr Lukens informed of developments as we go along. The Smiths are keen and are pushing their end as energetically as we are trying to push ours.

With best regards always,

Sincerely yours,

COPY

MERCK & CO
Inc.

Main Office:
Rahway, N.J.

Manufacturing Chemists

Cable Address:
Merck NewYork

New York
161 Sixth Avenue

Works:
Rahway, N.J.
Philadelphia

Philadelphia
916 Parrish Street

In Canada
Merck & Co, Limited
Montreal
Toronto

St. Louis
4528 So. Broadway

Please reply to
NEW YORK

September 27, 1940

Mr. W. E. Turnbull:
c/o. Tela Railroad Company
La Lima
Honduras, C. A.

My dear Mr. Turnbull:

I want very much to express, on behalf of Merck & Co. Inc., our very great appreciation for what Dr. Popenoe has been able to do during the summer to advance the propagation and cultivation of Cinchona in Guatemala. His aid was invaluable to the project at a time when it desperately needed straightening out. Not only did Dr. Popenoe do a magnificent job during the summer, but we believe that he got the situation sufficiently well organized so that we can look forward to the future with reasonable confidence.

I understood from Dr. Popenoe that the Fruit Company was going to send us a statement in connection with Dr. Popenoe and the other services the Company has rendered to us. I just want to remind you that so far we haven't received it and we feel that we should.

Again, many thanks to you, to Dr. Popenoe, and to the others in the Fruit Company whom Dr. Popenoe has called on in our behalf.

With kindest regards,

Sincerely yours,

(sgd) George W. Perkins
Executive Vice President

GWP/ED

La Lima, Honduras, 3 October 1940

George W. Perkins Esq.,
Merck and Company,
Rahway, N.J.

Dear Mr. Perkins:

Accept my cordial thanks for your very kind letter of the 27th ultimo. I greatly appreciate your writing to Mr. Coolidge and Mr. Turnbull. I have talked with the latter along the lines discussed with Mr. Lukens in Guatemala. In other words:

I told Mr. Turnbull that you would like me to continue my contact with the Cinchona work, in the capacity of Consultant. I said this would mean that I would drop in at Naranjo whenever I am in Guatemala, and you will at all times be free to take up matters in connection with the Cinchona project by correspondence with me. Mr. Turnbull expressed himself as wholly in favor of this arrangement and he has written to Boston for confirmation. I feel sure there will be no objection from that angle.

My present plans call for me to remain in Guatemala from Oct 15th when I return from the present sojourn in Honduras, until shortly after New Year's. During that period I will give Fritz all the help I can, and will make several visits to Naranjo and Panama. I hope you come down before Christmas. It would be a real pleasure to go over things with you on the ground.

With best regards,

Sincerely yours,

Eléctricas

SERIE O

GUATEMALA - AMERICA CENTRAL

TELEGRAMA OFICIAL

A NLT WILSON POPECE.

cablegrama.

SELLO DE CA OFICINA

RECEPTORA



Comunicaciones

Guatemala

TIP. NACIONAL - GUATEMALA

G1487-1MM-6-39

35 LZ/MG 38DH Dpdo 20h40m REC 21 H.

NEW YORK, 12 de noviembre 1940.

ALMOST IMPOSSIBLE FOR ME TO GET AWAY BEFORE JANUARY FIRST BELIEVE
COULD LEAVE RIGHT AFTER THAT STOP IS THERE ANY CHANCE YOUR BEING
THERE FOR LITTLE WHILE IN JANUARY IF SO FOR HOW LONG MOST ANXIOUS
SEE YOU

PERKINS.

4 10
Main Office:
RAHWAY, N.J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
916 Parrish Street
ST. LOUIS
4528 So. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK
Works:
RAHWAY, N.J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

PLEASE REPLY TO
NEW YORK

November 12, 1940

Dr. Wilson Popenoe
Antigua
Guatemala, C. A.

My dear Dr. Popenoe:

I sent you a cable today as follows:

"ALMOST IMPOSSIBLE FOR ME GET AWAY BEFORE JANUARY FIRST BELIEVE COULD LEAVE RIGHT AFTER THAT STOP IS THERE ANY CHANCE YOUR BEING THERE FOR LITTLE WHILE IN JANUARY IF SO FOR HOW LONG MOST ANXIOUS SEE YOU"

I do hope it is going to be possible for you to stay on for a few days in January as it looks quite impossible for me to get down before that time. The press of work here at the moment is tremendous.

There is a matter which I very much want to get your advice on. Due to the war in Europe the normal source of a good many drug plants has been cut off. We seem to have been getting along reasonably well on finding or creating supplies for tropical plants in this category. However, we haven't anyone who is qualified to do anything about drug plants which grow in the Temperate Zone. It is our feeling that probably the place we should start is the Department of Agriculture but that is a pretty large department and we are somewhat fearful of being lost in the maze of corridors.

I was wondering whether I could impose on your good nature to ask you to let me know who you think in the Department might be able to help us on this problem or, if you don't think that is the best place to take it, where you think we had best take it.

With kindest regards, as ever,

Sincerely yours,

George S. Merck

GWP/ED

Antigua, Guatemala, 14 Nov 1940

George W. Perkins Esq.,
Merck and Company,
161 Sixth Avenue, New York City.

Dear Mr. Perkins:

On returning from Tiquisate last night I received your cable of the 12th. I am not replying by cable as I cannot give you a definite answer until next week when I have a chance to talk with Mr. Turnbull regarding my plans. But I think it will be possible for me to remain in Guatemala for at least the first week in January. If you come by Panair, as I assume you will, and come immediately after New Year's, this would give us at least a chance for a talk and possibly time for a trip together to Naranjo. I will write you more definitely as soon as I have seen Mr Turnbull.

I have not taken any vacation for two years, so have asked for the month of December. Part of this time I plan to spend on the Cinchona work, so that I can help both Pannock and Hoehn dig in; and so that I can see how they are shaping up and be prepared to give you my slants on the situation when you come down.

I'll write you again next week; but I feel pretty confident that we can figure on my being here for at least the first week in January.

Best regards always,

Sincerely yours,

Antigua, Guatemala, 18 November 1940

George W. Perkins Esq.,
Merck and Company,
161 Sixth Avenue, New York City.

Dear Mr. Perkins:

Your letter of the 12th came yesterday. I have not yet had an opportunity to talk with Mr. Turnbull about my plans, but as I wrote you in response to your cable, I feel confident that I can arrange to remain in Guatemala, at least until the end of the first week in ^{January}~~Guatemala~~, probably a few days longer if necessary. I hope to see Mr. Turnbull within the next two or three days and will then confirm this understanding.

Now about supplies of drug plants from the Temperate Zone: I have been away from the States so many years that I am very much out of touch with most of the work at Washington, but in my day Dr. W.W. Stockberger in the Bureau of Plant Industry was the man. Do you know him? For many years he was in charge of the Office of Drug Plant Investigations, and in that capacity I imagine he knew as much as anyone did, regarding sources of material. About the time I left Washington he was taken off drug plant work and put in charge of personnel, under the Secretary, but I think he kept his fingers on the drug plant work all the while. The last I heard, he was still on the personnel job - this was a year or so ago I think. It was always my feeling that Doctor Stockberger was an able man and if you do not know him I think it would be worth your while to make his acquaintance.

I realize that the intricacies of bureaucracy sometimes make it difficult to get action out of the folks at Washington, and I am not at all sure just how much help you can get in this case.

U

Antigua, Guatemala, 26 November 1940

George W. Perkins Esq.,
Merck and Co., New York.

Dear Mr. Perkins:

After talking with Mr. Turnbull yesterday I can confirm my previous letter, in which I said that so far as we are able to see at present, I shall be able to stay here until the end of the first week in January, possibly a few days longer. Unless something very unexpected turns up I shall do this. If there is some sudden development which changes my plans I will advise you by cable.

And on the other side of the case, if you are forced to give up the trip (which I earnestly hope will not happen) please advise me as promptly as possible, so I can hop off for points south and east.

The exhibit staged by Fritz at the National Fair was excellent and attracted much favorable comment. Yesterday morning I had a brief talk with Fritz in the City; he told me that he and Pennock and going to El Naranjo today, and asked me to meet them there around the week-end. I am going down to Tiquisate tomorrow, to spend some ten days on the West Coast, so will run up to Naranjo as requested.

Best regards always,

Sincerely yours,

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
916 Parrish Street
ST. LOUIS
4528 So. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK
Works:
RAHWAY, N. J.
PHILADELPHIA
In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

PLEASE REPLY TO
NEW YORK

December 3rd, 1940

Dr. Wilson Popenoe
Antigua, Guatemala

Dear Dr. Popenoe:

My wife and I have been having a terrific argument as to what you mean by "the end of the first week in January!" She maintains it is the 7th of January and I have the idea it is the 11th.

Be that as it may, our plans are about as follows and I trust that they fit in with your program. Will you please let me know promptly whether they do or not so that I can make reservations?

I expect to fly down, arriving in Guatemala the 6th or 7th of January. Mrs. Perkins I think will take a boat down, leaving New Orleans on the 8th, which would get her to Guatemala the 11th or 12th. She will be traveling with some friends. My thought is that I would do the strenuous end of the business first and then, after Mrs. Perkins arrives, tour the country a bit and call on some of our friends. Don't hesitate to let me know if this doesn't fit in with your plans. I probably could get down a day or two earlier, although it would be difficult.

With kindest regards, as ever,

Sincerely yours,

George Perkins

GWP/ED

Antigua, Guatemala, 8 December 1940

George W. Perkins Esq.,
Merck and Co., New York.

Dear Mr. Perkins:

Yours of the 3rd has just come. Mrs. Perkins is right. Mrs. Perkins is always right. We have just recently received our 1940 calendars, and it will be some months before we have those for 1941, but if you get here on January 6th or 7th I'll stand off all other jobs and assert boldly that the first week in January ends on the 14th if necessary. My next job is not yet lined up anyway; I am torn between Scylla and Charybdis, so to speak, and I'll keep stalling along so as to see you when you arrive, for two or three days at least, during which time we can run down to Naranjo together, for I simply must get your verdict on the fireplace, which the boys have painted to resemble artificial bricks and which I feel simply must be replastered and done in a neat buff of something of that sort.

Tomorrow morning Fritz, Penneck and I go to Coban to line up the future of the Samac ledgers from all standpoints, if possible.

Let me know definitely when you have reservations made for flying down here and I'll meet you, barring acts of God and the King's enemies.

Best regards always,

Sincerely yours,

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
916 Parrish Street
ST. LOUIS
4528 So. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK
Works:
RAHWAY, N. J.
PHILADELPHIA
In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

PLEASE REPLY TO
NEW YORK

December 13, 1940

Dr. Wilson Popenoe
Antigua
Guatemala, C. A.

My dear Dr. Popenoe:

I don't know when I have enjoyed
a letter more than yours of the 8th!

I will plan definitely to arrive
on the 7th by plane.

My best as ever,

Sincerely yours,

George Perkins

GWP/ED

P.S. I am writing to Clark's for a car and the same
driver I had last time.

COMUNICACIONES ELECTRICAS

GUATEMALA-AMERICA CENTRAL

Lc. Wilson Popenoe

cable.

**TELEGRAMA**CKS
137 Emp 36 dn dep. 10 h 45 m

DE New York, 26 DE Diciembre DE 19 40.

RECIBIDO EN Antigua Guat., A LAS 12 h 35 POR O.H. Hernández.

Have your plans for leaving Guatemala become more definite
 if so when will you go stop things here increasingly thick day
 or two more might prove invaluable stop however have not yet
 changed my plans.

Perkins.

EL GOBIERNO NO ES RESPONSABLE POR ERRORES U OMISIONES EN LOS MENSAJES TRANSMITIDOS POR SUS TELEGRAFOS, PERO SI
 DEVOLVERA EL VALOR RESPECTIVO CUANDO EL ERROR U OMISION DEPENDA DE SUS OFICINAS.

NOTA: SE RUEGA AL PUBLICO DAR AVISO A LA DIRECCION DEL RAMO DE TODA IRREGULARIDAD O ABUSO QUE SE NOTE EN EL SERVICIO TELEGRAFICO.

TIP. NACIONAL—GUATEMALA



COMUNICACIONES ELECTRICAS

MODELO NO. 82.

GUATEMALA - AMERICA CENTRAL

SELLO DE LA OFICINA
RECEPTORA

TELEGRAMA OFICIAL

SERIE O

A Wilson Popence.

cablegrama.



TIP. NACIONAL. — GUATEMALA

G1487-1MM-6-39

152 Jr/MG 10dh ppdo 21h.50m Rec 21h51m .

New York 30 Diciembre 1940.

Arriving as originally planned by plane tuesday afternoon january seventh.

Perkins

Main Office:
RAHWAY, N. J.

NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street

ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK

Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

January 2, 1941

PLEASE REPLY TO
RAHWAY, N. J.

Dr. Wilson Popenoe
Antigua
Guatemala, C. A.

Dear Dr. Popenoe:

Many thanks for your letter of December 22, 1940. Mr. Perkins has seen your letter and will probably want to discuss parts of it with you.

On page 2 of your letter reference is made to a method of analysis used by the Dutch in valuing Cinchona Bark. From the brief description given I judge that it is taken from the official Kina Bureau method. We are familiar with this method and it is a good one. Unfortunately, however, it is not applicable to field work, but is a refined laboratory procedure. The best short method that I know of is the one that we worked out with the Pettersens. This method gives us a combined percentage of Quinine and Cinchonidine. We agreed in the case of the Pettersens that if the combined percentage showed 5, samples would be sent to Rahway for further examination. This process was sent to the Pettersens in duplicate and a copy should also be in Armstrong's file under date of October 1939, which I assume was turned over to Naranjo. I spoke to Mr. Pennock about this and as the Pettersens said they were not going to use the chemical apparatus which we sent to them to do this work, I thought perhaps we could take it over to Naranjo. I believe one of the younger intelligent boys at the Finca could learn to carry out this method of analysis. If the sample looks promising after a preliminary examination then it could be sent to Rahway for further testing. Later no doubt it would pay us to have someone on the plantation capable of making a refined analysis.

When it comes to pronouncing the name of Dr. C. Spruit P. Pzn, I must agree that I cannot pronounce it.

I judge from your letter that you have obtained some interesting and valuable information

Dr. Wilson Popenoe

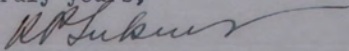
-2-

January 2, 1940

from Dr. R. D. Rands and the pamphlet written by Dr. Pzn.
I think it might be well to show the booklet to Mr. Perkins.
I would also like to see it and perhaps make copies of
certain parts.

With very best regards, I am

Very truly yours,


R. P. Lukens

RPL:CS

cc Mr. Perkins
Mr. Rosengarten

Antigua, Guatemala, 2 January 1941

Mr R P Lukens,
Merck and Co.,
Rahway, New Jersey

Dear Mr. Lukens:

Encl sed please find a memorandum from Dr Albert S. Muller, Pathologist of the Venezuelan government, who has been in Guatemala for the past ten days. We made a hasty trip through the Cinchona zone with Fritz, and I asked Muller to give us his observations, realizing of course that he could not get to the bottom of things in so short a time.

For your confidential information, I may add that we are making arrangements to get Doctor Muller here permanently, in charge of the National Agricultural School in Chimaltenango. He will probably come about July 1st. Muller has had three years' experience in Puerto Rico, eight in Brazil, and four in Venezuela. He stands well in his profession and is practical in his outlook. I believe his coming to Guatemala may prove highly advantageous from your standpoint (Cinchona) and remove the need of bringing someone down like Wellman. I sounded out Muller and he said he would be very glad to give some of his spare timetto studying Cinchona diseases; that he would not want any reimbursement except perhaps his travelling expenses when he went down to the Cinchona zone. He is keenly interested in all such problems and I believe can give us some real help. His being on the ground here permanently is a great advantage, since the diseases in which we are interested must be watched at all seasons of the year.

Now about another matter: Fritz has shown me a copy of Pennock's memorandum of 4 December, covering the program for research in connection with Cinchona culture. I have gone over this carefully and consider that it covers all the major points we have had in mind. In fact I think the program very good indeed. The job now is to push ahead vigorously and accumulate information just as rapidly as possible. So far, Pennock has not taken hold very energetically. I think we shall have to accept the fact that he is not a pusher, and simply give him time to produce some results in his own way. If he does produce results, even though they are slower in coming forth than we would like, we can feel satisfied. I still feel that he has good preparation for this job, and that he ought to be able to contribute much to the technical end of the work.

Here is a suggestion: It might assist in keeping major objectives in view, and it would certainly be valuable through assuring that all information acquired is saved for later use, if Pennock prepared a monthly report on progress, project by project. We always followed this practice in United Fruit, during the days when he had widely-scattered and extensive research work going on. I believe Pennock is already accustomed to this sort of thing, for they do it in Puerto Rico I am sure.

Probably we can bring up this matter when Mr Perkins is here next week.

I have neglected to thank you for the abundant supply of aspirin you sent down by Pennock. You were very generous. The matter is particularly in my mind at the moment, since we have just terminated the holiday season.

Best regards always,

Sincerely yours,

Main Office:
RAHWAY, N. J.

NEW YORK
161 Sixth Avenue

PHILADELPHIA
916 Parrish Street

ST. LOUIS
4528 So. Broadway

MERCK & CO.

INC.

MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK

Works
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

PLEASE REPLY TO
NEW YORK, N. Y.

February 13, 1941

Dr. Wilson Popenoe
c/o United Fruit Company
Havana, Cuba

Dear Dr. Popenoe:

We missed you and Mrs. Popenoe a lot after you had left Guatemala. I do hope you reached Cuba safely.

I am taking the liberty of sending you copies of the raft of stuff that I am shooting off to Fritz on cinchona as I hope you will want to know about it. I think you will be particularly interested in the various figures contained in the various reports which go along with this and which perhaps throw a little light, among other things, on the yield per acre. However, in the final analysis, the yield per acre will depend on conditions in Guatemala.

After you had left, Pete told us that he had cut down a succirubra tree which was not over 30 feet high, probably nearer 25, and certainly not over 4 inches in diameter, and that he had obtained eight pounds of dried bark from the tree - for whatever that is worth!

We had a good trip home and a particularly pleasant time in Haiti where we got hold of Thomas Fennell and had a long talk with him about cinchona cultivation in Haiti, to say nothing of having a good look at his orchids, some of which he said came from you. He told me of two areas in Haiti which certainly sounded possible for cinchona.

I am wondering if there is any possibility of you and Mrs. Popenoe's going by Haiti when you leave Cuba. If so it might be worthwhile to stop and look at these areas, which of course I did not have time to do. One reason I make the suggestion is that I have some doubts as to whether sufficient land will be readily available in Guatemala to take care of the production that the United States Government seems to want. I doubt if there are any Fruit boats that run to Haiti but if you find you could do it

Dr. Wilson Popenoe

- 2 -

February 13, 1941

it goes without saying that we would be more than glad to pay your expenses.

I do hope you are not going to be away from Guatemala too long and that next summer we can have a reunion in Guatemala.

My best as ever,

Sincerely yours,

George Perkins

GWP/ED

Main Office:
RAHWAY, N. J.

NEW YORK
161 Sixth Avenue

PHILADELPHIA
1649 N. Broad Street

ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK

Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

February 17, 1941

PLEASE REPLY TO
RAHWAY, N. J.

Dr. Willson Popenoe
c/o United Fruit Co.
Havana,
Cuba

Dear Dr. Popenoe:

Many thanks for your letter of February 6, 1941 from Havana.

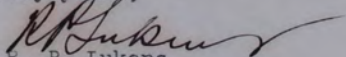
Mr. Perkins turned over to me your copy of the article on Cinchona by Dr. "Pizen", which I am returning attached, as well as a photostatic copy. I found the article interesting, but as you point out there is probably not a great deal contained in it.

Mr. Perkins gave me the additional copies of the photographs taken by you in October 1940, with the request that I return to you the unmarked copies which I have. I am returning these to you under separate cover.

As you can see from the attached letter to Fritz, we are having copies made of his inventory. I will send a copy of this to you for your records as soon as available.

If I can possibly do so, I am going to try to go down to Florida the latter part of February. Miami is not too far from Havana and I have considered flying over just to say "Hello", but I doubt whether this will actually happen.

Sincerely yours,


R. P. Lukens

RPL:CS

17 February 1941

George W Perkins Esq
161 Sixth Ave., New York City.

Dear Mr. Perkins:

On returning from the south coast of Cuba this noon I found your interesting letter of the 13th with numerous enclosures. I have not yet had time to study these, but will do so as soon as I can get a chance.

About Haiti: Tom Fennell has written me in some detail regarding the proposed Cinchona areas. I have been planning to drop in there some time this year and look them over with him. I doubt that I shall be able to when we finish here, as it seems most likely, at the moment, that I shall have to proceed to Washington with the rest of the agricultural survey party to talk over the results of our work. This would be about the first of April. After that I shall most likely come south again, and at the first opportunity I will take a look at the Haitian field. If necessary to go out of my beaten track I will charge up the expense to you as suggested.

From a hasty glance at the copies you sent me, I gather that things are going well in Guatemala. I have no idea, as yet, regarding the date of our return to that country but will probably know something by the time I come North in early April.

Best regards always.

Sincerely yours,

February 23, 1941.

Mr. George W. Perkins,
Merck & Co., Inc.,
Rahway, N.J.

Dear Mr. Perkins:

I acknowledge receipt of your interesting letter of February 14, 1941. Regarding this letter, I should like to bring up the following points:

(1) Re. the General Program, point # 3, in addition to the 50,000 *Succirubra* seeds to be sown each month, a substantial amount of *succirubra* seed has already been planted, and still more will be planted for the general grafting campaign of 1942.

Point 10, as you say, will probably be carried out in 1942, but the ground work for the experiment will be laid during 1941.

(2) As a compromise regarding the 15 acres which we talked about with Mr. Pennock, the following arrangement has been made; (You recall that the plan is during early 1941 completely to open up approximately 2 acres at 7000 ft.; 2 adjoining acres at 7000 ft. are to be opened up, but not so drastically.)

Of the 2 acres to be opened up completely at 7000 ft., 1 acre will be cleared according to the plans of Mr. Pennock. Roughly speaking, the area with which he will make his experiment at this altitude will be completely cleared, and then contour ditches will be placed. Mr. Pennock will also supervise the clearing of 1 of the approximately 2 acres to be completely cleared at 6000 ft., 5000 ft., and 4000 ft. in the same fashion.

In this way we should be able to make good general progress, and at the same time give Mr. Pennock opportunity to experiment with the type of clearing in which he is interested, and which may well give satisfactory results.

I enclose a note from Mr. Pennock explaining briefly this method of opening up.

Yesterday morning, Messrs. Pennock, Hoehn and I walked up to the 7000 ft. area, where Pennock explained to Hoehn exactly what his scheme amounts to. Hoehn grasped it at once, and the fullest co-operation and progress should result in this work.

I wish to report that thanks to the energy of Mr. Hoehn encouraging development is taking place on the 4 acres to be opened up at 7000 ft., and the similar area at 5000 ft. In addition, the clearing for the nursery area near "Loja" (to be irrigated by the pump) is also being pushed ahead, and about 5 of the roughly 8 acres that will be cleared, have been cleared.

We are at present giving serious consideration as to just how the nursery beds themselves in this region will be constructed. In all probability, several different types of beds will be constructed in this large area. We have not advanced far enough in nursery technique, it seems to me, definitely to say that such and such a type of bed is unquestionably superior to the others. Consideration here must be given to the material used in roofing, how drastically the leveling of ground should be conducted, the width of the beds, etc. Any sug-

gestions from you, Dr. Popenoe or Mr. Lukens regarding this phase of the work, are most welcome. The soundest plan to follow at this point, I feel, will be to construct some of these beds according to the ideas of Mr. Pennock, some of them according to Roehn's ideas, and the majority of beds according to Benitez's nursery experience.

(3) The Organization Meeting of the Cinchona group will take place on next Tuesday morning. I agree with you that these meetings may well be approached in a spirit of skepticism, but as they may serve to further the development of Cinchona in Guatemala, it is certainly up to us to do our part to help them along.

(4) Immediate attention will be given to the seed situation at Patzulin. Also to the Succirubra situation at Helvetia.

(5) The boiler will be efficiently protected against rust and weather by the expert Don Pancho Aires, and will be kept indefinitely at the finca.

(6) Re. the Building Program: I enclose 2 sketches of the old building where the present kitchen is located. Sketch (A) shows the building as it now stands; sketch (B) shows the building as it will be after the proposed changes have been made. You will note that in (B) 3 second-class bedrooms are to be placed in the store-room, leaving ample space in the back for a kitchen and second-class mess-room, if the future should demand these there. We have discovered that there is also space in the large old shower room for an additional second-class bedroom.

It is planned to make an addition to the small lamina-shielded building that contains the pila and the control room for the Pelton Wheel, in order to construct a room for tortilla-grinding and also a cool, protected space in which to store vegetables. This is not a very drastic move, but is, however, quite essential. I enclose a sketch of this proposed addition, made by Don Pancho.

We are planning to begin the reconstruction of the old building where the present kitchen is located next week. Please inform me if you have any objection to the proposed addition for tortilla-grinding etc. before we go ahead with this particular item.

The Old Stable is being cleaned out for a marketplace, and is being repaired only to the extent that it may not collapse. The old manure-pit and the roof over it have already been eliminated in order to widen the corner of the road at thatpoint.

The foundation of a modest school-house is being laid at present near the old stable. The school should be finished in about one month and a half.

We await the sketch of the facade of the church from you before we begin this construction.

Mr. and Mrs. Pennock have not yet decided about moving to the finca. By March 15th they expect to know. Naturally, if their decision is to come, we will commence the construction of the new house as soon as possible. If their decision is not to come, please inform me whether or not you want to go ahead and build another house anyway, according to the plan you made, on the theory that it will be useful someday. I enclose a more detailed development of your plan for this new house made by Don Pancho. He estimates the total cost of this particular house (including labor) would be \$2268.24.

(7) At the earliest opportunity, I will study the pictures you and I marked, and endeavor to straighten out the errors, sending up to you the 4 or 5 pictures with mistakes, after they have been corrected.

(8) Mr. Gibson has been out at the finca for the past few days, setting-up a more rigid control of Inventories etc. He will write to you all at Rahway, explaining this more in detail.

(9) This morning, Drs Johnson (of Chimaltenango) and Dr. C.W. Dodge called at Naranjo. I showed Dr. Dodge the seed-beds and nurseries, and gave him 6 Krukoff seedlings that show evidences of "leaf-spotting" to take along with him to study.

(10) I have read with great interest Samuel J. Cross' "Quinine, Production and Marketing". The following points found in this article are especially worthy of note, it seems to me, in their application to the problems that confront us in Guatemala:

A. Cross, p.5. At 4 ft. intervals, 4,500 plants may be planted per bouw. "The figure will naturally be lower on sharply sloping ground, when the terraces are more widely separated etc..."

At 4 ft. intervals we should be able theoretically to count on 2,723 trees per acre. From what I have seen of field plantings on virgin sloping ground, however, particularly after our experiences in the zone of Barillas, I think that we will have to count on a figure nearer 2,000 trees per acre, than 2,500. On virgin sloping ground, one is likely to lose a large number of prospective holes due to (1) Extreme steepness, and, (2) The large number of prospective planting holes that huge trees cover up when they fall.

B. Cross, p.6. "When the trees are removed for disease or other cause, it is not believed advisable to replace them with young plants, since this practice gives a nonhomogeneous layout, and in older plantations this opportunity is frequently seized to sow the resulting empty spaces with leguminosae in order to enrich the soil."

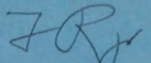
C. Cross, p.7. "The practice has also been recommended of harvesting once by cutting off at the stump and allowing the latter again to sprout. This method gives a large amount of bark, and if the trees are young the sprouts are usually healthy. On the other hand, the bark of the new sprouts is thin, an excessive proportion of the stumped trees dies, and the root bark is lost on the first harvest, so that this method is no longer applied, and at present harvesting is mainly carried out by rooting up the entire tree."

D. Cross, p.7. "It is calculated by specialists that a 4-year old *Ledgeriana* yields a total of 0.25 kilo of dry bark; an 8-year old tree gives about 4 kilos; a 15-year old tree 10 kilos; and a 25-year old tree 20 kilos. Some *ledgerianas* 45 years of age have given 70 kilos of dry bark. The root bark usually gives about half the weight of the trunk and branch combined, though under the most favorable conditions the roots may give as much as one-fifth of this figure."
 These points bring up again the question of quinine content in the *Succirubras* which we use for grafting.

E. Cross, p. 19. "Recent examination of Tanganyika bark shows that a locally produced ledgeriana-succirubra hybrid is equal in quinine content to the best ledgeriana bark of Javanese origin."

As you can imagine, I was very sorry indeed to hear that Father has been sick, and the trip has been called off.
With best regards to you and Mrs. Perkins,

Sincerely yours,



F. Rosengarten Jr.

Copy to Dr. Popenoe.

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street
ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK
Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

March 31, 1941

Dr. Wilson Popence
c/o United Fruit Co.,
1 Federal Street,
Boston, Mass.

PLEASE REPLY TO
RAHWAY, N. J.

Dear Dr. Popence:

Attached is miscellaneous correspondence with the plantation. I believe that you get a copy of Pennock's monthly reports, as well as copies of letters written by Fritz.

Any time that you have comments or criticisms to make about the research program outlined, please be assured that we would like very much to have them.

I note from your letter of March 3rd, written in Havana and addressed to Fritz, that you expect to be in the States, and I hope that at that time I will have a chance to see you.

Very truly yours,


R. P. Eukens

RPL:CS

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street
ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK
Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

April 8, 1941

PLEASE REPLY TO
RAHWAY, N. J.

Dr. Wilson Popenoe
c/ Cosmos Club
Washington, D. C.

Dear Dr. Popenoe:

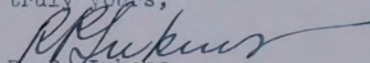
Many thanks for your letter of April 2, 1941. I was certainly glad to hear from you and knew from earlier correspondence that you were in the States but did not know exactly where.

I am glad that you agree that Los Andes is not the place for high yielding grafts. There is no doubt that as far as possible they should be kept at Naranjo.

Mr. Perkins has seen your letter and we are looking forward to seeing you during the first week in May. Although I do not know definitely I will try to go to Guatemala some time before Fritz returns to the States to be married. Fritz had suggested that the responsibility of the Plantation be turned over to Hoehn during his absence, but neither Mr. Perkins or I can see this and have given instructions that Mr. Pennock be left in charge during Fritz's absence.

With best regards to yourself and family, I am

Very truly yours,


R. P. Lukens

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street
ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK

Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

April 10, 1941

Dr. Wilson Popenoe
c/o Cosmos Club
Washington, D. C.

PLEASE REPLY TO
RAHWAY, N. J.

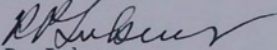
Dear Dr. Popenoe:

Just a line to acknowledge your letter
of April 9, 1941 and extend an invitation.

I note that you may be thru this way
next week and Mr. Perkins and I would like to have the
pleasure of showing you thru the Rahway plant. Will
this be possible? I expect to be in Montreal, Tuesday
and Wednesday, but will be back here the remainder of
the week.

Many thanks for the information con-
cerning the Puerto Rico plants. I will pass this along
to Guatemala.

Yours very truly,


R. P. Lukens

RPL:CS

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street
ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK
Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

April 23, 1941

PLEASE REPLY TO
RAHWAY, N. J.

Dr. Wilson Popenoe
c/o Cosmos Club
Washington, D. C.

Dear Dr. Popenoe:

While you are in the country and if you can possibly spare the time, we would like very much to have you look at the Cinchona seedlings which are in the Department of Agriculture Experiment Station. You know the ropes much better than I do and I assume the way to see these plants is thru Mr. B. Y. Morrison, who is the Principal Horticulturist in Charge of the Bureau of Plant Industry. From what you have told me at one time or another, I believe he is also an old friend of yours.

I have always avoided as far as Washington is concerned, making any direct reference to the source of the seeds sent to them. I have an idea, however, that they know where they came from.

There are with the Department of Agriculture at the present time, a large number of seedlings which were planted by them the last of February 1940. These should be ready to move. They represent Krukoff seeds of Series #100, 200, 300 and 500, and all were from trees assaying rather high, say 5% - 11%. Altogether we gave them about 100 samples. I have not seen the stock at all, and what percent germination they had I do not know. As we have so much material in Guatemala, it probably will not pay us to move all of this stock but select the seedlings that look the most promising. If possible I would like to look at these plants with you. If you could let me know where you are going to be at a certain time I would be glad to call you on the 'phone to see if we could make a definite appointment.

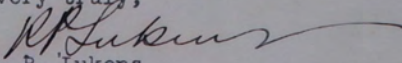
Dr. Wilson Popenoe

-2-

April 23, 1941

I note from your recent letter that you expect to be in New York on May 4th, and I am looking forward with pleasure to seeing you.

Yours very truly,


R. P. Lukens

RPL:CS

Dr. Popence

Finca El Naranjo,
May 8, 1941.

Mr. George W. Perkins,
Merck & Co., Inc.,
Rahway, N. J.

Dear Mr. Perkins:

Before leaving Guatemala the end of this month, I should like to make a brief review of the progress made during the last year in the Cinchona Project.

In March, 1940, things were in a pretty bad mess, as whatever program we had was not being pushed by our employees in Guatemala at that time, as you recall only too well.

Then, when Dr. Krukoff came down, he started things moving in very praiseworthy fashion.

In May 1940, Dr. Popence replaced Mr. Armstrong, and we really started to go ahead. The value of the work accomplished between May and September 1940 cannot be overestimated. He orientated the whole project including our general aims to such a degree that when he departed, all I had to do was to try to carry on where he left off.

The next move of value was the elimination of Franke as Administrator, and the obtaining of Hoehn.

Dr. Popence pointed out before he left in September 1940 that the project had received so many violent changes in personnel during that year, that the best thing to do was to get onto solid ground and push ahead for awhile without any more violent alterations in our program, and set-up.

Since Dr. Popence left, I have endeavored to get us onto solid ground, and have done my best to get the set-up working smoothly with which you are familiar. That is, having Benitez handle the seed-bed and nursery work, while Hoehn takes care of the opening up of field areas.

Benitez's seed-bed and nursery work is perfectly magnificent, and is so sound, practically speaking, that it is indeed a difficult task to try and improve it along theoretical lines. For example, Benitez has supervised the transplanting of 348,000 Krukoff seedlings to the "Lower Nursery" up to the present time, with an estimated loss of 5% (or less) of these plants to date.

Hoehn is doing a fine, energetic job of opening up the field areas.

Thus in the years to come, we should have a very sound combination, from the commercial point of view, that is, Benitez developing the plants in the seed-beds and nurseries and feeding them to Hoehn to be planted out in the field.

By the way, I don't really think we could hope for a better man than Hoehn as Administrator of El Naranjo, as he combines knowledge of the neighborhood and country, horticultural experience, enthusiasm, energy, and is essentially a very sound fellow and fine character.

What I am getting at is this: after quite a struggle over a period of time, I personally feel that we are getting some- place. I would hate to see anything occur to upset the combination noted above, which really needs very little help on anybody's part except increased cooperation and encouragement.

So I hope that while I am away from Guatemala, as few changes as possible be made in the general situation at El Naranjo, and the moral of the whole set-up be disturbed as little as possible.

Following up this line of thought, I would like to suggest that Dr. Krukoff's visit to Guatemala be postponed until I return, if this is conveniently possible. His suggestions would be most valuable at Naranjo, I am sure, but I personally would like to be here to discuss them with him, and interpret them to our employees.

As I told you when you were in Guatemala in January, I myself do not wish to take credit for the way we seem to be going along now. That should go to Dr. Popence, Hoehn and above all Benitez. But I do feel that I can be useful for a while to keep the apple-cart from getting upset.

With best regards,

Sincerely,

F. Rosengarten Jr.

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
916 Parrish Street
ST. LOUIS
4528 So. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK
Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

PLEASE REPLY TO
NEW YORK

May 16, 1941

Dr. Wilson Popenoe
c/o Mrs. K. M. Bowman
414 East 52nd Street
New York, N. Y.

Dear Dr. Popenoe:

The enclosed letter may, I think,
be of interest to you.

Sincerely yours,

George Penh

GWP/ED

encl.

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street
ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK
Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

May 29, 1941

PLEASE REPLY TO
RAHWAY, N. J.

Dr. Wilson Popenoe
c/o Magdalena Fruit Co.
Santa Marta
Columbia, S. A.

Dear Dr. Popenoe:

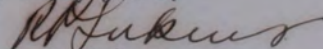
Fritz and I arrived back safely in the States this morning and saw Mr. Perkins for just a few minutes. We are planning to discuss Guatemala matters in detail with him on Friday, June 6th, and will probably have more to report after that time. Let me say, however, that in my opinion the progress made at the plantation has been excellent. Clearings are progressing rapidly as per the original schedule and our trees look very well. The Krukoff seedlings are developing into fine, strong plants and I would venture to predict that these are undoubtedly much stronger than the Ledger variety.

I am attaching some additional assays which I am sure you will find of interest. Some of the Zapote trees are showing a great deal of promise.

On the way back from the Finca I stopped at your house in Antigua and saw Maria. She seemed to be well, and everything about the place looked to be normal as far as I could see - in fact she said everything was fine. She sent her regards to you which I am passing along.

With very best regards, I am

Very truly yours,


R. P. Lukens

RPL:CS

enc.

5/13/41

CINCHONA BARK ASSAYS

<u>Sample No.</u>	<u>Gms. per sq. cm.</u>	<u>% Qui. Sulfate</u>	<u>% Cde. Sulf.</u>
H-24	0.14	7.2	0.8
H-75	0.15	5.6	0.8
H-84	0.125	3.9	0.3
H-135	0.08	8.6	1.0
H-152	0.16	(2.4% Qui. & Cde. Sulfate)	
H-162	0.17	6.3	0.9
H-165	0.15	4.5	1.2
H-167	0.16	8.6	0.8
H-180	0.15	(2.3% Qui. & Cde. Sulfate)	
H-184	0.115	7.0	0.5
H-191	0.13	6.8	0.3
H-193	0.115	7.2	1.6
H-195	0.115	7.7	1.2
H-260	0.13	3.2	0.2
H-314	0.16	3.9	0.5
H-316	0.115	4.6	0.5
H-339	0.14	5.4	1.3
H-359	0.13	(3.0% Qui. & Cde. Sulfate)	

<u>Sample No.</u>	<u>Gms. per sq. cm.</u>	<u>% Qui. Sulfate</u>	<u>% Cde. Sulfate</u>
H-369	0.13	5.2	0.3
H-370	0.14	6.8	0.9
H-373	0.15	5.1	0.7
H-410	0.14	2.0	2.0
H-411	0.16	5.4	0.7
H-414	0.16	6.0	0.7
H-431	0.15	(2.6% Qui. & Cde. Sulfate)	
H-433	0.15	8.1	1.2
H-453	0.16	5.0	0.3
H-458	0.16	10.4	0.5
H-459	0.16	4.1	0.6
H-463	1.0	4.3	1.1
H-464	0.14	6.4	1.0
H-465	0.14	10.6	0.5
H-479	0.15	(2.9% Qui. & Cde. Sulfate)	
H-480	0.17	4.1	1.4
H-482	0.13	(4.5% Qui. & Cde. Sulfate)	
H-486	.06	(3% Qui. & Cde. Sulfate)	

5/17/41

CINCHONA BARK ASSAYS

<u>Sample Number</u>	<u>Gms. per cm.²</u>	<u>% Quinine Sulfate</u>	<u>% Cde. Sulfate</u>
H-491	0.15	(4.5% Qui. & Cde. Sulfate)	
H-499	0.13	7.3	2.2
H-500	0.15	7.2	1.8
H-508	0.15	(2.3% Qui. & Cde. Sulfate)	
H-513	0.14	(3.4% Qui. & Cde. Sulfate)	
H-515	0.17	4.4	0.5
H-516	0.103	(1.6% Qui. & Cde. Sulfate)	
H-518	0.13	(1.3% Qui. & Cde. Sulfate)	
H-522	0.17	3.8	0.7
H-524	0.12	(3.7% Qui. & Cde. Sulfate)	
H-540	0.17	8.0	1.1
H-550	0.16	6.8	0.5
H-555	0.16	10.9	0.3
H-561	0.15	(3.6% Qui. & Cde. Sulfate)	
H-598	0.14	8.4	0.8
H-603	0.16	(3.5% Qui. & Cde. Sulfate)	
H-630	0.103	5.0	1.6
H-640	0.14	6.3	3.3

5/20/41

CINCHONA BARK ASSAYS

<u>Sample Number</u>	<u>Gms. per cm.²</u>	<u>% Quinine Sulfate</u>	<u>% Cde. Sulfate</u>
H-641	0.15	9.7	1.5
H-656	0.11	6.9	0.53
H-663	0.16	6.6	0.5
H-664	0.11	7.6	1.7
H-675	0.14	4.7	0.7
H-681	0.11	7.9	0.9
H-682	0.15	(7.2% Qui. & Cde. Sulfate) (Accident in polarization)	
H-686	0.15	(4.3% Qui. & Cde. Sulfate) (Accident in polarization)	
H-690	0.14	8.6	1.3
H-697	0.16	5.6	0.8
Z-Rey	0.3	7.6	3.1
Z-Rey Shoot	0.1	5.4	3.2
Z-Y-G	0.11	(2.6% Qui. & Cde. Sulfate)	
Z-244-G	0.11	5.3	0.9
Z-655	0.14	10.4	1.2
Z-656	0.16	(5.7% Qui. & Cde. Sulfate)	
Z-657	0.15	6.3	0.9
Z-658	0.12	8.2	1.3

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street
ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK

Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

May 29, 1941

Mr. William B. Pennock
Finca El Naranjo
Chicacao, Such.
Guatemala, C. A.

PLEASE REPLY TO
RAHWAY, N. J.

Dear Mr. Pennock:

Fritz and I arrived safely back in the States early this morning after an uneventful trip.

While we were enroute Miss Schubert, my secretary, sent an additional lot of bark assays to Guatemala. These were addressed to Fritz at the plantation. A copy was also sent to his Postoffice box (No. 284) in Guatemala City.

The report with the letter of May 21st covers 36 additional samples. Some of the Helvetia samples are particularly interesting. Others are of little value, at least as far as the present sample is concerned. I would like to call attention to some of the Zapote samples, viz. Z-655 and Z-658. These look like particularly good trees. If tree H-682 is large enough it should be resampled, as an accident occurred during the assay and there was not sufficient sample left to repeat.

I am also attaching another list of 36 assays, largely from Zapote. Some explanation is needed on these. In a few cases like Z-680, Z-681 and Z-682, the bark samples were too small to determine the Quinine and Cinchonidine separately, and all we can do is to give a total content. These trees are of interest and should be marked for future sampling, as soon as the trees will stand it. In some of these cases we had but 5 grams of bark and that is not sufficient. You will find in looking over the correspondence that we have asked for not less than 1/2 oz. and that in any case if the tree is extremely small a positive minimum is 1/3 oz.

The above is true of P-405. The tree is of interest but there was not sufficient sample to determine the Quinine and Cinchonidine separately.

Mr. William B. Pennock

-2-

May 29, 1941

I certainly hope that affairs at the plantation go along smoothly and I see no reason why they should not. You are quite familiar with the work by this time and of course a very **detailed** program was also left with you. Should you need any assistance that we might be able to give you, do not hesitate to write or cable as the case indicates.

Yours very truly,

R. P. *M*adkens

RPL:CS

cc Mr. Perkins ✓
Mr. Rosengarten
Dr. Popenoe ✓

May 24, 1941

CINCHONA BARK ASSAYS

<u>Sample No.</u>	<u>Gms. per cm²</u>	<u>% Quinine Sulfate</u>	<u>% Cde. Sulfate</u>
Z-659	0.16	7.4	0.8
Z-660	0.25	(2.4% Qui. & Cde. Sulfate)	
Z-661	0.14	9.1	0.9
Z-662	0.09	7.8	1.4
Z-663	0.10	7.0	0.5
Z-664	0.14	7.7	0.3
Z-665	0.05	(3.5% Qui. & Cde. Sulfate)	
Z-666	0.14	5.0	1.0
Z-667	0.06	(4.9% Qui. & Cde. Sulfate)	
Z-668	0.12	(4.6% Qui. & Cde. Sulfate)	
Z-669	0.09	(2.3% Qui. & Cde. Sulfate)	
Z-670	0.15	6.0	---
Z-671	0.11	5.5	0.6
Z-672	0.11	(3.6% Qui. & Cde. Sulfate)	
Z-673	0.06	8.9	1.8
Z-674	0.08	7.7	0.8
Z-675	0.11	5.3	0.7
Z-676	0.06	5.5	2.2

5/27/41

CINCHONA BARK ASSAYS

<u>Sample No.</u>	<u>Gms. per cm²</u>	<u>% Quinine Sulfate</u>	<u>% Cde. Sulfate</u>
Z-677	0.06	(2.5% Qui. & Cde. Sulfate)	
Z-678	0.07	7.4	.003
Z-679	0.12	(4.0% Qui. & Cde. Sulfate)	
Z-680	0.06	(6.3% Qui. & Cde. Sulfate)	
Z-681	0.06	(9.3% Qui. & Cde. Sulfate)	
Z-682	0.06	(6.8% Qui. & Cde. Sulfate)	
Z-683	0.14	7.6	1.8
Z-684	0.01	(4.8% Qui. & Cde. Sulfate)	
Z-685	0.16	(4.5% Qui. & Cde. Sulfate)	
P-9	0.06	5.9	1.8
P-400	0.06	(3.6% Qui. & Cde. Sulfate)	
P-401	0.045	(5.9% Qui. & Cde. Sulfate)	
P-403	0.06	8.6	1.0
P-405	0.06	(7.5% Qui. & Cde. Sulfate)	
P-407	0.01	5.4	1.2
H-73-G	0.01	(.3% Qui. & Cde. Sulfate)	
H-75-G	0.14	(3.3% Qui. & Cde. Sulfate)	
H-92-G	0.01	8.5	1.5

Magdalena Fruit Co.,
Santa Marta, Colombia, 4 June 1941

R P Lukens Esq.,
Merck and Co.,
Rahway, N J

Dear Mr. Lukens:

Many thanks for your letter of the 29th ultimo. I am glad to hear that you were so favorably impressed with what you saw at Naranjo. And aren't the bark analyses from Zapote interesting! It seems to me the whole situation down there in Guatemala is shaping up very satisfactorily.

I am inclined to suspect some of the Helvetia samples may be showing low quinine contents because the trees are still small. Another couple of years may make a big difference with some of the trees.

I wrote Fritz the other day, telling him how favorably I was impressed by my discussion with Dr Krukoff. It seems to me it would be highly advantageous if he could come down to Guatemala for a couple of weeks before the end of the present year. We discussed a good many of the operations which are going on at Naranjo, or will be going on before long, and I found that he and I were in agreement in practically every case. This does not mean that we are right, of course. But he shows such a keen interest in the practical aspects of the problem that I think it would be highly useful to have his comments right there on the ground. For example, the matter of digging holes for planting the trees in the field. He feels as I do, that the less we can disturb the soil the better.

The main thing I got out of him, however, was a much clearer conception than I have had previously, regarding the different

attributes of bark in South America and their relative values.

When he sees his seedlings at Naranjo I think he can give us some very interesting tips as to how they are likely to turn out. As I have told Fritz, I greatly hope I can be in Guatemala when Krukoff comes; but of course this is a selfish interest and he should not take me into account when planning his trip. But the way things look here, I shall probably be going back to Honduras and Guatemala by early September, and I don't think he is likely to be coming before that time.

Helen and I were glad to hear that you dropped in at the house and found things looking well. Old Maria seems to carry on mighty faithfully.

Best regards always.

Sincerely,

Main Office:
RAHWAY, N.J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
916 Parrish Street
ST. LOUIS
4528 So. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK
Works:
RAHWAY, N.J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

PLEASE REPLY TO
NEW YORK

June 11, 1941

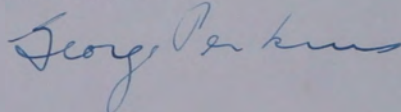
Dr. Wilson Popenoe
Magdalena Fruit Company
Santa Marta, Colombia, S.A.

Dear Dr. Popenoe:

Your letter to Fritz has just come in with the interesting data from Muller, which I am sending along to Fritz. I don't believe Fritz will pay much attention to it for a little while to come, however. The wedding is next week. However, we have a date for a session with him before he goes back to Guatemala in July and we will try to catch up on some of these things then.

My best as ever,

Sincerely yours,



GWP/ED

Copy to Mr. Lukens

Main Office:
RAHWAY, N. J.

NEW YORK
161 Sixth Avenue

PHILADELPHIA
1649 N. Broad Street

ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK

Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

June 12, 1941

PLEASE REPLY TO
RAHWAY, N. J.

Dr. Wilson Popenoe
c/o Magdalena Fruit Co.
Santa Marta
Columbia, S. A.

Dear Dr. Popenoe:

Receipt is acknowledged of your letter of June 4, 1941. We are in agreement with your suggestion that it would be a good idea to have Dr. Krukoff come to Guatemala this Fall, and perhaps it can be arranged to have him there while you are in the country. No definite arrangements have been made to this end, but we will certainly try to make this possible.

When you were in Rahway the first part of May you spoke of the possibility of having some seeds sent to Columbia for distribution there. I am sending you, under separate cover by air express, a few grams of Ledger seeds. This is Coban stock and came from a tree assaying 7.6%.

Mr. Perkins, Fritz and I had a long talk on Friday, June 6th, concerning our program at Naranjo, and I am attaching a copy of my notes made at the meeting, which I think you will find of interest. The list of Pincas referred to under "3" was obtained by Hoehn and includes about 12 parcels lying between Naranjo and Zunil. Some of them are made up of virgin lands ranging from 4000 to 6000 feet in elevation, and in size from 300 to 1000 acres. Some of them may be of interest to us, and it would be a fine thing to have your expert opinion as to their value.

Mr. Pennock told me that he would send you copies of his progress report. I now have March and April reports from him and when you get a chance to read these, I would like to have your opinion of the work he is doing. As you well know research work of this kind is extremely slow and I am not at all discouraged about the results that Pennock may obtain, and although I am sure that he is not the man to head up the entire project in Guatemala he may be able to obtain something of value to the Cinchona project

Dr. Wilson Popenoe

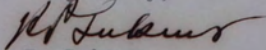
-2-

June 12, 1941

from the work he is doing.

Attached also find additional assays of Zapote samples. ~~Two~~ ^{Three} of these are extremely high for this type of Cinchona.

Yours very truly,


R. P. Lukens

RPL:CS

enc.

P. S. Since writing the above I have obtained more assays of the trees in Guatemala. I am attaching copies of these assays. Some are very good and it is to be noted that the general average is quite high.

June 9, 1941

Quinine conference between Messrs. Perkins,
Rosengarten and Lukens held Friday, June 6, 1941.

The following problems were discussed and decisions reached as follows:

1. Shade at Naranjo.

It was agreed that except in experimental areas the large trees are to be taken out both in the virgin area and in the cafetal. Small shade is to remain until conditions warrant its removal.

2. Additional nursery land.

Mr. Rosengarten, on his return to Guatemala, will take up thru Mr. Sanchez the possibility of obtaining approximately 10 acres from Esterlina, immediately below Naranjo. No definite commitments are to be made until the matter is further discussed with Rahway.

3. Land for additional field positions.

Reference is made to the list of Fincas submitted by Roehn dated May 22, 1941. It was agreed that Messrs. Rosengarten, Rock and Benitez would make a preliminary survey of these in order to determine which seem desirable. Provided some look very attractive an effort will be made to have Dr. Popenoe look these over this Fall.

4. Some time between now and the time Mr. Rosengarten leaves for Guatemala in July, another conference will be held in order to clarify the research program.

5. Grafting.

We will attempt to graft a minimum of 50,000 plants per year, bearing in mind that we will eventually probably need to graft 100,000 plants per year.

6. It was agreed to set aside 50,000 Krukoff seedlings for distribution to other locations for experimental planting, and in order to have some plants which can be given to those capable of raising them.

The question came up of the possibility of selling the plants. It seems doubtful whether this

Quinine Conference

June 9, 1941

can be done. Mr. Rosengarten, however, is to make an estimate of what the plants cost.

7. It was agreed that we should continue to plant Ledger seeds and attempt to raise a minimum of 200,000 seedlings per year.

8. We will open up sufficient areas to take care of all of the Krukoff material now on hand and at Neranjo.

9. As a guide to the number of trees that may be needed per year, we will require approximately 2,000,000 ozs. of Quinine Sulfate per year under normal conditions.

cc Mr. Perkins
Mr. Rosengarten

6/6/41

CINCHONA BARK ASSAYS

<u>Sample No.</u>	<u>Gms. per cm²</u>	<u>% Quinine Sulfate</u>	<u>% Cde. Sulfate</u>
Z-687	0.07	1.6	5.2
Z-688	0.05	(5.5% Qui. & Cde. Sulfate)	
Z-689	0.1	2.7	5.7
Z-690	0.07	(5% Qui. & Cde. Sulfate)	
Z-691	0.05	2.4	8.0
Z-692	0.05	(5.6% Qui. & Cde. Sulfate)	
Z-693	0.1	4.9	3.4
Z-694	0.06	2.9	4.4
Z-695	0.07	3.2	3.8
Z-696	0.06	3.9	3.6
Z-697	0.1	7.0	1.05
Z-698	0.07	6.1	3.4
Z-699	0.06	5.6	2.2
Z-700	0.1	8.2	1.5
Z-701	0.06	4.25	5.0
Z-702	0.06	3.1	6.6
Z-703	0.09	8.2	3.4
Z-704	0.06	3.6	6.0
Z-705	0.06	4.08	3.8
Z-706	0.07	(4.2% Qui. & Cde. Sulfate)	
Z-707	0.06	3.3	3.6
Z-708	0.07	9.4	4.3
Z-Rey-G (1)	0.06	6.2	2.0
Z-Rey-G (2)	0.04	4.02	3.1
Z-Rey-G (3)	0.06	4.05	4.5

6/9/41

CINCHONA BARK ASSAYS

<u>Sample No.</u>	<u>Gms. per Cm²</u>	<u>% Quinine Sulfate</u>	<u>% Cde. Sulfate</u>
Moca 7	0.17	13.5	0.7
M-10	0.11	5.05	0.7
M-13	0.11	4.7	0.6
M-15	0.11	6.0	0.9
M-16	0.17	4.3	0.6
M-17	0.16	10.96	1.0
H-703	0.07	8.6	0.9
H-718	0.13	10.2	1.1
H-722	0.07	13.6	0.1
H-724	0.11	5.6	1.7
H-742	0.14	(4% Qui. & Cde. Sulfate)	
H-757	0.13	8.8	0.1
H-762	0.08	8.03	0.13
H-770	0.13	7.0	---
H-771	0.14	9.6	0.7
H-776	0.13	8.7	0.8
H-778	0.16	9.8	1.1
H-780	0.14	10.3	0.14

6/11/41

CINCHONA BARK ASSAYS

<u>Sample No.</u>	<u>Gms. per cm²</u>	<u>% Quinine Sulfate</u>	<u>% Cde. Sulfate</u>
H-781	0.11	9.3	0.5
H-786	0.13	6.2	0.7
H-788	0.11	8.0	0.7
H-789	0.16	6.1	0.8
H-790	0.11	8.04	0.5
H-791	0.11	9.6	0.6
H-798	0.13	6.9	0.4
H-801	0.11	9.0	0.8
H-805	0.11	8.2	1.1
H-806	0.17	5.04	0.4
H-808	0.16	7.1	0.4
H-814	0.16	10.1	0.9
H-815	0.15	10.5	1.2
H-819	0.16	10.0	0.7
H-821	0.13	6.6	0.72
H-830	0.10	7.2	0.83
H-832	0.12	8.2	0.8
H-839	0.12	9.2	0.8

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street
ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK

Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

June 13, 1941

Dr. Wilson Popence
c/o Magdalena Fruit Co.
Santa Marta
Columbia, S. A.

PLEASE REPLY TO
RAHWAY, N. J.

Dear Dr. Popence:

In a recent letter I referred to Mr. Pennock's reports covering the work he is doing at the plantation. I understood at the time that Mr. Pennock was sending these to you directly. He has sent them to me, however, and attached copies are for your files.

Yours very truly,

R. E. Lukens
R. E. Lukens

RPL:CS

enc.

Magdalena Fruit Co.,
Santa Marta, Colombia,
17 June 1941

Mr R P Lukens,
Merck and Co.,
Rahway, N J

Dear Mr Lukens:

Very many thanks for your interesting letter of the 13th with enclosures. The bark assays continue to be extremely satisfactory, dont they? Some of them are really surprising.

I am leaving tomorrow for Bogotá and will try to arrange things here so that the Ledger seeds you speak of sending will be forwarded to me up there. I am probably going over to the Cauca valley and would like to start a small nursery at one of the experiment stations. I am rather afraid there is no one locally who can do a very good job on handling Cinchona seedlings but they can learn; and this may give us an opportunity to get them started. I will report to you later.

When I get back to Guatemala I shall be happy to look over the fincas you have lined up between Naranjo and Zunil. It looks as though Hoelm is going to be very helpful in finding further suitable lands, just as he is proving to be in other matters.

Thanks for arranging to have Pennock send me copies of his progress reports. I read the ones you let me have in New York (and left them with Krukoff to be returned to you, since I forget to give them to Mr. Perkins); I thought they were quite satisfactory on the whole. I feel as you do, that any work Pennock does will be a definite contribution to the project and I am still hopeful that he will dig in deeply in the long run and make good from every standpoint.

The memorandum covering the conference held on June 6th is most interesting. I had discussed the matter covered in point 1 - removal of forest cover before planting - with Krukoff when I had my talk with him in N Y, and he agrees that we should cut out all timber before planting. Personally I would cut out all large timber now, as you are doing, and see how things stack up at planting time, cutting out the remaining trees either then, or if it seems feasible, shortly afterwards; for I am inclined to think, if the young plants are well hardened off in nursery, it would be well not to accustom them again to shade.

When grafting is under way, I strongly recommend that the boys make some extensive trials of waxed paper sleeves placed around the grafts, and tied above and below, to retard drying out of the scions; and I think it would also be interesting to try on a smaller scale wrapping moss around the scions and tying it in place, with the same object. We have found the waxed paper sleeves essential in grafting mangos. Jorge knows all about it as he used to do it for me in Honduras. This is a little extra trouble but if it results in saving a higher percentage of grafts it would at least be worth while to do it on some of the choicer stuff such as the 13% trees.

I expect to return to Santa Marta in early July and to remain here the rest of that month and probably into August.

We shall be thinking of Fritz and Mariam tomorrow, and wishing them all sorts of luck in the future.

Best regards always,

Sincerely yours,

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street
ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK

Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

June 19, 1941

PLEASE REPLY TO
RAHWAY, N. J.

Dr. Wilson Popenoe
c/o Magdalena Fruit Co.
Santa Marta
Columbia, S. A.

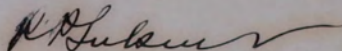
Dear Doctor Popenoe:

You will be very much interested in the attached letter from Mr. Pennock. After you have noted, will you kindly return it to me. Any suggestions that you may have for combating the fungus growth will certainly be appreciated.

There is one thing I am delighted to see, even though we are losing quite a few plants - that Pennock is showing initiative in trying to combat the disease.

With best regards,

Sincerely yours,



R. P. Lukens

RPL:DLC
Enc.

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street
ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK
Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

June 27, 1941

Dr. Wilson Popenoe
Magdalena Fruit Co.
Santa Marta,
Colombia, S. A.

PLEASE REPLY TO
RAHWAY, N. J.

Dear Dr. Popenoe:

Many thanks for your letter of June 17th.

Your suggestions concerning grafting experiments have been passed along to Mr. Pennock. I am sure that he will carry them out as you have outlined.

Attached you will find correspondence and additional assays.

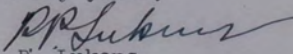
For your information I am enclosing letter from Mr. Pennock dated June 20, 1941, as well as Capt. June's letter of June 10th. Will you please return these to my files after you have noted contents.

We are all very much pleased with the quick action Mr. Pennock took in order to combat the fungus disease, and I think he has done everything humanly possible.

Do you know anything about the so-called "Iso-quina" referred to in the first paragraph on the third page of Mr. Pennock's letter?

With best regards,

Very truly yours,


R. F. Lukens

RPL:CS

June 27, 1941

Mr. William B. Pennock
Finca El Naranjo
Chicacao, Such.
Guatemala, C. A.

Dear Mr. Pennock:

With regard to Vitapane, please be advised that the shipment of two rolls left New York, Thursday, June 26th, 1941, on the Antigua, and should, therefore, be in Barrios the first of the week. We have given instructions to air mail the papers to Mr. Gibson, so that there should be no holdup on this account.

I have read with interest your recent letters, as follows: One dated June 6th, which was a memo. to all those cooperating with us in growing Cinchona. I appreciate very much the very active measures you have taken to combat this fungus disease as soon as possible.

I also have your letter of June 20th. In the second paragraph of your letter you speak about the Pito seeds from a particular tree at Naranjo. I will advise Research that seeds will not be available until next spring, and would suggest that the botanical samples be held until that time.

I am glad that you are keeping in touch with Dr. Dodge because I feel that he can be of real help to us on Cinchona diseases.

To date I have not received the bark samples referred to, but will have them assayed as soon as they arrive. Capt. June's memo. dated June 10th concerning Succirubra bark from Honduras in which he refers to 6.8% alkaloids, is probably total alkaloids, which no doubt means that the Quinine content is low. Nevertheless we will examine the sample and report to you when it arrives.

I had a letter from Dr. Popence recently and I quote from his letter as follows:

June 27, 1941


"When grafting is under way, I strongly recommend that the boys make some extensive trials of waxed paper sleeves placed around the grafts, and tied above and below, to retard drying out of the scions; and I think it would also be interesting to try on a smaller scale wrapping moss around the scions and tying it in place, with the same object. We have found the waxed paper sleeves essential in grafting mangos. Jorge knows all about it as he used to do it for me in Honduras. This is a little extra trouble but if it results in saving a higher percentage of grafts it would at least be worth while to do it on some of the choicer stuff such as the 13% trees."

Please find attached additional Cinchona bark assays. These are all Helvetia samples and some of them are exceptionally good. Mr. Gordon Smith has asked to receive copies of all assays and we are perfectly willing to give them to him. I believe he is on his way to Guatemala now and is probably on the Antigua which left here yesterday so that mail sent to Moca will get in his hands. We are attaching three copies of these assays.

We note on the third page of your letter the reference made to "Iso-quina". We would like to make it a practice not to examine any more samples of drugs unless the supplier will furnish botanical samples for identification. The plant may be of interest so that I would suggest to ask Mr. Raf. Moreira Latour for botanical samples as well.

With best regards,

Very truly yours,


R. P. Lukens

RPL:CS

cc Mr. Perkins
Dr. Popenoe ✓
Mr. Rosengarten

June 25, 1941

CINCHONA BARK ASSAYS

<u>Sample No.</u>	<u>Gms. per Cm²</u>	<u>% Quinine Sulfate</u>	<u>% Cde. Sulfate</u>
H-946	0.15	6.7	2.8
H-951	0.16	7.6	0.3
H-952	0.17	11.6	0.4
H-954	0.16	8.3	0.7
H-955	0.12	7.0	0.6
H-960	0.13	6.6	0.5
H-962	0.12	7.8	0.5
H-963	0.13	8.5	0.9
H-965	0.14	9.5	0.9
H-968	0.23	9.1	0.9
H-970	0.16	7.0	0.6
H-975	0.14	8.4	0.6
H-976	0.16	8.5	0.9
H-977	0.13	5.1	0.9
H-979	0.13	8.0	0.5
H-980	0.12	11.6	0.5
H-984	0.14	6.1	0.7
H-985	0.12	6.8	2.2

June 25, 1941

CINCHONA BARK ASSAY

<u>Sample No.</u>	<u>Gms. per cm²</u>	<u>% Quinine Sulfate</u>	<u>% Cde. Sulfate</u>
H-988	0.15	7.0	1.0
H-989	0.18	8.2	0.5
H-993	0.17	7.1	2.0
H-994	0.14	8.6	0.6
H-999	0.12	9.0	0.8
H-1002	0.13	4.6	0.7
H-1014	0.14	11.4	1.1
H-1016	0.15	12.7	0.8
H-1024	0.16	9.7	0.9
H-1025	0.12	9.7	0.7
H-1028	0.16	8.0	1.0
H-1029	0.13	8.5	0.7
H-1030	0.12	8.0	0.5
H-1032	0.14	7.6	0.5
H-1036	0.17	(2.3% Qui. & Cde. Sulfate)	
H-1037	0.15	8.5	1.1
H-1052	0.13	6.0	1.1
H-1069	0.12	6.5	0.4

COPY

cc Mr. Perkins

July 10, 1941

Mr. L. A. Barber
Consumption Materials Unit
Bureau of Foreign and Domestic Commerce
Department of Commerce
Washington, D. C.

Dear Mr. Barber: Your ref. 45

It is our pleasure now to report to you the results of our analysis of the three samples of totaquina, referred to in your letter of June 26th.

- #1. Totaquina "Panquinol" P. 1 - Laboratorios Colombianos de Quinica Industrial "Locolquina", S. A.
contains: anhydrous Quinine Alkaloid, 7.6% corresponding to 9.2% Quinine Sulfate U.S.P. XI
anhydrous Cinchonidine Alkaloid, 27.9% corresponding to 35.2% Cinchonidine Sulfate
Other Cinchona Alkaloids (chiefly Cinchonine) 34.4%.
- #2. Totaquina - Laboratorios Locolquina, Bogota, Colombia.
contains: anhydrous Quinine Alkaloid, 5.5% corresponding to 6.7% Quinine Sulfate U.S.P. XI
anhydrous Cinchonidine Alkaloid, 19.5% corresponding to 24.6% Cinchonidine Sulfate
Other Cinchona Alkaloids (chiefly Cinchonine) 26.0%
- #3. Totaquina - Instituto Nacional de Higiene, Samper-Martinez, Bogota, Colombia.
contains: anhydrous Quinine Alkaloid, 4.1% corresponding to 5.0% Quinine Sulfate U. S. P. XI
anhydrous Cinchonidine Sulfate, 14.9% corresponding to 18.3% Cinchonidine Sulfate
Other Cinchona Alkaloids (chiefly Cinchonine) 26.5%

Very truly yours,

MERCK & CO. INC.

JR:EP

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street
ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK

Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

July 14, 1941

Dr. Wilson Popenoe
c/o Magdalena Fruit Co.
Santa Marta
Colombia, S. A.

PLEASE REPLY TO
RAHWAY, N. J.

Dear Dr. Popenoe:

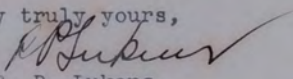
You will be interested in the attached letter from the Director of Agriculture in Jamaica. You will remember that we sent them some of the South American seeds. This letter is in response to my inquiry as to what success they had in growing Cinchona. We have written to all the others to whom we sent seeds and hope to hear from them shortly.

Fritz left with his bride on Saturday, July 12th, to return to Naranjo. He is driving down - at least part of the way - and I assume will be back at the plantation towards the end of the month. Before he left, Mr. Perkins, Fritz and I discussed the situation at Naranjo, and would like very much to arrange to have you and Dr. Krukoff in Guatemala some time this Fall. I do not know just what your plans are but thought that you may have some idea when you will be back there. If you could possibly let me know I would then make arrangements with Dr. Krukoff. The chances are that Mr. Perkins ^{and} I will try to be there at the same time.

Will you please return the Jamaica letter to me after noting contents.

With very best regards, I am

Very truly yours,


R. P. Lukens

RPL:CS

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street
ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK
Works:
RAHWAY, N. J.
PHILADELPHIA
In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

October 2, 1941

Dr. Wilson Popenoe
Antigua
Guatemala, C. A.

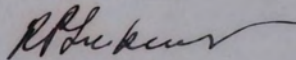
PLEASE REPLY TO
RAHWAY, N. J.

Dear Doctor Popenoe:

Your letter of September 9th, written from Ecuador, was received sometime ago. I delayed acknowledgment until we could crystallize our plans. You will note from the attached copy of a letter to Fritz what our plans are, and it may be that you will have received this letter before Fritz gets in touch with you. In any case, I sincerely hope that your plans will allow you to be with us the week of October 19th.

With best regards, I am,

Very truly yours,



R. P. Lukens

RFL:DLC

Enc.

October 2, 1941

Mr. Frederic Rosengarten, Jr.
Finca El Naranjo
Chicacao, Such.
Guatemala, C. A.

Dear Mr. Rosengarten:

I have a great deal of your correspondence to acknowledge, but first let me confirm the radio sent you yesterday, reading as follows:-

"Planting of stock in field position
on 5 foot centers approved."

Yesterday, I received the additional Cinchona samples. They will be assayed just as soon as possible. I hope I will be able to bring the results down with me.

Our plans for coming down have now reached the definite stage. Dr. Krukoff and I are coming down together and we plan to sail on the Toloa, leaving New Orleans on Wednesday, October 15th. I do not have a sailing schedule here but in any case she is due, I believe, to arrive in Barrios on the 18th. You can check this at the United Fruit Office in the city. Dr. Krukoff plans to spend about one week with us and then he is moving further south. My tentative plans contemplate catching a steamer leaving Barrios on November 2nd.

I do not know exactly where Dr. Popenoe is at this time and would like to leave in your hands the problem of arranging with him to be in Guatemala the week beginning October 19th. He told me in an earlier letter that he would be either in Guatemala or Honduras and that he could undoubtedly arrange to be in Guatemala at the time of our visit.

I am attaching an additional Trade Blacklist. As in the previous case, I would suggest that you consult with the American Legation if you have occasion to deal with anyone whose name appears on this list.

Mr. Frederic Rosengarten, Jr.
Guatemala, C. A.

Page 2
October 2, 1941

The Company has recently become interested in the possibility of raising *Ryania*. It is believed that there is not enough of the wild plant and that in order to obtain sufficient supplies, it will probably be necessary to cultivate. This is a lowland plant requiring a great deal of rainfall and we are of the opinion that the climate and soils of the Barrios area may be satisfactory. There may be a need of some 50 to 100 acres. Abandoned banana lands may prove satisfactory. Without commitment of any kind, will you please investigate the possibility of obtaining this quantity of land in the area in question and also get some idea of the price. You may have a chance to see Dr. Popenoe before we arrive, who can perhaps give you some ideas on the subject. We will discuss the problem further when I am in Guatemala.

Receipt is acknowledged of your letter of September 15th and I have ordered for direct shipment to you - 10 lbs. of ~~Recovered~~ Crop *Indigofera Endecaphylla*. When this will arrive is very much of a question.

The receipt of two letters, both dated September 22nd, is acknowledged. There is much in these that should be discussed in detail with you. The main question raised, however, is the one of planting distances and this has already been answered.

I am attaching for your information correspondence between Dr. Krukoff and Dr. Rodriguez of Costa Rica, which I believe needs no further explanation. We sent Dr. Rodriguez a small lot of Krukoff seeds sometime ago. I recently received a letter, dated September 4th, from him in which he advised that the greater part of the seeds did not germinate, but that he has a few hundred plants at this time. He asks me in this letter whether or not we could supply him with a small quantity of Ledger Seeds. I see no reason why this cannot be done and would suggest that you send them to him directly from down there. I will advise Dr. Rodriguez in my letter that this will be taken care of and for your information, I am attaching a translation of his recent letter to me.

I acknowledge also your letter of the 26th, in which you sent me a great deal of interesting data concerning the status of the Krukoff seeds and your plans for nursery and field planting. Here again there is much matter for discussion and we will go over this in detail on our contemplated visit.

I would like very much to check over with you the conclusion reached in your report that there is sufficient land for the next three or four years.

Mr. Frederic Rosengarten, Jr.
Guatemala, C. A.

Page 3
October 2, 1941

I am, With best regards to you and Mrs. Rosengarten,

Very truly yours,

R. P. Lukens

RPL:DLC

Enc.

cc - Mr. Perkins
Mr. Rosengarten, Jr.
Dr. Popenoe

September
26
1941

Mr. R. P. Lukens
Merck & Co., Inc.
Rahway, New Jersey

Dear Mr. Lukens:

Under a separate cover I am sending you a sample of bark of Cinchona species native to Costa Rica. The sample should be referred to as:

Rodriguez #15214 - Cinchona from Costa Rica.

You will note that the bark has obviously been obtained from a very young plant, and, therefore, it probably will be very low in quinine content. In due time please let me know the results of your analysis.

Herewith please find copies of my correspondence with Dr. Rodriguez. You will note that I am trying to obtain bark from the old tree as well as seeds as I think it would be quite interesting to try these out at El Naranjo.

Very truly yours,

B. A. Krukoff

Bak/Jd
Enclosures

cc - Mr. Perkins
Mr. Rosengarten, Jr.
Dr. ~~Bepence~~

Mr. Lukens

September
26
1941

Dr. J. V. Rodriguez, Director
Museo Nacional
San Jose, Costa Rica

Dear Dr. Rodriguez:

Acknowledgement is made of the receipt of your two letters, one dated August 5th (#175) and the other dated September 8th (#255).

The sample of bark of *Cinchona pubescens* reached my hands today. I am forwarding it for analysis and in due time I shall let you know the results obtained. I regret to advise you that I would not attach much significance to the content of quinine in such young material. It is well known that at such age the content is small, and it is our plantation practice never to bother analyzing such material.

I think it would be very interesting if you would make an attempt to obtain 200 grams or more of bark of some wild *Cinchona* trees of Costa Rica. We would be only too pleased to analyze this for you, and you would then be able to ascertain the approximate percentage of quinine that you may expect from your young plants eventually.

Thank you for your offer to send us seeds of *Cinchona pubescens*. We would like to have them and would appreciate receiving them at your earliest convenience.

I note, from your letter of September 8th, that you expect to send us seeds of certain *Erythrinas*. We shall look forward to the receipt of these and hope that they will be backed by herbarium material.

Very truly yours,

BAK:JD

B. A. Erukoff

Antigua, Guatemala, 22 Novbr 1941

George W Perkins Esq
Merck and Co.,
New York City.

Dear Mr. Perkins:

When we were making the rounds last month I took a few photographs which I thought might interest you, as showing some of the progress of the present year. The enlargements are not as sharp as they might be, due to the fact that the man who has done this work for me in the past is now on the black list.

The expansion of the nursery work at Naranjo is positively astounding and one of the prettiest jobs I have ever seen. Mr Lukens has told you all about this so there is no need for repetition. The Krukoff seedlings are getting to the stage where they are very interesting. And speaking of these, I want to say how much I enjoyed Krukoff's visit. He has a tremendous knowledge of Cinchona and I feel that his outlook is sound and practical. I believe further visits from him will prove highly valuable.

Mrs Popenoe joins me in best regards to Mrs Perkins and yourself.

Sincerely,

Main Office:
RAHWAY N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street
ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK
Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

November 24, 1941

PLEASE REPLY TO
RAHWAY, N. J.

Dr. Wilson Popenoe
Antigua
Guatemala, C. A.

Dear Dr. Popenoe:

I wish to acknowledge your letter of November 19, 1941, as well as the copy of a letter addressed to Fritz, dated November 20, 1941.

We are all happy to know that you have had a chance to visit Naranjo again and I can but express, as I have done repeatedly before, our appreciation for the time and effort that you have put into the Cinchona project.

I am particularly happy that you found Dr. Krukoff's visit of material help, and will certainly try to make arrangements to have him come down to Guatemala at least once a year.

I cannot commit Mr. Perkins definitely, but I know that he would like to get down to Guatemala around the first of the year, and I believe he is tentatively planning to make this trip not only a business one but a little vacation as well. It would be grand if you could possibly be there at that time.

Mr. Perkins and I are still very much convinced that we should try to find someone with a good technical background to carry along our research work - someone who could live right with our problems. I do not intend to belittle the grand work that our present staff has accomplished, but I do believe that their hands are pretty full with everyday problems, and they naturally cannot spend all of their time on research. I think with a full time research man and the great help we get from you and Dr. Krukoff, we would have an ideal setup. Frankly, I had Stanwood in mind when I wrote to you asking what you know about him. I have said nothing to Fritz about Stanwood particularly, but I have a feeling that he

Dr. Wilson Popenoe

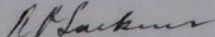
-2-

November 24, 1941

would be acceptable to him. As you know he is also well known to the Smiths and Pettersen, and undoubtedly would be acceptable to them also.

I am passing your letter along to Mr. Perkins for his comments. I would like also to show it to Dr. Krukoff when he returns.

Very truly yours,


R. P. Lukens

RPL:CS

cc Mr. Perkins

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street
ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK
Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

November 25, 1941

Dr. Wilson Popenoe
Antigua
Guatemala, C. A.

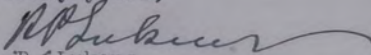
PLEASE REPLY TO
RAHWAY, N. J.

Dear Dr. Popenoe:

I forgot to mention in my last letter that I received from Mr. John Stuart, a copy of the report sent to you on fertilizers. I naturally judge that this followed a talk that you had with him and that it was written up at your request.

The report was very interesting but I do feel that it would take someone with a technical background to apply the suggestions made by Mr. Stuart. You mentioned in your recent letter the possibility of having Hoehn carry out some of the fertilizer experiments. This is perfectly all right as far as I am concerned and undoubtedly he could help with this. Mr. Stuart suggested in this report that we have a complete analyses made of soil samples from Nerano. I am perfectly willing to have this done, but my suggestion is that we wait until we have a man with the technical ability to follow results thru. If you feel differently about this, do not hesitate to let me know.

Very truly yours,


R. P. Lukens

RPL:CS

cc Mr. Perkins

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street
ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK

Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

November 27, 1941

Dr. Wilson Popenoe
Antigua
Guatemala, C. A.

PLEASE REPLY TO
RAHWAY, N. J.

Dear Dr. Popenoe:

You asked me when last in Guatemala, whether I had ever returned to you the article on Cinchona by Dr. Spruit C. Pzn. I thought I had, and in looking back over the correspondence, I find that on February 17, 1941, I sent to you c/o The United Fruit Co., at Havana, Cuba, the original article as well as a photostatic copy. If on checking over your files you cannot find it, I will be glad to have another photostatic copy made.

There is one other article missing from our files, and that is the original of "Cinchona culture, A. Groothoff (Die Kina Cultuur, Harrem, 1912)" printed in Dutch. Fritz says he does not have it, and I am wondering if by any chance it might be in your possession. This article naturally cannot be duplicated.

Yours very truly,


R. P. Lukens

RPL:CS

cc Mr. Perkins
Mr. Rosengarten

Main Office:
RAHWAY, N. J.
NEW YORK
161 Sixth Avenue
PHILADELPHIA
1649 N. Broad Street
ST. LOUIS
4528 S. Broadway

MERCK & CO.
INC.
MANUFACTURING CHEMISTS

Cable Address:
MERCK NEWYORK

Works:
RAHWAY, N. J.
PHILADELPHIA

In Canada:
MERCK & CO. Limited
MONTREAL
TORONTO

PLEASE REPLY TO
NEW YORK

December 17, 1941

Dr. Wilson Popenoe
Antigua, Guatemala, C. A.

Dear Dr. Popenoe:

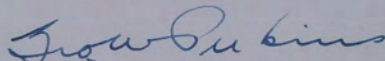
This being the Christmas Season, which is an excuse rather than a reason, it occurred to us that the enclosed check was in order.

The check carries with it again our very great appreciation for all the help which you have been on the Cinchona project. It is hard to express the gratitude that we feel.

I would have waited to take it down myself in January if I were at all sure that I was going down. The international developments make that trip at least questionable for the present.

With very best wishes for a Merry Christmas and a Happy New Year,

Sincerely yours,



George W. Perkins,
Executive Vice President

GWP/ED
enclosure

Antigua, Guatemala, 2 January 1941

Mr R P Lukens,
Merck and Co.,
Rahway, New Jersey

Dear Mr. Lukens:

Encl sed please find a memorandum from Dr Albert S. Muller, Pathologist of the Venezuelan government, who has been in Guatemala for the past ten days. We made a hasty trip through the Cinchona zone with Fritz, and I asked Muller to give us his observations, realizing of course that he could not get to the bottom of things in so short a time.

For your confidential information, I may add that we are making arrangements to get Doctor Muller here permanently, in charge of the National Agricultural School in Chimaltenango. He will probably come about July 1st. Muller has had three years' experience in Puerto Rico, eight in Brazil, and four in Venezuela. He stands well in his profession and is practical in his outlook. I believe his coming to Guatemala may prove highly advantageous from your standpoint (Cinchona) and remove the need of bringing someone down like Wellman. I sounded out Muller and he said he would be very glad to give some of his spare timetto studying Cinchona diseases; that he would not want any reimbursement except perhaps his travelling expenses when he went down to the Cinchona zone. He is keenly interested in all such problems and I believe can give us some real help. His being on the ground here permanently is a great advantage, since the diseases in which we are interested must be watched at all seasons of the year.

Now about another matter: Fritz has shown me a copy of Pennock's memorandum of 4 December, covering the program for research in connection with Cinchona culture. I have gone over this carefully and consider that it covers all the major points we have had in mind. In fact I think the program very good indeed. The job now is to push ahead vigorously and accumulate information just as rapidly as possible. So far, Pennock has not taken hold very energetically. I think we shall have to accept the fact that he is not a pusher, and simply give him time to produce some results in his own way. If he does produce results, even though they are slower in coming forth than we would like, we can feel satisfied. I still feel that he has good preparation for this job, and that he ought to be able to contribute much to the technical end of the work.

Here is a suggestion: It might assist in keeping major objectives in view, and it would certainly be valuable through assuring that all information acquired is saved for later use, if Pennock prepared a monthly report on progress, project by project. We always followed this practice in United Fruit, during the days when he had widely-scattered and extensive research work going on. I believe Pennock is already accustomed to this sort of thing, for they do it in Puerto Rico I am sure.

Probably we can bring up this matter when Mr Perkins is here next week.

I have neglected to thank you for the abundant supply of aspirin you sent down by Pennock. You were very generous. The matter is particularly in my mind at the moment, since we have just terminated the holiday season.

Best regards always,

Sincerely yours,

19 July 1941

Mr R P Lukens,
Merck and Company,
Rahway, New Jersey.

Dear Mr. Lukens:

I have returned from a trip through the western part of Colombia in company with the Director of Agriculture, Dr. Eduardo Mejia Velez. While on this trip we visited the experiment station of the Federacion Nacional de Cafeteros at Chinchiná, Department of Caldas, and prepared a seedbed 1.20 x 10 meters in size, in which we planted the Samea Ledger seed you sent me some weeks ago. We also planted in this same seedbed about 10 grams of succirubra seed which Mr Pennoek sent me from Guatemala.

It is my feeling that the Chinchiná experiment station offers a very promising location for a Cinchona nursery. It lies at an altitude of about 4000 feet; the soil is volcanic loam; and the climate seems likely to prove satisfactory though there are no records on which to base this belief.

As I believe I have written you, the Minister of Economy (which includes agriculture) is very much interested in the Cinchona project as is the head of the Federacion Nacional de Cafeteros, Sr. Manuel Mejia. Because of the fact that this cultivation fits into the coffee zone, the Minister has suggested that the Federation should handle the project, and Don Manuel Mejia is keen to do so. In a discussion which we had some time ago, it was suggested by the Minister that a local man should be sent over to Guatemala to learn what he can regarding Cinchona culture. Mr Hamer, local manager of the United Fruit subsidiary, offered to cooperate in this to the extent that our Company would pay the man's expenses while on this trip - aside from salary.

It is my belief that you will be willing to have this man - I understand they propose to send a señor Zapata who is now in Puerto Rico - spend some time at El Naranjo, without expense to you. Such a move, it seems to me, will greatly strengthen the project here in Colombia without committing Merck and Co. in any manner. If you do not feel you can do this, we can arrange to have the man headquarter at Finca Helvetia or some other place; but I feel pretty sure you will see no objection to having the man spend some time at Naranjo. I will appreciate it if you will advise me on this point. I do not know just when the man will reach Guatemala but imagine it will be within a month or two.

I leave here in a few days, so you had best address me care Tela Railroad Co., La Lima, Honduras, as I believe I have already advised. I return herewith some correspondence mentioned in your letter of June 10th. I am glad to hear that things are going well in Guatemala and especially pleased at the last batch of bark analyses.

Sincerely yours,

23 July 1941

Mr R P Lukens,
Merek and Co., Rahway, N J.

Dear Mr. Lukens:

Thanks for yours of July 14, enclosing the letter from Hon. G. A. Jones, Director of Agriculture in Jamaica, which I am returning herewith. I share your skepticism regarding lack of viability in all the seeds. As a matter of fact, with exception of the jefes -who of course do not have time to give such matters personal attention - the agricultural staff in Jamaica is weak, and technique poor.

We are glad to know that Fritz is on his way back to Guatemala. As I have written you, my own plans call for me to leave here by the end of this month at latest, for La Lima, Honduras. I shall probably spend some time in that country, working on the organization of our proposed agricultural school. In fact, I do not imagine I will be out of the Honduras-Guatemala region again this year, so it is quite probable I could get over to Guatemala in the autumn to meet Dr Krukoff. I don't know how early he plans to come; from my own standpoint I would feel a little more certain of being there around Thanksgiving than earlier, but I can give you a better idea in another month after I have reached Honduras and know how things are lining up.

Best regards to all of you.

Sincerely,

C cc - Mr. Lukens
O Mr. Perkins
P Mr. Rosengarten, Jr.
Y Dr. Popenoe

Numero: 175

Secretaria de Educacion
Publica

Espte.:

MUSEO NACIONAL

Asunto:

San Jose, Costa Rica

San Jose, 5 de agosto de 1941.

Dr. B. A. Krukoff
The New York Botanical Garden
Bronx Park, N. Y.

Señor de toda mi consideración:

Con mucho gusto comunico a usted que por este mismo correo le hago envío de un paquete de cascara de quina (*Cinchona pubescens*) de la cual le envío también muestra botánica. Esas cascaras las he tomado de árboles jóvenes de mi primera planta - ción de quinas, que hice con semillas de árboles indígenas de Costa Rica. Ahora tengo buenos semilleros para una plantación formal en una finca que he adquirido en Turrialba, a 1400 m. de altitud, para dedicarla a esos ensayos, pero antes de hacer la plantación definitiva o de pensar en usar la *Cinchona pubescens* solamente para patrones en los que injertería *C. Ledgeriana*; desearía conocer el potencial de alcaloides de esas muestras por lo cual mucho he de agradecerle su comunicación al respecto.

Si usted pudiera tener interés en más muestras o en semillas de quina, much le ruego indicármelo y con el mayor placer le haré los envíos.

Como siempre cuénteme a sus órdenes. Muy atento servidor,

(Signed) Juvenal Valerio Rodriguez
Director del Museo Nacional de
Costa Rica

Antigua, Guatemala, 20 March 1942

George W Perkins Esq.,
Merck and Co.,
161 Sixth Ave., New York City.

Dear Mr. Perkins:

Yesterday I happened to be in Guatemala City when your radiogram of the 19th showed up. I replied immediately that I believed I had the Colombian memorandum here at Antigua and would bring it with me next week.

I have gone through my files here and cannot find the memorandum in question. I think I know to what you refer. I had a copy of a memorandum from Col. Rueshl, reporting on his trip through Colombia and stating where he had seen succirubra - or something of that type - in quantity. When I was in Colombia I tried to find on the map the principal region to which he made reference - which as I recall it was somewhere south of Bucaramanga - and was not able to locate it. I did nothing further about the matter. The memorandum should be among the papers I brought back to Guatemala with me, but as above mentioned, I cannot find it here. It is possible that I put it in our files down at La Lima, since I stopped there on my way back here from Colombia. I am writing to La Lima today, asking them to see if it is there, and if so, to send it up to me at Boston immediately.

As I advised in my radiogram to you, I expect to be in New Orleans the night of the 24th. I do not know just how I shall stay there, but assume it will be a matter of not more than several days, and that I shall proceed from there to Boston. After I reach the States, the folks in Boston will know more about my plans than I do myself; and they will know where I am on any given day. I suggest therefore that you make your wants known to the Boston office, and I will be glad to fit into any arrangements they may see fit to make.

With best regards always,

Sincerely yours,

the correlation of many factors; particularly quinine content and growth characteristics.

This man must know every promising tree, and watch it from month to month. And he must study the fertilizer problem and the disease problem in a practical way - based upon technical studies which can and should be made by a man like Muller. And he could probably throw some light on the more technical aspects of propagation.

I believe Stanwood could do all of these things, satisfactorily. And the biggest thing of all is this: if you put him on the job, you would be putting on someone whom we know, and the chances of failure would be reduced at least 75%. We are all getting well acquainted with Stanwood through his work on the rubber project. By the time you are ready for him, we should know him pretty well. So far everything is in his favor. He has made himself strong, personally, with everyone he has met here, and he has done a mighty good job with his rubber. Far from being a liability, his wife is a great help to him. Both of them would live at Naranjo and like it. As I have told you, his technical training for the Cinchona job is not quite all that it should be, ideally; but this does not worry me. We are starting from scratch with Cinchona; any man who tackled the job would have to build up his technical knowledge as he went along, and I believe Stanwood could do it. I would rather have a man of Stanwood's type - good native ability, and plenty of industry, even though not possessed of extensive technical training, than a man with lots of technical training and a narrow viewpoint. In the latter case there is danger that the man will not see the woods for the trees.

Best regards to all of you.

Sincerely,

Antigua, Guatemala, 2 January 1942

George W. Perkins Esq.,
Merck and Co.,
New York City.

Dear Mr. Perkins:

Please accept my hearty thanks for the check enclosed in your letter of December 17th. I greatly appreciate it.

Muller and I visited Naranjo last week and I have just written Mr. Lukens a report, which I imagine he will pass along to you. Things are going along very smoothly at the Finca. But it is beginning to look pretty certain that Ledger seedlings are not going to be successful in many places in Guatemala. Those planted two years ago at Loja are practically a washout. On the other hand, the Ledger grafts are doing beautifully. I think we have pretty nearly enough evidence to say that grafted Ledgers are a demonstrated success. That planting of a thousand trees at the 4000-foot level in Patzún is the only planting of Cinchona in Guatemala which to my mind has been wholly satisfactory to date - uniformly good growth, low mortality, and so on.

Just why original Ledger seedlings have done fairly well at El Nil, Helvetia, and not at all well anywhere else (except Samac) is a problem. It rather looks as though they dislike sandy soils. And even where they have grown fairly well, as at El Nil, there have been quite a few deaths from what we call "root disease". If I were going to plant Cinchona commercially in Guatemala today, I would put most of my money on grafted Ledger clones such as H-1239, and the rest on grafted clones of some of the fairly high quinine-content hybrids such as those at Zapote, which we believe will grow faster than Ledgers and thus make up some of the difference in quinine content.

Of course the big development of the next five years will be the Krukoff calisayas, about which we know mighty little as yet. I feel very hopeful about them, not so much from the angle that they will all be good, as from the angle that out of that immense volume of material we ought to get a few very fine things

perhaps even finer than any of the Ledgers, because stronger growers. But only time will tell.

I hope you are going to be able to get down here this winter. Naranjo is a fine spot. The building program is practically finished, and I like your church. It is going to be about the only good-looking church on a Guatemalan finca. Most of them are genuine architectural monstrosities. Mrs. Hoehn runs the staff house well, and the Cobanera kitchen staff continues to turn out good grub in abundance.

Mrs. Popenoe and I fly to Honduras tomorrow. I don't know how the war is going to affect our plans for the school over there but I imagine we will be able to go right ahead - perhaps not as fast as we had hoped, because of the difficulty which we must expect in obtaining certain materials from the States. We hope to come back to Guatemala to spend Easter week, and if we do, I will make it a point to visit Naranjo of course. Let me know if I can be of any service in the meantime. My address is: Tela Railroad Co., Tegucigalpa, Honduras, C.A.

Mrs. Popenoe joins me in best wishes to the Perkins family.

Sincerely yours