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

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

Zamorano, August 21, 1957

Dr. Wilson Popenoe  
Doble Via # 21  
San Salvador, El Salvador.

Dear Dr. Popenoe:

I should have written to you much before but I have better waited to settle down before doing so.

My trip back from the States was fine and I spent three days in Panama with my brothers and sister. Then I spent the rest of the vacations in San Jose with all the family. I really enjoyed those days down there and rested an awfull lot since I was pretty worn out from those three years in Gainesville. While down in Costa Rica, I saw many of your friends who sent you their best regards and like I, regreted very much your retirement.

Since my return to Zamorano I have noticed many people changed. It seems like everybody dislikes each other and there is a continuous gossip going on all the time. Of course this has been so all the time but it seems to be more agravated now. This situation gives a bad feeling to the newcomer who wants to see everybody getting along fine. I feel a little troubled about this do to the fact that you cannot talk to anybody without going into the same criticism of others. Well, I guess you know better this situation than I but I just want to mention it since it is very unpleasant to live in an enviroment of this kind.

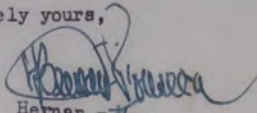
The new director has comed with a head full of ideas and although many of them are good, others are maybe too premature to put into practice in an institution of this sort were most people are used to a system already established and succesfully followed. It seems like he lacks the experience to handle a big project like this and is rushing too much. On the other hand, he seems to be a good man and perhaps time will allow to judge him better. I hope he listens to your advice because no body else but you can orientate him and guide him with all the matters in this school which is yours and all the glories achieved to this day are not else but the crop of your efforts and guidance.

Personally I am very pleased with my work since the best way to keep out of trouble is to stay awayfrom other peopple, I devote all my time to the animals which I love so much. As you probably know, I am in the dairy and swine at present. My desire on coming back was to work with beef cattle because as you know, I placed major emphasis in that field while at Florida. Anyhow I get along fine with Dr. Peruga and I am helping him much in organizing the beef herd. The Charbray bull arrived about a week ago and everybody has liked him very much. I am placing in him very much hopes for our beef herd.

I hope you and Mrs. Popenoe are getting along fine in San Salvador and we surely hope to see you again very soon. We miss you very much here in Zamorano and it has been very hard to get used to the idea of not having you with us.

Best wishes to both of you from Isabel and myself.

Sincerely yours,

  
Hernan Fonseca

apto 279  
Panama

Hacienda Tanara, Chepo.  
May, 15, 1959

Dr. Wilson Popenoe  
Antigua, Guatemala.

Dear Dr. and Mrs. Popenoe:

Its been such a long time since i wrote you that this letter probably is going to surprise you. really I didn't do it before because I really didn't know where you were until recently ~~that~~ Mario told me you were in Guatemala.

As you can see, we are still in Panama enjoying the hot tropical climate but at the same time are very happy since everything is turning out just fine. We have been here just over a year and the farm seems to have changed quite a bit, although a cattle operation takes quite a while to change.

Our family is increasing while isabel expects another baby to be born in october. That will be number four. the two gringos are growing very fast and soon they will be school age.

A few weeks ago, Morcillo came to ranama on his way to Colombia and gave out the diplomas to the panamenian boys. I didn't get to know about it until some days latter that i read it in the paper. i sent Mario a paper clipping which he probably he will show it to you. The other day i went to a meeting of the Sociedad agronómica de ranamá made up of ingeniros agronomos and i heard comments unfavorable about the titulo being awarded by zamorano. i think is fair for the boys to have it and i am sure that if you hadn't given me the oportunity of obtaining a College degree as you did, i would had been more than happy to get my titulo.

We received a card from Eduardo Jimenez announcing his fourth baby and also tells us about his trip next September to michigan. i guess he is going to work on his Ph.D.

The University of ranama has established the Ag. school which begun classes this month. They are offering a two year basic science program along with a few Ag. courses and probably they will offer the last two years in Divisa. i tried to get appointed to some animal husbandry course but apparently they didn't pay attention to my application. too much politics involved in everything here in Panama.

I have been thinking that when i finish my contract with the Vallarinos, the children will be of school age and I will have to look for something else which will offer school facilities for them. Besides we live a very lonely life and I think five years is enough. It would be different if i woned the farm. I haven't thought yet of any definite job but when time comes, i hope to seek your advice.

Isabel and the children join me in wishing you both the best of health and happiness which you deserve.

With best wishes,

[Hernan Fonseca]

P.S. I am enclosing you a copy of the article I am sending to be published in Ceiba. This work was done last year before I left zamorano. Part of the history is written according to what Mingo recalled.

Antigua, Guatemala, 15 July 1959

Dr Wm C Paddock, Director,  
Escuela Agrícola Panamericana  
Tegucigalpa, Honduras.

Dear Bill:

Just back from two weeks in Mexico, where I gave lectures and demonstrations in connection with the III Curso Internacional de Horticultura. I have here a letter from Hernan Fonseca together with a copy of his excellent paper "Resultados de Mejoramiento del Ganado Criollo Cruzado con Razas de Ganado Lechero Europeo".

Hernan writes that he has sent this to you for publication in CEIBA. It happens that right now I am trying to help the Editor of La Hacienda work up a symposium on this subject for publication in that magazine, and an account of the work done at EAP should certainly be included. I would therefore like to ask if you intend to use this paper in CEIBA. If so, is it already in press? In that case we could use it in La Hacienda, since it will not appear for two or three months yet. If you are not going to use it in Ceiba, I am sure Hernan would be glad to see it published in La Hacienda, since it will have a circulation of some 25,000 instead of 500, and therefore do more good.

Since La Hacienda is pushing me a bit, I will greatly appreciate it if you will send me a telegram.

Sincerely,

Wilson Popenoe

Blind copy to Hernan Fonseca.

Dear Hernan: Many thanks for your letter of 15 May. I have been away so much in Costa Rica (where I had a fine talk with Rodolfo and Hilda) and in Mexico (where I took part in the III Curso Internacional de Horticultura) that I have not had a chance to answer. I am sure you will agree that it would be much better to publish your paper in La Hacienda than in Ceiba, if Dr Paddock will release it.

We were very glad to have news of yourself and family. If I am still on this planet when you finish your contract and want to make a change, you know I shall be more than glad to help you.

From all I hear, the Depto de Ganaderia at Zamorano feels the loss of Rodolfo and yourself. They tell me milk production has dropped very badly, hence I am afraid any figures taken in the last year or so will not help very much. Mrs Popenoe in cordial greetings and all good wishes to the growing Fonseca family.

apartado 2<sup>o</sup> g  
Panama City, Panamá.  
September 1, 1959

Mr. Wilson Popenoe  
Antigua, Guatemala.

Dear Mr. Popenoe:

I am sorry for not answering your letter sooner but I was away in Costa Rica and shortly after my return I had to leave for Chiriquí where I spent several days looking over cattle farms and selecting bulls.

After reading your letter to Mr. Paddock I fully agreed to have my article published in La Hacienda instead of Ceiba. Nevertheless I haven't had any news since then and I do hope Mr. Paddock released the article to you. When I sent the paper to Surman he told me that it was to be published in Ceiba's next issue and that he would send me the manuscript for approval. That was about three months ago and so far no news. I guess that according to professional ethics it's up to the author to pick the journal he prefers to publish the paper so in this case I will allow you to do whatever you please, in other words publish it in La Hacienda.

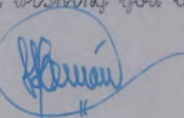
I was sorry to read about the dairy herd in Comano and that milk production has dropped. It is really a shame but certainly there are very few men who will devote their whole time and love to those cows as Rodolfo and I did. We were practically raised with them and spent many years struggling to make the best out of them. It is difficult for a new man to have affection towards them and that is exactly what a cow needs, just like women...

Everything is fine with us, my work is coming along fine and our family will increase next month with the fourth Concepcion Tamayo on its way. ¡Hay que darle soldados a la patria...

While in Chiriquí I saw Umberto Alvarez (Tato), Carlos Ortega, Camilo Urroz who had a pretty bad car accident and several others who sent you best regards.

Sabel joins me in wishing you and Mrs. Popenoe much health and happiness

Con mucho cariño,



[Hernan Fonseca]

Apto 279  
Panama, P. de C.  
March 11, 1960

Mr. Wilson Popenoe:  
Antigua, Guatemala.

Dear Mr. Popenoe:

Going over a Costa Rican newspaper I read about the coming graduation at Zamorano and you being the main speaker on the celebration of its 15 graduating class which will gather up all of the 1960 graduating class. Certainly you must feel very proud of this occasion which shows nothing more than your hard work and time devoted to the school for so many years is still reflecting on its success achieved from day to day. We who appreciate you from the deepest of our hearts and who always will thank you for the education acquired through your sound guidance and support, would love to see you presiding the graduation ceremony on its fifteenth anniversary as director of Zamorano; ~~so~~ if it were so, I personally would still be there with you. Nevertheless as circumstances are different, and this time you will be a guest to the director, I am sure that all your friends present that day will see you in your speech as they used to see and hear you from 1957 back. May you and Mrs. Popenoe have a fine trip to Honduras and my warmest congratulations to you on this memorable date.

I never knew what became of the paper I wrote on the school's dairy herd. Was it published at all? Dr. Johnson never did send the manuscript which he offered to send me before it was published. If you know something about it, please let me know.

We are all fine and happy here in Panama. The children growing up fast and pretty soon the eldest girl will be school age. We are planning a vacation trip to Costa Rica sometime in July or August and perhaps Isabel and myself could extend our trip to Guatemala to see you and the John's.

When you get back from Honduras and have a little time, please write me and let me know how you are and what you saw and think of Zamorano.

Isabel and the children join me in our deepest feelings of appreciation to you both.

Sincerely,

W. Popenoe

Antigua G, 11 April 1960

Dear Hernan:

Mighty sorry to have been so long in writing to you. I worked on that excellent paper of yours, regarding upgrading of dairy cattle. I tried to get it published in La Hacienda. Dr Furman told me from Zamorano that it was in press and would be published first in Ceiba. This was some time ago. When I was in Tegucigalpa last month I was told Ceiba would be issued shortly, and when it comes out, I shall then ask La Hacienda to re-publish the paper, which I think is a very good one, though Jorge de Alba at Urrialba wrote the editor of La Hacienda that Carlos Herrero had told him our records at Zamorano are not reliable. The point is, that Jorge de Alba does not seem to like crosses between European milk breeds and Latin American criollos. Maybe he is right; I don't know. But I do think records such as those which we have at Zamorano are very interesting and worth publishing. What I now propose to do is to ask the editor of La Hacienda to re-print your paper as soon as it appears in Ceiba. As you know the latter has only about 500 readers while La Hacienda has about 25000 in Spanish and I don't know how many in Portuguese (Brazil).

We had a very interesting time in Zamorano, our first return to the school since 1957. The graduating class looked odd to me. I gave them the same sort of talk I used to give you boys, but shorter perhaps. Doris gave a nice little talk. The problem now seems to be this: shall Zamorano continue to be a vocational school, turning out graduates of whom the best (like yourself) can go to the States and get a BSA in two years, or shall it be another Facultad de Agronomia and turn out graduates all of whom can go to the States and enter as post-grads and work for a Master's in one year? You know how I feel about the matter. I want us to give boys like yourself the opportunity to go to the States and get BSA degrees and maybe Masters, but I fear that if all our graduates are BSA's we won't have the reputation we have had in years passed for making really fine, able, técnicos.

Helen and I are happy that you and family are getting along so well. We see Mario Jalil frequently and he is doing a grand job with FAO. Now there is a case: Mario was not a bachiller but he went into EAP and went to Florida and (like yourself) got an MSA and where is he? Fine job. And I am now thinking about the salary, so much as I am about what he is doing for Central American agriculture. Plenty, plenty. Let's all keep on working for the improvement of agriculture and horticulture in these countries!

If you can bring the family up to Guatemala one of these days, do so. We have a nice little guest house next door to the old house and you can have it as long as you want, and we will go up to La Carmona to see those Holsteins and other places to see the Pardo Suizos and other places to see the Guernseys (still my pets) and so on. Helen joins me in affectionate regards to all of you.

Sincerely,

I guess you know I went up to Gainesville to be with Hugh in 30 January when he got his doctorate. We then had a fine tour of southern Florida horticultural regions. Hugh is keeping his interests in Central Am.

San Jose, Costa Rica  
June 28, 1960

Dr. Wilson Popenoe  
Antigua, Guatemala.

Dear Dr. Popenoe:

Just a few days ago I received your copy of a letter sent to Dr. Furman. It was sent to me from Parama since I am at present spending a month's vacation here in San Jose.

The letter has surprised me since you talk about Dr. de Alba's whirlpool on account of my work, I presume, and mainly on his statement that our records at Zamorano are not accurate and should be ignored. I think that his statement is completely erroneous and out of place since to my understanding he has never gone over our records at Zamorano and consequently should be very cautious in what he says. This statement concerns me deeply since I am the author of the paper and my conscience told me before I started revising the records that they were properly kept and nothing but the truth was written down. I admit that some lactation records were not completed but to overcome that possible error, I had all the records standardized to a 305 day period. Everything else was normal. If Dr. de Alba wants to stand up to his theory on improving native cattle by selection, he should prove it with facts but not by using such defense which lacks completely moral and ethics. This will stand me in a position of a ~~jack~~ joker to everybody's opinion as to say that I have used false figures in order to write my paper. It will also harm Zamorano's prestige since it turns it into an Institution that lacks seriousness. To this I protest and am willing to defend my personal prestige and my Alma Mater against any person who unjustly tries to defend his personal interests by using such a weapon.

What experience has had de Alba as to say that the wrong approach towards improvement of dairy cattle in tropical America is by using European blood?. He has only worked with native cattle and probably just "seen" Native European crosses because he is too obsessed with his criollo improvement idea to at least look at this other system. The main fact on this is that the only people who have accurate records on the crosses between criollo and European cattle is Zamorano and if he can destroy by any means our veracity, he will be all by himself with his criollo theory which has given him so much prestige in Turrialba. I oppose completely to his theory.

Undoubtedly that Carlos Herrero has committed a major mistake in saying what he said without any right. I bet he did not measure the consequences.

I want to take advantage of my vacation in Costa Rica to settle this argument personally with de Alba and Carlos Herrero. Thus I would appreciate very much if you could kindly let me have a photostatic copy of the letter sent to you by the Editor of La Hacienda where he said that our records were inaccurate and should be ignored as stated by de Alba. With this letter in hand I shall visit Carlos and de Alba in order to persuade them to take away their words. If they insist in what they originally said, I am willing to "emplazarlos" to prove us that our records are wrong. Thus it will be probably necessary

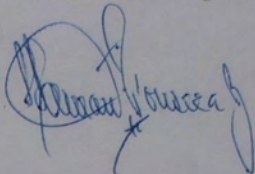


for him and myself to make a trip to Zamorano in order to go over the records. If he says that he has no time, I will ask him to name someone he can trust and I will do the same. I hope in such a case Dr. Paddock will cooperate since it concerns deeply Zamorano's prestige.

I think your approach towards Ceiba's politics is completely wright and should not be commercialized as everything else in Zamorano. In suchx a case it will loose many suscriptions because is has not as yet becomed interesting as it should do to the main fact which you point out: it publishes reprints and not originals.

Hope to hear from you soon and my best regards to Mrs. Popenoe.

Yours very sincerely,

A handwritten signature in blue ink, appearing to read "William H. Hillebrand". The signature is written in a cursive style with a large, looping initial "W".

Antigua Guatemala, 6 July 1960

Ing. Hernán Fonseca,  
Apartado 1608,  
San Jose, Costa Rica, A. C.

Dear Hernán:

Your letter of the 26th June has just come. I am glad that you are having a vacation in Costa Rica. I note that you would like to discuss with Jorge de Alba and Carlos Herrero the improvement of dairy cattle in the tropics. I do not think it will do much good to discuss this with Carlos, because this is not his field, but I do wish you would spend some time with Jorge de Alba because he is active in cattle improvement and at any importance center. As I wrote in the letter of which I sent you a copy, Dr. de Alba may be right in thinking our future lies in improving our criolla cattle. I am no expert in this field and I am open-minded. And I want to add that I do not think Dr. de Alba was criticising you when he said our work at the Escuela Agrícola Panamericana has not been very significant. Much of this work was done before your time.

You ask for a photostatic copy of the letter from Dr. de Alba to the Editor of "La Hacienda". I am sorry I cannot get photostatic copies made here. The best I can do is to quote the following paragraph from the letter written by Dr. Jorge de Alba, to the Editor of LA HACIENDA, under date of August 27th. 1959:

"Dr. Popenoe will certainly be very angry with me for not giving importance to the work of the Escuela Agrícola Panamericana in dairy breeding. They have followed a straight course of grading up to the European breeds which will end up with nothing but a European breed. While this process has been successful in all temperate climates where it has been followed it will end up in a herd of unadapted cattle to a greater or lesser degree according to the amounts of European blood they may have. It is also unfortunate that the cattle management at the Escuela Agrícola Panamericana has not been uniform due to changes in personnel. I know this because I tried once to run an analysis of their results when Ing. Carlos Herrero was there but we found that the effect of bulls was mostly confounded by changes in the environment."

Based on this paragraph I would not bother to argue the matter either with Dr. de Alba or Carlos Herrero. As I see the matter it is simply a case of disagreement between ourselves and Dr. de Alba regarding the value of up-grading through the use of what we call European dairy breeds and improvement through selection of Criollo cattle. When you go to see Dr. de Alba I would suggest that you tell him we realize that in our eighteen years' work at the Escuela Agrícola Panamericana there have been some changes in personnel. I suspect there may have been a few at Turrialba also. As for changes in environment, he must mean changes in the feeding program. The climate does not change very much at Zamorano from year to year.

I still think your excellent paper on the results of our work with dairy cows is valuable and as soon as Dr. Furman gets it printed in Ceiba, I am going to send it to my friend the editor of LA HACIENDA who will publish it in that magazine. Come up and see us when you can.

Sincerely yours,

Panamá, Dec. 12, 1960

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

Dear Dr. Popenoe:

I hope this letter finds you home since is near Xmas and you usually make a trip at this time of the year.

My last letter to you was from San José where I recieved your answer containing the information asked regarding Dr. de Alba's opposition to the publishing of Zamorano's dirty herd records. I followed your advice of not paying too much attention to the matter but nevertheless I made a trip to Turrialba to talk to Dr. de Alba but found that he was away in Nicaragua at that time. Anyhow, I think you are right in saying that his argument is based mainly in his point of view, misled by erroneus information given to him by someone regarding the lack of truth of our records. As to envromental changes, there can't be any; just a matter of management changes due to changes in perssonell as it has happened also in Turrialba with the development of the criollo dairy herd. As this matter is concerned, it's all over.

Regarding my paper, as of yet I don't know if it has been published or not in Ceiba. I sent the approved manuscript to Furman on or about June before leaving for vacations and so far I haven't had any news from him.

Many things which have happened sounds to me as if Dr. Paddock is behind some of my matters in dislake of me leaving Zamorano. Truthfully, I couldn't work with him as we disliked each other, perhaps because I was always trying to follow the same methods which we were used to, under your direction and because I kept mentioning your name constantly in all proyects which I personally did not agree with. I don't know if I ever told you that he once called me to his office just to tell me that if I planned to stay in Zamorano a long time, that I should keep in mind that my salary could not go beyond 800 lempiras. Of course that sounded offending to me since there were many employees with less schooling than I who were far beyond that salary. Of course, a week later I sent in my resignation which he did not expect and made him angry. Sometimes I think that he didn't allow you to publish my paper in La Hacienda just to harm me.

I am enclosing you a cpy of the Proyecto de Ley which the Sociedad de Ingenieros Agrónomos is sending to Congress for approval. The opposition encouraged by Zamorano

The opposition encountered by Zamoranos as you can see as you read their manifesto, is only to blame on our actual director who has given the graduates wings only to fly a short distance. By this I mean that with the titulo de Agrónomo which is being given now, it encourages graduates to look for a goal in the University academic level which visibly they cannot reach as long as Zamorano is classified as a Vog. Ag. school. Then he says in his graduating speeches that Zamoranos requires more hours for completing the degree than do Universities in the States. All this awakens in the boys the desire to be equal to the Ingenieros as it would happen to anybody if you are being told that you are better prepared academically than others who bear a title and don't allow you to enter an association. The director in this case, if he has gone that far, once for all should give the graduates a full grown pair of wings and change the School's status into a University level. I think it is a great harm which Zamorano is doing to its graduates by making them believe that they are equally prepared as the Ingenieros and do not give them the degree. This is exactly what is happening here in Panamá at this moment. Zamoranos want the same rights as graduates from Universities from all over the Hemisphere and some European universities. I have been placed in a tight spot since I am member of both groups and want me to discuss the matter with my point of view. Of course a have to favor both groups trying not to hurt any. But in my mind there is a strong feeling that Zamoranos are going to loose the game. This I told confidentially Pedro Nel Lezcano who is secretary of their association and advised him to write Dr. Paddock and let him know in the situation he has induced them by giving the Agronomo title, telling them that they are equal or better prepared than University graduates but withholding the degree to which they are entitled according to his own words. I hope I have made myself clear and I would like your comments on this respect to whether I am right or wrong in my thinking. This information goes to you since I assume you are interested in what goes on regarding Zamoranos in different countries. Unluckily enough the boys have picked Lezcano as their representative and as you might remember him he is a pretty sorry defender. If I get hold of a letter which he sent the president of the Congress, I will send it to you. I have asked for a copy. It refers to Humberto Alvarez whom the Zamoranos here dislike a great deal.

With best wishes for a Happy Holiday Season to you and your family, Yours very sincerely,



Panamá

April 5, 1961

Dr. Wilson Popenoe  
Antigua  
Guatemala, C. A.

Dear Dr. Popenoe:

I am still wondering if my letter sent to you just before Xmas ever reached you. It contained a copy of the "Proyecto de Ley" presented to Congress by the Ingenieros Agrónomos of Panamá which if approved it was going to hurt the Zamoranos. Luckily enough it was rejected since the Zamoranos got hold of a strong group of congressmen and they fought hard against it. At present our boys are still in a loosing condition as to obtain high ranking, well paid jobs but at least there is no law which states that they should be so for ever as is the case in Costa Rica.

A few weeks ago Paco Sierra came through Panamá in his way to Honduras and we spent an evening with him. It was certainly a pleasure to see an old friend and hear all the news he had on or about the great Zamorano family. As he told me, the last one to leave was Memo Herrera who is in San José now. Of course there are still others such as Pineda, Cornejo, etc. but they do not belong to the "family". I guess Mr. Director must be awfully happy to be rid of everyone he found there at his arrival except for the "serviles" left.

Lately my plans have changed a bit towards the unexpected just as commonly happens in life. The situation is that my two eldest children have come to school age and as we are so far from schools to which they could go back and forth, we are imposed to move into the city. At first I thought of commuting every day which is a 45 minute drive from the farm to the city, thinking that my presence at the farm at nights was not needed. Originally I presented the plan to my boss and it was accepted but then I begun making my budget and it turned out that the move into Panamá required \$150,00 more in order to pay rent and utilities. I had to have that money or else I couldn't make it so I asked for it. At first it was verbally accepted but to my surprise, a week later in came a letter withdrawing from the original talk and stating that they could not afford such an increase in expenditures. That left me just one open path: to leave, and that is exactly what I am doing. If I had realized that the bussiness was in bad shape I would had been reluctant to ask for a raise and it was for me to solve my own problem, but the farm is making a net profit of \$15,000 a year and every year is going higher due to increased production. Why couldn't they share some of it and help me some?

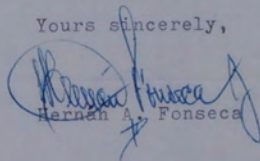
April 5, 1961

I don't have anything in mind yet as this situation came up unexpectedly but I surely want to be able to join a big enterprise such as a Company, FAO, Rockefeller, Point Four, etc. which will enable me personal stability and the opportunity to obtain the many advantages which a big organization offers its employees, including technical advancement due to the environment which surrounds you. Here at the farm I feel as if have lost much in knowledge due to the impossibility of having technical acquaintances, such as meetings, conferences, etc.

At this time I once more ask for your advice and guidance as to my best. If anything should come into your mind as a possible means of a job opportunity, I would be more indebted to you. Please advice me how I could file an application with FAO and Rockefeller since I understand that Point Four hires only American citizens. In the meantime, I will be on the alert for something else worthwhile. I can take up to two months to move so I'll take my time until a good opportunity shows up. Nevertheless, if possible, I would be anxious to hear from you soon.

With my best personal regards to Mrs. Popenoe,

Yours sincerely,



Hernan A. Fonseca

## ESCUELA AGRICOLA PANAMERICANA

APARTADO 93

TEGUCIGALPA, HONDURAS  
CENTRO AMERICA

Antigua, Guatemala, 14 May 1961

Ing. Hernan Fonseca Z.,  
Apartado 279  
Panama, R.P.

Dear Hernan:

Referring to your letter of 5 April, which I have been very slow in answering because of the sudden death of doña Elena. I went over to Honduras for three weeks and then up to the Alta Verapaz with Hugh for a week.

I stayed two weeks at Zamorano, and was distressed to find the dairy herd in what I consider poor condition. Milk production way down, almost half of the cows with mastitis; the silos with nothing but Jaragua Grass in them and this mouldy, so the new veterinarian told me. But by the way, I assume you saw that your paper on upgrading dairy cows finally came out in CEIBA. I am recommending that La Hacienda now reprint it.

Yes, I did get your letter sent before Xmas and answered it. The mails have not been working too well here of late, so perhaps you did not get my answer. When I was in Zamorano one of the panameño students told me he thought matters had been straightened out. I hope this is the case.

About your own plans. I am afraid I cannot help you much. If you were in horticulture I probably could, as I helped Mario Jalil to get a magnificent job in FAO. I do not know the people in FAO, so far as animal husbandry is concerned. The only one is Dr Patrick F Keating who was with us at Zamorano a great deal - you may have known him there. He used to help Memo Herrera make cheese. I believe he is still in Tegucigalpa. He would know about the program of FAO in animal husbandry. If he wanted recommendations you know I would back you up strongly. I do not believe the Rockefeller Foundation is doing anything in animal husbandry, and as you say, I don't think the Point Four people take any but USA citizens. The United Fruits Company is seriously considering a big program of beef cattle production in Guatemala and Honduras, with a packing plant to ship cold meat to Europe and I suppose the US, but this is in the future; you could not wait to get into it. How I wish you could go back to Zamorano! You are badly needed there but I am afraid it is impossible.

I suspect your best hope may lie in Costa Rica where you have so many good connections. I expect to be in San José the first week in July; if you should be over there at that time, look me up.

Affectionate regards to all the family,

11  
15-Sept  
Apartado 1608  
San José, Costa Rica  
September 9, 1962

Dr. Wilson Popenoe  
Acting Director, E.A.P.  
Apdo. 93  
Tegucigalpa, Honduras

Dear Dr. Popenoe:

Doña Doris Stone told me of your trip to Zamorano to take charge of operations for a while. I was very anxious to make a trip up there to visit with you and have a long talk, but at present I am tied up with classes at the University and cannot take time out. However, I trust you will be able to put back Zamorano to its place where it used to be in the old days when the school had such a high prestige based on its own merits and without having to spend such large sums of money on propaganda and travel.

When Blandón and Santamaría were here to give the admission tests I asked them to check with the school officials (not knowing that you were to be there) as to the possibility for a group of advanced students of the Facultad de Agronomía to spend a month or so in Zamorano between November and February. I am trying hard to lessen the tension that exists between Zamoranos and the Ingenieros, and I believe that this would be an excellent opportunity. There are some venezolans and ticos interested and they are willing to go to work and pay for their boarding and food.

I have been named president of the Asociación de Agrónomos de Costa Rica and I am working hard towards the inclusion of our Asociación in the Colegio de Ingenieros Agrónomos. We have already had a meeting with its president and he stated that they are willing to consider our acceptance if the Consejo Superios de Educación gives credit to our diploma. This we are activating and hope to achieve since the Ministerio de Educación de Honduras is doing it and there should be some agreement among governments. If possible I would like to have Zamorano's curriculum.

I talked to Hugo on the telephone while he was here, and was expecting him to call me again before he left Costa Rica but apparently he was rushed and could't do it. However, he invited me to share his apartment in case I should go back to Gainesville. This invitation I really appreciate it.



Sept. 9, 1962

At present I am working with Cooperativa de Productores de Leche and take off one morning each week to teach the Animal Nutrition course at the University. However, it is quite possible that I will move full time to the University in the near future to take over a research project financed by a grant obtained from the National Institutes of Health and administered by the University of Florida, specifically Dr. George K. Davis.

With best personal wishes, yours sincerely,



Hernán Fonseca Z.



UNIVERSIDAD DE COSTA RICA  
FACULTAD DE AGRONOMIA

San Pedro de Montes de Oca  
August 16, 1963

Dr. Wilson Popehoe  
Antigua, Guatemala.

Dear Dr. Popehoe:

I was very sorry not to find you in Gainesville. I spent up there from the 8 of July till the 29. However, I saw Hugh and had a long and nice talk with him. He mentioned that you were going to Zamorano at the end of the month to spend a few months there.

President Reitz just was here last week and I had the opportunity of taking him up to the Irazú so we had a time talking about Florida and Zamorano. I was very happy to hear that things seem to be straightening up at the school. He was very well impressed with what he saw in his recent visit and he tells me that Ganadería begins to look different from what it used to be.

Alfonso Blandón was also here this week giving out the entry exams and he also speaks in very optimistic terms about the school. As you may know, our Asociación de Zamoranos has been helping in the past two years with the recruitment of the boys. We organize the program for the professor to come and give the examinations and we also handle the newspapers as well as any information requested. This seems to be of much benefit because it keeps the Asociación and the school in close contact. Also our graduates help much in gathering good human material as students to be. Blandón left yesterday morning for Nicaragua to give the exams there after a stop in Liberia.

We have received a telegram from one of the Diputados from Limón, expressing his desire for the exams to be given there also. I am sending a letter to Mr. Muller, transcribing the text of the telegram so he can decide whether this can be done or not. I hope we get a favorable answer since right now we need the support of all the diputados in order to pass a law which shall benefit our boys. Perhaps you may have a good point on this matter.

Mario Jalil and family spent a week with us here in San José last June on their way to Ecuador. We have just received a post card from Tenerife on their way back to Rome. Mario really seems to be happy with his work.

I hope you are in good health like Hugh told me you were and tell me when are you going to come to San José. We have unique "Ash Showers" which are worthwhile to see here in San José.

My very best regards to you.

With deep appreciation,

1 September 1963

Dear Hernan:

Your letter of 16 August has just reached me here. I drove over from Antigua two weeks ago, bringing Professor Watkins from Gainesville who will be going on down to Costa Rica in two or three weeks; you will probably see him there. As Hugh told you in Gainesville, I have come over here to help put the horticultural department in order. I plan now to stay until the meeting of the Board of Trustees which is scheduled to be held here on 9 November. Then I expect to go back to Guatemala. I have been working this summer on further studies of the temperate zone fruits in the Guatemalan highlands, and with Jorge Benitez, will probably get out another paper on that subject before the end of the year.

I had Professor Ziegler of Florida with me for a week, President Reitz and wife for a week, and lastly, Professor Watkins, who retired on the first of July and is taking a leisurely tour of Central America and the West Indies. I am glad that you had a good visit with President Reitz. He is very much interested in E AP, and in you. We talked about you when he was in Antigua, and I expressed the hope that you might come back here within a year or two. Someshow or other, Hernan, I have always felt that this is the right place for you, providing of course that the school is oriented along the right lines, which some of us feel that it was not, after I left. But as President Reitz told you, Ganaderia is back on its feet. I thought it was going to take longer than it did. As you know, during Paddock's time they got rid of the beautiful Charbray you bought in Florida and all other bulls except Sta Gertrudis and the poor old Holstein Salvador. Paddock went in for frozen semen from the States, Holstein only. I have always argue that we should have three beef breeds and three dairly breeds here, because our job is not to raise the kind of cattle which will make us the most money, under the conditions of Zamorano, but to let the boys learn something about all the important breeds which are presently attracting attention at various elevations in Central America. The frozen semen program was a flop; between \$7000 and \$8000 spent and we have five heifers to show for it.

Now we have a new and beautiful young Holstein from Carmona in Guatemala; and a young Guernsey from Florida. (Guernsey was completely eliminated by Paddock). And for the beef herd, we have Sta Gertrudis, Zebu, and Red Poll.

And as for pigs, Hombre! You ought to see the beautiful little piglets now in the farrowing pens. Durocs and Hampshires which I arranged to buy from Gattrell near Gainesville last January. When I came here last August, just a year ago, there were only two hoga on the farm, and these were no good and were butchered while I was here. Now we have between 125 and 150.

Two of the silos for the dairy cows were filled this last week, with sweet sorghum. Another will be filled with corn shortly, then they will fill the big silos down in the Monte Redondo pastures with sorghum, for the beef cattle. No more silos full of half-chopped Jaraguá! Gosh, what a mess it was last year.

Alvaro Aguirre is considering an offer from Turrialba. If he takes it, which I doubt, it will not be effective before January. Lino Osegueda is doing a swell job with the dairy - just as good, I believe, as Rodolfo used to do. But his health is not allright. Edmundo Ramirez is handling the creamery and doing it very well; Candelario Rios handled the beef herd in the pastures and is carrying out a fine lot of experiments with pasture grasses. He has two or three small pastures in Pangola already, but "Torito" Garcia is not strong for this pasto because of our heavy soils and dry climate. The veterinarian from Coluteca, Pinel, is getting along allright. I feel that the department is well manned, on the whole, at the present time.

We have lots and lots of farm machinery - too much of it not built for our conditions - and the Agronomy Department is going strong. José Ramon Calvo, your paisano, left yesterday for Gainesville to pursue his studies. Juan Leiva left a few days ago for the same purpose and Alfonso Blandon is leaving shortly. I haven't talked with him about the results of the exams he gave in Costa Rica and Nicaragua; I don't like to mess up these things too much, for I am no longer running the school; just trying to help where my help is needed and wanted.

Hernan; I urge you to think seriously about coming back here on a permanent basis. Of course it will be up to Dr Muller and the Board of Trustees (in which I have a vote) but if you are interested, I think you should let this be known to Dr Muller so he could have it in mind if there is a sudden vacancy in the Animal Husbandry Department.

Calvo told me that Rodolfo is getting along well. I am glad to hear this. He is one of the good ones, the very best ones. I wish we had him back here. It is barely possible that I might fly down to Costa Rica later on this year, though I rather doubt it.

Always your devoted friend,



UNIVERSIDAD DE COSTA RICA  
FACULTAD DE AGRONOMIA

September 12, 1963

Dr. Wilson Popence  
Apartado 93  
Tegucigalpa, Honduras.

Dear Dr. Popence:

Thank you for your very nice letter of September 1. I see that you are now in Zamorano for a two month period more or less and with many facts and details to work upon. This is really going to keep you busy working along with Dr. Muller since there is nothing harder ~~as~~ to rebuild a wrecked building.

However, from your own very optimistic words it seems as if everything is recuperating pretty fast from the many errors of the past. How happy I feel to hear so many good news about Ganadería! I could never imagine going back to Zamorano and find myself with a deserted like picture of the Department. Last December when I was at Incap in Guatemala, I had the opportunity of visiting Zamorano on my way back but I surely did not feel a bit inclined to do so on account of what I had heard about its blowdown.

I certainly hope that you can introduce again the main milk breeds and the best adapted beef breeds because I strongly agree with you on the fact that the School is not out to make money as someone not long ago thought of it. Zamorano is there to teach agriculture and the best way to learn is to do it yourself and in order to do this, you must have material at hand. You cannot teach a class on the Holstein breed without having a Holstein cow by your side. My present experience as professor of the University of Costa Rica proves this point very clear. We do not have at hand any facilities at all for the practical teaching of our courses, hence, our boys just have to be happy from whatever ability the professor has to describe with words and signs what he is referring to. This makes me think of the great opportunity which we Zamoranos had with all the tools at the reach of our hand to learn agriculture. Besides, how easy was for me to teach in Zamorano and how hard it is to do the same here. The School must go back in the order of practical training to what it was back in the early 1950's. The capability of its graduates has made the School to reach a very respected position among Latin American Institutions and this, has been achieved by what the students are learning to do; not from the books.

I am so grateful to you for urging me to consider the possibility of going back to Zamorano and as I have stated before, I wish I could but there are still the same reasons which do not allow me at present to change posts. I am engaged with the National Institutes of Health and have to comply with my duties for at least one year more. Besides, and as I understand, the Ganadería group is complete and most of all they are doing a very commendable job which is exactly what we all want of them.

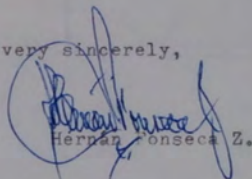
By the way if Alvaro Aguirre leaves his position at EAP to take the one at Turrialba, my advise is to try and get Marco Cabezas who is getting his Ph.D. next spring. I spent long hours with him last July and I believe he is an excellent candidate for Zamorano. However, I can anticipate you in a confidential way that he has open positions in Argentina and Brazil but he is trying to come to Turrialba or either join FAO.

Since my trip to Gainesville last July I have been considering the possibilities of going back to School next year. Dr. Davis advised me that I must work on my Ph.D. since the tendency or requirements now to fill good positions is to have that degree. I may write Hugh for some help with Rockefeller which he kindly offered me in case I needed it. My family is large and so are my financial requirements!

Give my best and sincere regards to Dr. Muller and my best wishes to you both in future plans.

With warmest regards.

I am yours very sincerely,

  
Hernán Fonseca Z.

P.S.

I would appreciate if you can put ~~some~~ some pressure upon Rafael Alvarado Blanco's admission.

Antigua, Guatemala 18 February 1971

Prof. Hernan Fonseca  
Facultad de Agronomia  
Universidad de Costa Rica  
San Jose.

Dear Hernan:

Here is the memorandum which I promised you. I hope you will think it sufficiently interesting to translate and publish. You will note that I have not mentioned any fruits or fruit varieties which are already receiving ample commercial attention. I have thought it best to discuss a few fruits which I think of particular interest right now.

Incidentally, I received today a letter from Dr Zentmyer, our greatest authority on diseases of the aguacate. In reply to a question I asked him in a recent letter, he says: "The do have Phytophthora cinnomomi in Costa Rica. I made some isolations quite a few years ago from dying trees over near Orotina - there was quite a lot of root rot in that area." No doubt Roberto Gurdian knows all about this. When making commercial plantings, it will certainly be advisable to avoid heavy soils which do not have good drainage. You know what our experience has been at Zamorano.

Best regards always.

Faithfully yours,

Wilson Popenoe

## MAS FRUTA, Y MEJOR FRUTA

Wilson Popenoe  
Director Emérito, Escuela Agrícola Panamericana  
El Zamorano, Honduras, A. C.

Every time I come to Costa Rica, which has been many times since 1920, I ask myself the question, why don't we have more and better fruit in this land of fertile soil and a wide range of climates?

I have discussed the problem with many friends. At various times the Ministerio de Agricultura, the Institute at Turrialba, and private growers have brought in much planting material, and still not enough progress has been made. But, I am not interested in criticizing, I am interested in making some constructive suggestions, based on observations in Costa Rica over the years, and more particularly on work which we have done at Lancetilla Experiment Station and the Escuela Agrícola Panamericana in Honduras, and more recently, in the high lands of Guatemala, where much attention has been devoted to the cultivation of Temperate Zone fruits.

### THE BAHIA OR WASHINGTON NAVEL ORANGE

The orange is the King of tropical fruits and Washington Navel is the King of oranges. But this statement only holds true when it is grown in the right climate. At sea level in Central America the tree does not bear satisfactory crops, and the fruit lacks color and quality. Perfect conditions for growing this orange are found at elevations of 1000 to 1500 meters, in regions which are characterised by <sup>4 to</sup> ~~5~~ 6 months of dry, sunny weather each year. In my recent brief visit to the Meseta Central it seemed to me I saw fewer Navel orange trees than I did in the 1930's. In any case, I am sure the cultivation of this excellent fruit has not increased as it has in El Salvador, Honduras and Guatemala. Why is this? It is true that Navel



orange trees do not bear such large crops as <sup>So those</sup> ~~oranges~~ of the Valencia type, but in Guatemala a Navel orange sells for 5 cents and a Valencia (or any other orange of that type) sells for one cent, or not more than two cents. And we commonly get two crops of Navels a year.

#### THE MANGO

Throughout tropical America the development of mango culture has been slow. I will mention three of the factors which seem to be responsible, (1) The fine grafted mangos, fiberless and of superb quality, are exacting regarding environmental conditions, (2) practically all of them are less productive than the seedlings which grow everywhere, and (3) in Costa Rica everyone says it is almost impossible to control theft (merodeo). Even if these and other factors have made commercial orchards unprofitable in the past (if there have been any commercial orchards?) there certainly is a place for fine mangos in dooryards and home gardens. A favorable climate is one with a long and severe dry season which coincides with the period during which flowers are produced and the fruit grows to maturity. Low elevations are best. In Central America 1000 meters is about as high as mangos should be planted, except in very favorable locations - microclimates as the técnicos call them.

In connection with most fruit crops the matter of varieties is more important than many people recognize. This is especially true with mangos and aguacates - more so than with oranges. For the home garden, individual preferences regarding quality of the fruit must be taken into account; for commercial planting such things as productiveness, season of ripening, attractive size, form, and color, and ability to withstand shipment and hold up well in the market, must be taken into account.

In the Americas, new varieties, most of which originate as chance seedlings,

appear from year to year - especially in Florida, whence we bring them to Central America. At the present time the following are some of the best which are available: Haden, for many years the standard commercial mango in Florida, but no longer planted extensively in that State because its productiveness declines after 12 to 15 years. In tropical America this does not seem to be case, up to now, and Haden is planted commercially more than any other mango. Irvin, Kent, Keitt and Tommy Atkins are relatively new varieties from Florida, which are more productive than Haden and are considered fine commercial mangos, especially Tommy Atkins. Julie is a dwarf variety, popular for home gardens, as is its offspring Carrie, considered in Florida one of the most delicious of all mangos.

There are several varieties of the Indo-Chinese race, such as the Saigon or Cambodiana, and the Filipino or Manila, which are polyembryonic and come true to the parent type when grown from seed, which is not true of the East Indian mangos such as Haden and many others. Needless to say, all of the mangos mentioned above are practically fiberless; after removing the seed the flesh can be dipped out with a spoon.

It seems to me there must be some way of controlling the problem of merodeo. Two other problems which must be faced - in some regions are the anthracnose fungus and the fruit fly. Anthracnose gives us little trouble at Zamorano, because the weather is dry during the flowering season; sometimes it attacks fruits which mature after the rainy season has commenced but it can be controlled with copper sprays. In recent years experiments with chemical sprays to control fruit flies have shown much promise.

#### THE AGUACATE

Why should Costa Rica, where the aguacate is native, have to be an importer of this immensely popular fruit? You grow aguacates in several parts of the country, but you only grow, in any quantity, those which ripen from

May to August - approximately. Perhaps I am slightly wrong regarding the months, but I am sure you do not have aguacates all the year round, and you could, and should, come pretty close to doing this.

Not everyone realizes that there are three horticultural races of aguacates, which are <sup>we</sup> call the West Indian, The Guatemalan, and The Mexican. They differ in climatic requirements, and their fruits ripen at different times of the year. A few professional horticulturists, such as that apostle of "Mas fruta; y mejor Fruta", José María Arias of Río Segundo, have been working to extend the aguacate season; and <sup>recently</sup> ~~a few years ago~~ the University established a collection of varieties near Alajuela. I visited this a few weeks ago, it gladdened my heart. A more beautiful, well-kept little grove can not be seen anywhere and it gave me immense pleasure to talk with Roberto Gurdian about the varieties he is testing. He gave me a list, regarding which I would like to make a few comments.

For low elevations, Pollock, Simmonds and Catalina are good, though at Zamorano the last-named, which ripens a month or so later than the first two, has proved to be somewhat inferior in quality. The variety Waldin, also late-ripening, is preferred in Florida. All these varieties belong to the West Indian race, and in Guatemala do not thrive at elevations higher than approximately 1000 meters.

For middle elevations, 750 to 1200 meters, the following varieties now in the collection at Alajuela, have proved very satisfactory in Florida, in Guatemala and in Honduras. All of them are natural hybrids (it is believed) between the West Indian and the Guatemalan races and ripen much later than the pure West Indians: Lula is a good bearer but not of the best quality. For many years it <sup>was</sup> ~~has been~~ the most important ~~and~~ commercial aguacate in southern Florida, but it is now being replaced by Booth 7 and Booth 8, both very productive but with a tendency to bear good crops "un año sí, un año no", which is characteristic of most aguacates of the Guatemalan race. Choquette is

a very large fruit, and a good bearer. It is being replaced to a certain extent in Florida by Monroe, considered superior in quality. Neither this nor Hali, another large aguacate, is in the Alajuela collection as yet.

For the higher elevations the following are some of the best which are now growing at Alajuela, and it should be mentioned that they include some of the world's most important commercial varieties: Fuerte, a Guatemalan x Mexican hybrid, considered in the United States the ideal commercial aguacate, is very sensitive as to climate. It is a pear-shaped, green fruit 10 to 12 ounces in weight, Hass is a Guatemalan, small, egg-shaped, dark purple in color, of fine quality, and with a small seed. Nabal, also a Guatemalan, is round, a pound in weight, excellent in quality and with a small seed. This and Fuerte are considered the two best commercial aguacates in Israel, though in California, Nabal has been discarded because in that climate it does not bear good crops every year.

We know little - or nothing at all - in Central America, about the varieties from Hawaii and Puerto Rico which are in the Alajuela collection nor will we know, until the varieties I have mentioned, <sup>above</sup> come into full production just how they will behave in Costa Rica.

I have never been able to understand why there are not more aguacates on the Meseta Central. There must be reasons with which I am not familiar. The few horticulturists with whom I talked say it is largely a matter of "merodeo". Don't they have the same problem at Orotina and places which send aguacates to San José? Maybe the problem on the Meseta is like that which was faced by my old colleague Harlo von Wald when he planted 10 manzanas of rice near Santa Marta, Colombia. Before he could harvest the crop hundreds of birds arrived

and ate it up completely. "Now, if I could only get 10 or 20 other men to plant rice, and we could divide the birds among 100 or 200 manzanas, instead of having them all on my 10, I would be saved".

UNOS FRUTALES DE TIERRA CALIENTE

Professor Hernán Fonseca, one of the many Zamorano graduates of whom we have reason to be very proud, asked me to include in this brief paper some of the less-known fruits which deserve more attention in Costa Rica. There is not space to discuss many of them, but it may be interesting to mention several which can be grown successfully in the hot humid climate of the Atlantic coast. (It is notorious that not all tropical fruits are adapted to such regions). Some of the best come from the Asiatic tropics and are not yet well known in the Americas. Way back in the 1920's Lancetilla Experiment Station in Honduras brought together many of these fruits and we have had time to determine their value and usefulness. The rambutan and its close relative the pulasan have proved highly successful; they bear good crops annually and make fine dooryard trees. Their commercial future may not be very important ~~fruit~~. The famous mangosteen, sometimes referred to as the most delicious of all tropical fruits was brought to Costa Rica many years ago, but has not yet been planted extensively. At Lancetilla we have what is probably the largest planting of mangosteens in the world - about 1000 trees. They grow well, but are erratic in production, and the fruit is not well adapted to commercial marketing. But if I lived in the Atlantic low-lands I would certainly have a mangosteen or two growing in my dooryard, in spite of the fact that they are very slow to come into bearing.

Of American <sup>fruits</sup> ~~species~~, we should certainly work hard to develop guanábanas which are more productive. And then we have the chicozapote, which grows wild so abundantly in the Petén region of Guatemala but is adapted also to less humid

regions. It is slow to come into production, though they now have a variety in Florida (its name is Prolific) which comes into bearing at an early age and the fruits are of large size. In the past five years I have taken many grafted trees of this variety to Guatemala. The common name in Florida is sapodilla; in Guatemala it is sometimes called nispero. There are commercial plantings of Prolific and one or two other grafted varieties wouth of Miami in Florida.

The Chinese lychee (Litchi chinensis) is grown commercially in Florida and we have been working with it for more than 30 years in Honduras and Guatemala. I don't know how much has been done with it in Costa Rica. The problem, even in Florida has been to make the tree produce good crops annually. The behavior of the varieties which have been planted up to now has been very erratic. The solution of the problem may lie in the development of a new variety which bears good crops regularly. Our experience in Honduras and Guatemala indicates that climate is also a major factor. We have not been able to do much with it in wet climates, like that of Lancetilla but have not given up hope for it when grown in <sup>regions</sup> climates with a long dry season. The cooperative lychee growers <sup>of Florida</sup> ~~association~~ <sup>have</sup> has shipped north as many as 35,000 pounds of lychees a year, and they get about a dollar a pound.

#### FRUTALES DE LA ZONA TEMPLADA

I wonder when the first attempts were made to grow apples, pears, plums and peaches in Costa Rica? We can be pretty sure that early colonists from Spain brought peaches with them as they did to all their colonies from Florida to Argentina. I wonder if any information can be found by going through the early literature, especially that of the 19th century. Experience of the past 50 years has shown that we are up against a tough job. The situation today as I see it, based upon my recent brief visit to Costa Rica and what I have learned from

continued contact with local horticulturists since 1920, is this: There is not much hope for apples, with any of the varieties available today. I think you can do something with pears, if you plant the Oriental hybrids and they are on the right rootstocks. A little can be done with plums, if you don't try to grow the European varieties, and you can do a lot with peaches, through using the varieties of low-chilling requirement which have been, and are being, developed in Florida and southern California. Based upon our experience in Guatemala I would forget about apricots and cherries. I realize I am doing a lot of forecasting, and 25 years from now you may want to tell me how wrong I was. I am sorry <sup>I</sup> won't be here to tell you I sincerely regret my mistakes.

It is necessary to go into some detail to explain why I have dared to prophesy as I have just done. In the first place, I had the pleasure of visiting, a few weeks ago, in company with Arturo Borbon, Dr. Albert S. Miller, Hernán Fonseca and Dr. George Adrian of Illinois, the plantings at Coliblanco on the slopes of Irazu, elevation about 7500 feet (Put that in meters for yourself; when it comes to ~~the~~ climate <sup>S</sup> for temperate zone fruits here in the tropics, I have to think in feet). Please don't think if I prove to be wrong in my recommendations. You can blame it on any of my companions on the trip to Coliblanco!

APPLES. In attempting to evaluate the possibilities for any temperate zone fruit here in the tropics, we usually think first of the chilling requirement - if it is known. This may vary with the species as well as with the horticultural variety. Then we think of the amount of rainfall, and its distribution. Then the topography, or exposure, and the amount of sunshine.

We have learned a lot regarding the importance of the major factors ~~as~~ from the behavior of apples on the coast of Peru, which comes under the influence of

the Humboldt<sup>t</sup> current. In Guatemala we can not grow any of our present day commercial apples below 6500 feet. We are at latitude 15 degrees north. In Peru, at latitude 15 degrees south, they grow them right on the seashore. Their minimum temperature is not nearly so low as ours, but they can control the water supply - rainfall is almost nil thus throwing the trees into dormancy at the right time of year, and there are very few bright sunny days compared to ours. I am not too clear about all of this of course; I am not an ecologist, or a plant physiologist - just an old-school pomologist.

But why don't I think there is much hope for apples in Costa Rica. We don't have the Humboldt current, therefore we must have elevation, as we have found to be the case in Guatemala, and where we have the elevation we have too much rainfall. ~~That is,~~ We don't have long, sunny dry seasons as we do in the apple growing regions of Guatemala.

But let's not forget that "hope springs eternal in the human breast." I would not try to grow apples at Coliblanco, but if I could find a spot on the Pacific watershed at an altitude of 6000 or 6500 feet, where there is a tendency toward a well-marked dry season I would plant 10 apple trees of the Winter Banana variety, give them the best of care, and pray for lots of dry weather.

PEARS. It is well-know<sup>n</sup> that pears will thrive in more humid climates than apples. There are some old trees, said to be of the Kieffer variety, at Coliblanco. We were told that they produce fruit. We also saw a few pear trees at about 6000 feet, as we drove back to Cartago. In all that region, at 5500 to 6500 feet, it did not seem to be as wet as at Coliblanco - not nearly as much moss and as many lichens on the native vegetation.

There are now available numerous hybrids between the oriental pears and the European pears. Kieffer and Pineapple are two of these hybrids. There are many trees of both in Guatemala. But they are poor pears, too poor. They will grow



well at lower elevations than the European pears and they are resistant to the fire-blight. There are now available much better pears than Kieffer and Pineapple, of the same "blood". And new ones are appearing all the time, some of them almost as good in quality as Bartlett. Two which have done well in Guatemala, even as low as 5500 feet, are Hood and Baldwin. I strongly recommend that they be tested widely in Costa Rica, but only when grafted on Pyrus calleryana rootstocks. At low elevations in Guatemala - 6000 feet for example, we have had trouble with Bartlett rootstocks. Bartlett has just about the highest chilling requirement of all the European pears.

PLUMS. Many European plums were planted in Guatemala and so far as we have seen, none has been successful. In modern times the Japanese plums have been planted and they have done well at elevations of 5500 to 8000 feet. There is not a big market for plums and at the present time few are being planted. They like about the same climate as peaches, but must have more elevation than some of the latter. Three varieties which are popular in Guatemala are Santa Rosa, Mariposa, and Satsuma. The latter seems to do well at slightly lower elevations than most others (these are good trees at 5500 feet in Guatemala and El Salvador) but the fruits are not highly satisfactory for dessert use. I do not know just what to think about plums for Costa Rica. I would want to see more experimental plantings in regions not as wet as Coliblanco where there are, however, some old trees which were in flower at the time of our visit.

PEACHES: In any program for temperate zone fruit development in Costa Rica, peaches would be my first objective, but I would avoid climates which have a lot of rain when the fruit is ripening, for in Guatemala we have found "Brown rot" very troublesome under those conditions.

The peaches which were brought to Costa Rica were what we call Spanish peaches. They have a lower chilling requirement than the well-known commercial

peaches of the United States, such as Elberta. These varieties were developed from peaches which grow in northern China. The peaches of the extreme south, Flowrida for example, were developed from a race which grows in southern China and have a much lower chilling requirement.

Many of the northern peaches such as Elberta have been planted in Guatemala. We have seen no tree which was successful in that country, even at the highest elevations, - 8000 feet or little higher. They should be avoided in Costa Rica, and attention devoted to the new varieties from Florida and southern California of which there are many, with new ones appearing almost every year. Some of those which seem promising for Central America are Earlygold, Tejon, Suwanee, Early Amber, Rochon, and Florida won, which latter is not now recommended for commercial planting. All these, and others, should be grown experimentally for at least 5 years in any given location, since they differ in their climatic requirements.

Nectarines with the same genetic background as the Florida peaches are now receiving much attention and seem very promising commercially. The variety Sunred which was developed by Prof. Ralph Sharpe at the Florida Experiment Station, looks extremely promising in Guatemala.

While peaches are usually grafted on ordinary seedling rootstocks, a resistant stock is recommended where nematodes may cause trouble. In Guatemala the stocks known as Nemaguard and Okinawa are coming into use, since the discovery of nematode damage in several of the principal orchards in that country. Seeds of Nemaguard are easily obtainable in the United States.

#### IN CONCLUSION

For more than five years we have been thinking and talking about "diversification". Ever since those early days when the U. S. Department

of Agriculture (1913-1925) I have been interested in the work of Plant Introduction and the development of new horticultural industries in tropical America. I think I have come to appreciate the problems, the dangers and the disappointments which must be faced when it comes to crops with which we have little or no experience. In recent years there has been too much emphasis placed on the commercial planting of crops with which we have no experience. We must make haste slowly. What I would like to see in Costa Rica is just what is being done now to a limited extent. Keep it up. Introduce varieties of those fruits which experience in other regions has shown that they may be adapted to your <sup>country</sup> conditions. Plant them wherever local conditions give you reason to feel that they may prove successful. Train more of your horticulturists to grow fruit trees, to manage orchards, and to put clean, attractive fruit on the market in prime condition.

OL VERNON (502-1702)



UNIVERSIDAD DE COSTA RICA  
Ciudad Universitaria "Rodrigo Facio"  
Costa Rica, América Central

September 10, 1971

Dr. Wilson Popenoe  
Casa Popenoe  
Antigua, Guatemala

Dear Dr. Popenoe:

I have been asked to give a speech next October 12 in Tegucigalpa on the occasion of the 25th. Anniversary of the first graduation class of the School and since you have all the "records" in your mind, I will like to have the following information from you so it may aid me in preparing the speech.

On separate sheets I am enclosing the questions so it may be easier for you to answer them.

We have been talking to Sally quite often and she seems to be doing fine both at the University and in her home.

I am really sorry that I am not capable of sending you the translation of your paper at this time but I have been so extremely busy that even at nights I haven't been able to finish it. However, I promise to take it with me to Tegucigalpa and give it to you there.

Isabel sends you and Mrs. Popenoe her best wishes and the same from me.

Sincerely yours,

Hernán Fonseca Z.  
Associate Professor

HFZ.nch.



UNIVERSIDAD DE COSTA RICA  
Ciudad Universitaria "Rodrigo Facio"  
Costa Rica, América Central

QUESTIONS

1. Who inspired the idea of Zamorano and how it took place?
2. How did all the plans to establish the School were channeled?
3. Why were you selected to organize and direct the School?
4. How did you select the site?

