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About the Institute

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

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

Florida's Finest
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SOUTH FLORIDA GROWERS ASSOCIATION, INC.

P. O. BOX 458, GOULDS, FLORIDA

PHONE HOMESTEAD CIRCLE 7-1631

January 25, 1971

Dr. Wilson Popenoe

Antigua, Guatemala

Dear Dr. Popenoe:

I had hoped to see you at the Horticultural meetings here in Miami at the end of October, 1970, but somehow missed you. I understand you did not attend. For sometime I have been wondering about the possibility of growing avocados in areas outside of the United States and one of the places I thought might possibly have some suitable location was Spain. I recently ran across a booklet which accompanied a shipment of avocados to the Madrid market, and I had Xeroxed a copy of part of this booklet. Since that time, I have been informed that you possibly are quite knowledgeable about the areas of Spain where avocados might be growing and where they might be grown satisfactorily in the future. I am wondering if you can give me any information about your thoughts along this line.

I did also want to talk to you about the possibilities of growing avocados in other areas and I thought possibly if you were going to be available at home sometime the latter part of February, that I would like to run down to see you for a day. Would this be possible?

We have just about finished marketing the largest crop of Florida avocados which we have ever had here. It will finally wind up at about six hundred and sixty thousand bushels going to fresh fruit market, and about sixty to seventy thousand bushels going into process. With a short crop in California during the past twelve to fifteen months, it has given us a good market and most of the growers have done pretty well. However, I do believe that this may be one of our better years rather than indicative of what we will be doing in the future.

As you may well understand, we are quite plagued with a shortage of labor and a difficulty of getting any kind of good skilled dependable labor. Of course, our costs are rising constantly and unless we can keep the market abreast of these costs, some day we will really come up short.

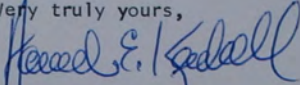
We recently had two cold nights, during which time the temperature got down to 30 degrees with the wind blowing, and the next night to 28 degrees and a bit of frost. We were able to pretty well protect those groves where we turned on the irrigation systems early and kept them running all night. It looks as if our

January 25, 1971

solid-set systems will work if we know how to use them properly.

I would very much appreciate the opportunity of talking with you at some length about avocados, and if you are going to be available, I would be glad to come down to see you at whatever time might be convenient for you.

Very truly yours,



HAROLD E. KENDALL

HEK/fh

P.S. As you know, Bill Krome and I tried to raise a few Cavendish bananas, but they got hit pretty badly by cold last year and this year. Someone told me that you might have some suggestions as to cold-hardy plants. Were there any of these at Lancetia which you think might be worthy of trying here in Dade County?

We have a large Cuban and Puerto Rican population here that would be a market for any cold hardy banana or plantain we might grow. We would plant to grow them for 2-3 years in between our young avocado trees. This might give us a cash crop and utilize our expensive irrigation systems while our young avocado trees are growing up.

HEK

Antigua, Guatemala 13 February 1971

Mr Harold E. Kendall
Goul's, Florida

Dear Mr Kendall:

On returning a few days ago from Costa Rica and Honduras I find your very interesting letter of 25 January. The thing for you to do is to come right down here and spend a couple of days with us, talk things over. I don't see any reason for your stopping first in Guatemala City - you can go over there afterward if you want to do so - so what I advise is this: Get a taxi at the airport and come direct to Antigua. Most of the chauffeurs know the "casa Popocate"; if yours doesn't, tell him it is Primera Avenida Sur num. 2, diagonally across the street from the Club Antigüense. If you don't mind living in the 17th century we will put you up here in our house. I assume you have a Passport. With it you can get at the airport a Tourist Card for Guatemala; don't go to the Consulate and get a visa on your passport, because it involves you in going back to Guatemala City the next day and standing in line at the Immigration office, - or maybe you will find it is a holiday and you have to come back next Monday. If you don't have a passport you can get a tourist card with some other sort of identification.

Now as to your project: I believe there are good possibilities in Spain. The booklet which you mention probably came from Rancho California in Almuñecar, due south from Granada on the Mediterranean Coast. I spent the year 1958 at this place, helping to establish this orchard. During that time Luis Sarasola, who runs it for Roger Magdahl, a German who lives in Chile, and myself did a pretty thorough job of cruising the Mediterranean coast, to get all the information possible regarding

conditions of climate and soil, and avocados which were growing at that time. Last August I spent two weeks again in the region, without going East of Almuñecar, however. I found that it is practically impossible to get any avocado land at Almuñecar; the winter resort business has taken everything. I would think of the region to the East, up toward Valencia which as you know is the great Citrus region.

I would also be inclined to think of the Canary Islands, which I visited in 1958. They are growing quite a few avocados. They are developing some orchards in Morocco but I would not go there for political reasons.

I won't go into further details now, because the whole subject can best be treated here in Antigua. As for the possibility of a hardier banana to feed the Cubans at Miami, you know that I have worked on bananas a great deal - though not much in regions where there is a frost hazard - and I don't have much hope of your finding anything better than some of the Cavendish group. A year or so ago I saw Bill Krome's planting. I don't think we will get very far on what Ed Simmons used to call "High Pine" Muck soils are probably alright but aren't most of the much areas cold? I would like to talk about this whole matter with you, though I am pretty sure I can't add anything to what you and Bill already knew.

If you don't have time to advise me by airmail as to when you will come, send me a radiogram, addressed Wilson Popensee, Antigua, Guatemala so we will be expecting you. You don't have to come this month; I expect to be here all of March but may have guests in the house after the tenth. That wouldn't matter of course, you can stay at the Hotel Antigua which is quite comfortable.

Cordially yours,

Florida's Finest

SEEDLESS LIMES
AVOCADOS - - MANGOS



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SOUTH FLORIDA GROWERS ASSOCIATION, INC.

P. O. BOX 458, GOULDS, FLORIDA 33170

Phone (305) 247-1631

March 10, 1971

Dr. and Mrs. Wilson Popenoe
Primera Avenida Sur No. 2
Antigua, Guatemala

Dear Dr. and Mrs. Popenoe:

After a very nice flight back to Miami on Sunday, we ran into 35 degree weather Sunday night which I hope is the last cold spell of the winter season here. No damage to any of our crops but I do believe our West Indian variety of avocados are not happy with this temperature, especially during blooming season.

One of the things I wanted to discuss with you but completely forgot was to talk about the possibility of raising Acerola or Barbados Cherries in Guatemala. There seems to be an interest in a source of supply for Acerola juice, both single strength and concentrated. This juice would be made from the crushed ripe Acerola fruit.

We have had about 100 of these trees growing here for about eight or ten years and they seem to do alright here. The only trouble is of course that as the fruit becomes ripe it must be picked fairly quickly at the peak of maturity and then every two to three days in order to be sure the crop is well harvested. They bloom two to three times a year here with heavy crop coming in in late May, June and July then there is another crop in the Fall about October. It is necessary to pick the fruit carefully and process it quickly so the fruit is not bruised and if handled carefully it is put into juice before fermentation can start.

I thought possibly you might have had some experience or knowledge of Acerola culture somewhere in Latin America. It is my understanding that about 100 acres were planted in Puerto Rico several years ago and this product was sold primarily to the people who put up Bibb Orange Juice for infants. There was a good deal of interest a few years ago on the product in Health Food Stores but FDA cracked down on them and this demand evaporated over night. Now there seems to be renewed interest in Acerola juice because of high Vitamin C content. I thought possibly that "Arturo" might be interested in raising Acerola if a dependable, assured outlet was offered to him, etc. If you think that Acerola trees would grow and produce well then possibly we can explore this further.

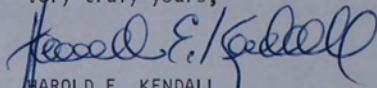
March 10, 1971

Page Two

I do want to thank both of you for a very wonderful weekend. I enjoyed the hospitality of your home more than I can say. Furthermore, I did appreciate the opportunity of talking with you at such great length during my stay there.

I do hope that you will plan to stay at our house when you come to the Miami area. If there is anything I can do for you at any time in the States, please let me hear from you. Also, if your plans develop so that you might be in Spain in May, I would be very interested in hearing this also.

Very truly yours,



HAROLD E. KENDALL

HEK/fh

Florida's Finest

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AVOCADOS - MANGOS



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P. O. BOX 458, GOULDS, FLORIDA 33170

Phone (305) 247-1631

April 5, 1971

Dr. Wilson Popenoe
Antigua, Guatemala

Dear Dr. Popenoe:

Thanks very much for your good letter of March 26th. We continue to have very dry weather here and it looks as if the avocados are setting an excellent quantity of fruit on almost all of the trees, whether the early summer varieties or the late fall varieties.

Last year we had fairly dry weather and we had the biggest crop we ever had (670,000 bushels). This year, barring a hurricane in the Fall, we could market as many or more I believe as the trees seem to have come back after the heavy crop and through the winter weather and looks as if they might be able to set equally as much or more than last year. We have had fairly cool weather (2 to 3 cool spells) during March and ordinarily I would think that this would affect the setting of our fruit. However, I am beginning to believe that our trees (at least the varieties we now have), are able to set fruit in spite of cool nights. The dry weather seems to be the main factor here abouts.

My son is interested in the Acerola and principally from a marketing standpoint. Because of the past history of the demand for this juice, we should be a little cautious in going ahead and getting too optimistic about the deal. However, we have obtained quite a bit of Acerola juice from local supplies and are taking care of the demand we have in Europe for this product right now. These people seem to be very optimistic about their future use of this product and it was for this reason we thought possibly Guatemala might be a good place to grow Acerola in the future. Before we would want to approach Arturo Falla with anything, however we would want to be sure that the people we are doing business with are dependable and can offer a firm market for any products which Falla might produce. Furthermore, we would want assurances that in case the demand fell off, that Mr. Falla would not be the one to suffer, etc. So, we will just rock along on the Acerola until we see how the demand develops.

A few days ago a man from Cargill, Incorporated in Minneapolis called me regarding the possibility of developing a large production of avocado oil somewhere in the low land and low labor cost areas of the World. I told him that I thought in California they were producing avocado oil but principally on a by-product basis and at a fairly high cost per pound. On this basis they were of course charging all the market would bear and this was a fairly high price for a small quantity. I further told them that Naarden in Holland, had been producing avocado oil in South Africa, I thought, and had been marketing

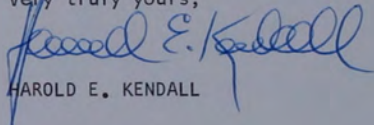
April 5, 1971

this to the cosmetic trade in Europe. But, in both places I didn't think they were trying to get into tremendous production because I didn't think the demand for avocado oil was that great. This person however was thinking of something that could be produced so that it could be competitive with peanut oil and other such large volume, low priced oils at say \$.12 to \$.15 per pound. I told him I didn't think avocados were that full of oil and were that plentiful and that such a job could ^{not} be done but if he wanted to go ahead and explore the matter further, to make up a list of questions and to send them to you. I told him I felt that given the proper questions that you would try to answer them.

The man who telephoned me from Cargill, said that he was in the economic research department and had been referred by someone in California. I quickly pointed out to him that any avocados he might obtain for by-product purposes from Florida would primarily be of a surplus or marginal nature. The total quantity would certainly not be great. Furthermore, I told him that our avocados had a very low oil content and I thought they wouldn't stand much of a chance of being economic for avocado oil production.

I haven't been able to get final plans set up for a projected trip this Spring, but I am still hoping that sometime in late April or early May, I can go over to Spain for a couple of weeks to look around. Sorry that you can't plan to be there at the same time. My best regards to Mrs. Popenoe and you.

Very truly yours,



HAROLD E. KENDALL

HEK/fh

Antigua, Guatemala 26 April 1971

Mr Harold E Kendall
Goules, Florida

Dear Harold:

In my last letter I think I told you that I had written Luis Sarasola at Rancho California, Almuñecar asking him to give me some information about the cost of land and water and labor, in the Malaga region. I didn't have much hope that he would answer and he hasn't. I doubt that any of the local horticulturists would really welcome a big U.S. operator like yourself, but I don't know this should necessarily be a deterrent. If you decide to fly over there in the near future, and I really think it would be worth your while even though you never develop a big avocado planting in Spain, I think your best contact might be Dieter Wienberg whose card I enclose. I was well impressed by him; he is a well trained German and has charge of the experiment station near Malaga where they have an avocado program, as I have told you. Dr Wienberg can put you in touch with the situation in general. Another man you should see is Enrique Grana, at the Centro de Cultivos Subtropicales, Puerta del Mar 14, Malaga. And of course you will want to visit the orchard of Roger Magdahl, Rancho California, at Almuñecar (84 kilometers from Malaga) where I spent 1948 helping establish the orchard which is proving so profitable. Luis Sarasola, from northern Spain, is the man in charge and I am sure would be happy to show you their trees - about 95% Hass.

As for acerola juice, you are quite right in saying that no one down here should be encouraged to plant unless he has a safe outlet. In this connection, I mean safe. Several years ago a firm somewhere in the U.S. wrote to people down here to plant Macadamias and

offered to buy all we can produce at 50 cents per pound. I dont think any contracts were ever signed, and we dont know how to grow macadamias, and up to now only one chap is going into the business serious, and I dont think it is connection with the 50 cents offer I mentioned. This man is Frederic Rosengarten Jr., who worked with me when Merck and Co. were undertaking, at the request of the US Govt, to produce quinine back about 1940. Rosengarten's father had been the biggest quinine manufacturer in the US; had joined Merck; and when he died some years ago left his son a pretty darn handsome fortune, I understand. Fritz (as we call Frederic Jr.) had nothing special to do and lots of money to do it with, so after the US govt lost interest in quinine, and Merck dropped the project, Fritz went into cardamoms and cleaned up handsomely. He was the first man in the field, and it doesnt seem likely that the market will develop and today nobody is talking about planting cardamoms. Fritz is planting 100 acres of Macadamias, with grafting material from Hawaii. He has one of my old henchmen, Jorge Benitez, handling the cultural end. This is, as I see it, his only safeguard. He knows the whole thing is a gamble but he enjoys horticultural gambling and can afford to gamble. He doesnt have a guaranteed price nor a sure market for his macadamias, and he doesnt know how many he is going to produce anyway.

I have received a letter from Cargill saying that they are much interested in producing avocados as an economical source of edible oil. If I answered all their questions I would have to write a modern text book on avocado culture. This is not necessary, because as you know better than I do, no one has yet produced avocado oil commercially which can be marketed as edible oil. All we have is the cosmetic business. I have recently been in correspondence with my old friend

Salvador Sanchez Colin up in Mexico (I am sure I have written you about this) who is one of the major suppliers of avocado oil for cosmetics, I believe. I believe the lads in Mexico have worked hard on this edible oil business. Quite a lot has been done in California. And every once in a while we hear rumors that somebody has solved the problem, but we never see any avocado oil alongside Olive oil at the Winn Dixie. Or am I wrong? I don't think so.

To save me the time, I wish you would write your friend Alvan C. Greenman or Cargill and tell him I am not answering his letter because I could not recommend their going into avocado production in tropical America or elsewhere on the basis he has in mind, and you can add if you wish, that I suspect the boys in Mexico, where the supply of avocados is almost unlimited, will take care of the cosmetic market. Of course, if this market expands tremendously there might be possibilities in this field. But I'll bet you are not thinking of stepping into this field, and you have not been asleep at the switch.

For fifty years I have been living in the hope that we would eventually produce an edible oil from avocados which would be as good as olive oil and would not ^{have} to compete, therefore, with cotton seed and peanuts and sunflowers and so on. Years ago I figured that avocados would produce more oil per acre than olives, but I also figured that the avocado industry would vie with the citrus industry in California, which to date it hasn't quite done.

As I am sure you know, the big problem has been that the chemists have not yet been able to turn out a satisfactory, commercial, edible avocado oil. Price has not been the problem. They haven't gotten that far.

Cordially yours,

Antigua, Guatemala, 29 April 1971

Mr Harold E. Kendall,
Goulds, Florida.

Dear Harold:

After waiting quite a while to hear from my friend Luis Luis, Sarasala in Almuñecar, I wrote you that he hadn't answered my questions about avocado land on the Costa de Sol and I didn't think he was going to do so. But today I received a long letter from him. He said he had been slow in answering my letter because he has begun to feel his years (he is 70), doesn't know much longer he can carry on, and worst of all, his boss, don Roger Magdahl, the German who has made his fortune in Chile and has large holdings here, cannot go back to Chile because of the communist government. It sounds to me as though he may be thinking of retiring, and Luis says he would be willing to sell Rancho California, but this would not be any interest to you as it is only a matter of ten acres or so and cannot be expanded.

Luis says he thinks you would do very well to undertake a large avocado development on the Costa del Sol. He mentions the valley of Velez Malaga as the region he would choose. He and I have been there twice and liked it very much. It is about 25 kilometers East of Malaga.

He doesn't attempt to say much about land values, except that the finest valley floor lands with water may bring as high as \$7500 a hectare, but I would not use valley floor lands because they would be difficult to drain properly if you ever get Phytophthora in that region. Luis says he would recommend getting some of the light slopes which are in olives and almonds, terracing them, and planting them to Hass at 10 by 10 meters, with Irving interplanted - I don't know

just why, as he has not grown this variety commercially as yet.

It is my belief that you are going to find land expensive, anywhere on the Costa del Sol. My guess would be not less than \$1000 to \$1500 an acre, with water rights. It is possible that by going farther East, out of the winter resort territory, somewhere around Almeria or Murcia where I still think you would be safe with Guatemalan varieties like Hass and the Guatemalan-Mexican hybrids like Fuerte, you might be able to get good land with water available at not more than \$1000 an acre.

I believe it would pay you to go over there and get Sarasola to hire a car in Almuñecar and take you up and down the coast. You ought to count on ten days for the job. And Sarasola is the only man who knows much about avocado growing, and suitable lands. The German director of the experiment station about whom I wrote you has not been in the region very long, and has not devoted himself at all to avocados. Sarasola is your man, and now that I can see he is not interested in discouraging others from getting into the avocado business in a big way, I am sure he would help you. If you wish, I will sound him out.

I don't remember whether or not you had a good map of Spain with you when you were down here. I am enclosing one on which you can easily locate the regions I have mentioned above. Note also the large area inland from Malaga, which I have mentioned. This is an important producer of oranges and there is water. If I were interested, I wouldn't mind going as high as \$1000 or \$1500 an acre for good soil in this region. I would avoid the fine silt loams which don't drain too well. I saw the finest young orchard in that whole region last year, on a coarse reddish soil. Hass and Fuerte, 3 yrs old. Perhaps ten acres.

Best regards always,

Faithfully yours,

San Baudilio de Llobregat, 2 de julio 1971

Dr. J. Iglesias de Latorre

MARTLAND HOSPITAL

Muy apreciado Dr. Iglesias:

Recibo su carta del 28 y le agradezco fuera para Ud. una grata estancia la que hizo en este Sanatorio durante aquellas horas de su visita.

No descuidè su encargo y por mediación de Monsieur Quès he tenido noticias directas del los terrenos que en el Sur de España pudieran prestarse mejor al cultivo del aguacate. Ha estado allí hace muy poco tiempo y mirò zonas en incluso con alguna pequeña experiencia del ese cultivo del que le aseguraron se daba muy bien, especialmente entre Sevilla y Huelva. Hablò con quien pudiera darle razones firmes y en cierto modo experimentadas. Màlaga tiene el inconveniente del agua va que la pluviósidad es mínima y las reservas forzosamente han de ser escasas.

Lo pongo en su conocimiento para que pueda comunicar a su amigo Harold Kendall, haciéndole constar que el informe de M. Quès y las noticias que ha pedido recoger por Andalucía, señalan como lo más apropiado la provincia de Huelva, terrenos que van desde esa ciudad hacia la provincia de Sevilla.

Con afectuosos saludos para su hijo y para su hermano Luis se reitera s.s.o. en Cristo

Fr. Matias de Mina

July 24, 1971: Dear Dr. Popnoe: Dr. Iglesias is the father of the two Cuban children who lived with us for 10-111 years before he could get out of Cuba abd over here; at present he is teaching in New Jersey State Hospital and practicing medicine there; recently he went over to Madrid, Barcelona and Majorca to give some demonstrations of his surgical instruments which he has invented; whule there he evidently was talking with someone avout planting avocados in Spain. The above indicates that someone thinks that they might be planted near Seville. I thought that place was a bit on the cold side, even for citrus? And with water short that still might not be a limiting factor if some was available and trickle irrigation was used? The big thing in Spain, I believe is to find frost free land if such a thing is available? Enjoyed seeing you when you were here and hope that you still are thinking about the end of Sept and the early part of Oct?

HEK

Antigua, 6 August 1971

Mr Harold E Kendall
Goulds, Florida

Dear Harold:

On returning home after two weeks at Escuela Agrícola in Honduras, comparing the mangos with the same varieties as I saw them in Florida, I found the letter to DR iglesias de la Torre with your note attached, also an important letter from Luis Sarasola of the Rancho California.

I have been through the region mentioned by Fr. Matias de Mina, - Sevilla to Huelva and also the region around Cordoba, at which latter place we saw a few old West Indian avocados - three or four trees against the wall of an old palace. We did not hear of any other avocados in that region, but the great valley of the Guadalquivir river between Cordoba and Sevilla certainly merits consideration, primarily for this reason: My recent letter from Sarasola is very discouraging regarding the possibility of obtaining avocado land in quantity along the Costa del Sol.

The Sevilla-Cordoba region, the rich and wide valley of the Rio Guadalquivir, is where the sour oranges have been produced for centuries. I believe it has been considered too cold for sweet oranges. I am not altogether clear about this. There should be much more land available than along the coast, and with water I would assume. How much land could be acquired I do not know, and this is the point Luis Sarasola stresses; he did not realize until he learned from the last letter I wrote him that you would not be interested in more than 100 acres or so. I don't think you are interested in operating on any such

he was a bit shocked. I am sure he is right that such an area with water would be very difficult to obtain on the coast. He does not think well of my suggestion that Almeria should be taken into consideration. He says the climate there is for date palms and pomegranate (desert conditions; too hot and dry) and water may also be a factor.

It seems to me the possibility of using the Guadalquivir valley lies in hardy avocados such as Fuerte especially. Whether the region is too cold for Hass I do not know. I feel pretty sure it would do for varieties of the Mexican race but these are not good enough commercially. The Californians are recommending Bacon for hardiness, also Zutano but Dr Coit, our greatest authority, tells me Zutano is very inferior in quality; its only value is its hardiness. The California Avocado Society is recommending it only for marginal areas.

Now I will run over Sarasola's letter of 24 July tell you what he says.

The idea of 200 hectares or more is staggering, so far as the coastal valleys are concerned. The only solution would be to "transform" (I suppose he means irrigate) some of the available dry lands, and I don't know that this could be done. Water is tightly controlled by the government, as it must be in a region where it is as scarce as in southern Spain.

He then goes on to say that it is true the Almeria region has large areas of flat lands, but he doesn't like the excessively hot and dry climate (as mentioned above). He thinks Zutano might succeed there, which would mean the Mexican race, and I still wonder if Fuerte would not do the same. I am thinking of conditions in Israel. They already have about 4500 acres planted, Zwi Schachar says, and they are aiming at 10,000. As you know, they go in heavily for Fuerte and for Ettienger which is believed to be a Fuerte seedling, and for my

major factor, for they grow Cavendish bananas commercially on a large scale - I saw plenty of avocados interplanted with bananas - the latter to be taken out when the avocados became large enough.

Sarasola goes on to say that the region between Malaga and Espepona, where is good land along the coast, is out, because of the real estate developments. And this is important: He suggests that the coastal region around Cadiz and Huelva might deserve consideration. He goes further to say that the soils of Huelva are sandy and of a satisfactory pH or acid, slightly, and "a few experimental plantings have been made, one of them in Ayamonte, on the frontier with Portugal". This is the first I have heard about this.

He is not enthusiastic about the Canarias. He says he was on Gran Canaria in 1969. There are no formal plantations, just some scattered trees on terraces, not in good orchard form. He says on Tenerife there are some small plantations of Fuerte (I saw some of these in 1958) and he thinks there might be chances of getting land on that island - but again I am sure he is not thinking in terms of a thousand acres. The situation on Gran Canaria has been seen very recently by Simon Malo, as you know, and if you consider it convenient, as we say in Spanish, you might talk with him.

This is about all I need to say at the moment. I am still not sure I can undertake the trip at the end of September, but I do not give up hope. I am wondering if the thing for you to do is this: Buy a small property, say 50 acres or even less, in each of three or four promising regions. Plant them, and wait five years to see how things develop.

With warmest regards always,

Faithfully yours,

Florida's Finest

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Phone (305) 247-1631

September 4, 1971

Dr. Wilson Popenoe
Antigua
Guatemala, C.A.

Dear Dr. Popenoe:

Time is fast rushing by and we have made some tentative arrangements here at this end for our trip to Spain. Mrs. Kendall and I will now be leaving here on Wednesday, September 22nd, via Aeronaves De Mexico and will arrive in Madrid on Thursday morning, September 23rd. Tentatively we plan to stay there until Monday, September 27th at which time we would plan to go to the Canary Islands for about a week.

It is our thought that we could then fly back from the Canary Islands to Malaga or somewhere on the Coast so we could then check out the Malaga Velez area. Also, of course I think we should plan to go over to the Guadalquivir river area between Cordova and Sevilla.

Now, the question is, do you and Mrs. Popenoe still want to go with us and can you plan to meet us in Madrid on the suggested dates?

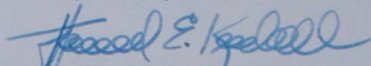
I believe you said that Iberia Airlines had a flight from Guatemala to Panama to Dominican Republic and then to Spain without change of plane and that you thought this might be the best way for you to try to make the trip. The question of getting tickets now arises and I am wondering if you would want to make the reservations there in Guatemala City with Iberia and ask Iberia to confirm that the charges should be made to us here through their Miami office? I believe that this can be done so whatever arrangements and reservations you wish to make, please do so then the Iberia office here in Miami can confirm that we have accepted same, etc. Would this be satisfactory to you? If not, any other arrangement you would like to make will be satisfactory with me and we can of course work out the details of repayment for these and other expenses when we get together in Madrid.

I have written Dr. Andres Garcia Cabezon at Teneriffe, suggesting that I would like to obtain some budwood of some of their early producing West Indian crosses. Hopefully this may be a starting point in the Canary Islands.

September 4, 1971

I am sorry that I have been so late in getting this letter off to you but I lingered longer in Maine than I expected to. Mrs. Kendall and I are really looking forward to seeing Mrs. Popenoe and you in Madrid.

Very truly yours,



HAROLD E. KENDALL

HEK/fh

P.S. I will be talking with Simon Malo this weekend regarding his ideas and experiences in the Canary Islands.

Antigua, Guatemala, 8 September 1971

Mr Harold E. Kendall,
Goulds, Florida.

Boy 458

33170

Dear Harold:

Your letter of the 4th came yesterday. I have been hoping that Alice and I could meet you and Mrs. Kendall in Madrid, but the time has come to make a decision and I just simply don't believe I can tackle the trip. I am delighted that you are going ahead with it, and I will set down some last notes and suggestions.

You say that you will fly from Madrid to the Canary Islands, soon after your arrival in Spain. I assume you will have talked with Simon Malo who has recently been on Gran Canaria and can give you a letter of introduction to the right people. Luis Sarasola does not think it is likely that ~~you~~ there is enough land available, with water, for the sort of development you have in mind. Simon should have more information. You should by all means go over to Tenerife where Andres Garcia Cabezon knows the whole story. As you know, I spent two weeks on that island and feel sure it is good avocado country, but I think the problem, here again, is enough land and water for a really big development. I feel it would be a matter of working with a lot of small growers, in a cooperative sort of way. The problem of varieties will be important. Before a real industry can be developed, it will be necessary to settle down to a few varieties which European markets will accept. At the start this may not be so important, but it will be in the long run. I doubt that they have any West Indian crosses in the Canaries which will be better than some of yours from Florida, but of course I don't know.

You will fly back from the Canaries to Spain. I don't know the set-up at present; you will either land at Sevilla or Malaga. We landed at Sevilla, in which case you may want to go first to the Ayamonte region and the great Guadalquivir valley. We know from Sarasola and others that there are some recently-lanted avocados in the Ayamonte region. This sounds interesting. And I think this is one point to remember: people in Spain who have been interested in planting avocados have not known much about the hardiness (cold resistance) of different avocados. They don't know much about the three races, West Indian, Guatemalan and Mexican. I think I have written you that I saw some Fuerte trees not far from Barcelona. Also quite a few Mexicans. And there are some Mexican seedlings in the Botanic Garden at Lisbon in Portugal. I think this is the great point to keep in mind. We don't have to look for regions which will grow only West Indians. The California industry was built largely on Fuerte. We don't have to look for regions which will grow some of the less hardy Guatemalans such as Hass^m which has been such a success at Almuñecar.

In short, I think the greatest hope of developing a big industry in Spain lies in regions which are ~~not~~ good for such varieties as Fuerte and Bacon and a few others (with more to come) but which because they have become resort areas like Malaga and the Costa del Sol land values and the availability of good sized areas are out of the picture. You will not be able to get the whole story in this regard, on a short trip; nobody could, but I think you can get enough of an idea to feel that a worth while industry can be developed in Spain by getting into areas where there may even be a frost hazard as they have in California (and Florida!).

In one of your letters you mentioned that ^{you} would like to find, in Spain, frost free land. You have it on the Costa del Sol, but I am sure there are not enough available lands with water to build an industry. Look into areas where they grow Citrus fruits even with a little frost damage. That whole region of the lower Guadalquivir, from Ayamonte up to Huelva. It is not a Valencia orange country, to be sure, but you may see some orange trees, even if they are sour oranges of which there such fine old trees in the patio of the mosque at Cordoba.

If it works out right, I think you might do well to call first on Luis Sarasola at the Rancho California in Almuñecar. I am writing him to be on the lookout for you. You can get him over the phone from Granada or Malaga and I suppose elsewhere; I dont know just how good the long distance service is in Spain but I imagine by now it is not bad. He has just written me about the Rancho. Don Roger Magdahl wants to sell it. I am afraid it is most of a real estate, resort proposition than an avocado orchard. They only have 500 trees but Sarasola took in \$2000 from the grove last year. There are half a dozen modern bungalows on the place and room for more, but no room for more avocado trees. Sarasola thinks Magdahl might take \$25,000 cash (and this is dollars, 30,000,000 pesetas) for the property. In any event you will want to see the grove, and you will want to talk with Sarasola who knows about growing avocados in Spain than anyone else. While he claims he doesnt speak English, he reads it well, and I think you can get along with him allright. If I were going with you, I would probably urge that we start our work in Spain at Almuñecar and take Luis Sarasola along with us when visiting other regions.

Let me know immediately if I can be of further help.

Faithfully yours,

Antigua, Guatemala, 8 Sept 1971

Dear Harold:

In writing you hastily this morning I don't think I made myself quite clear on one point. Maybe I am not quite about it myself, even after thinking about it a few hours more, but here is what I am trying to get at: In looking for avocado land in Spain we must think in terms of Guatemalan x Mexican hybrids, not Guatemalans or Guatemalan x West Indian hybrids. Think in terms of California, not Florida. Of course we don't want to attempt development of areas where the frost hazard is so great, it is going to take all the profit out of the business, but you don't hesitate to plant in Florida, and they don't hesitate to plant in California, where they get scorched occasionally. I don't mean that you should ignore the frost factor, by any means, but don't hold out for what they guarantee absolute frost free land. It might be like Florida, anyway: Do you know the known Frostproof?

Don't take a chance on any heavy soils which can't be well drained. Sugar cane lands, Avocados might grow there for the next 50 years, or on the other hand, five years from now Phytophthora might get there and wipe you out. We have seen this happen many times in tropical America.

In my letter this morning I wasn't clear on my geography. I have just looked it up. The Guadalquivir valley in which we are interested is mostly above Sevilla; south of there it runs down into a tremendous swampy area. The Ayamonte-Huelva region is almost due West of Sevilla but Ayamonte is right on the coast and may be fairly warm. How about taking a look at the region right across the river, in Portugal (Ayamonte is right on the frontier); I wonder if anybody has given a thought to the possibilities over in Portugal.

Patiently yours,

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November 27, 1971

Dr. Wilson Popenoe
Antigua, Guatemala

Dear Dr. Popenoe:

Your letter of November 18th jolted me back to reality. I have been intending to write to you for several weeks because I know you would be interested in what I did in the Canary Islands and Spain. Needless to say, after we came back from Spain I was overwhelmed with work here since we are trying to move the best avocado crop we have ever had along with fairly good prices as California has an extremely short crop coming up.

I did make a sort of running resume of my trip, more or less as a day to day memorandum of what we did.

The cost of land in the Canary Islands seems fantastic and the only thing that enables them to justify this price is the fact that they do an intensive cultivation of the land with whatever crops they are growing on it. Fortunately, they have good hard working, fairly intelligent labor at fairly low cost available to do this intensive work. Dr. Cabezon told me that their production of Stems Cavendish bananas to an acre is approximately 8 to 10 times that obtained in Central America. As you know, they have excellent water transportation to European markets, principally England and the Chanel ports. I just can't see where we could work out any large scale avocado planting in the Canary Islands.

The Southern Coast of Spain, from Malaga to Almeria is certainly a nice place but here again the availability of good land is limited and the tourists have discovered the favorable climate and very excellent living conditions. In both the Canaries and Southern Spain the influx of tourists is certainly going to have an effect on the utilization of intensive labor. On the small agricultural plantings I believe, in some areas back in the country some villages are just about deserted. The young folks have grown up and gone to the City and the old folks have died off, leaving their little small, intensively cultivated acreages.

I did have a short pleasant visit with Roger Magdahl and Louis Sarasola. They were both very pleasant and we discussed mutual problems. They did not volunteer to have me look very closely at their avocado trees. While most of these appear to be in good condition from a distance, I noticed there were some vacancies and some trees showing a chlorotic condition. I wondered if they might have been experiencing some problem with either minor element deficiencies or possibly root rot? I know this is a bad word but with intensive cultivation and a tendency to grow trees fairly rapidly, I thought possibly they might have run into some of this?

The Almuncar valley with all of its Cherimoyas is certainly very beautiful and Rancho California has a beautiful location. Sr. Magdahl is asking \$700,000.00 for this and has sent me a beautiful brochure with pictures, etc., but as you know, I prefer to invest in trees rather than buildings. I feel that in the long run the trees will build the buildings but I don't necessarily feel that buildings will build trees.

As you can see from our itinerary we covered a lot of ground and did a good deal of work in a little more than two weeks. I think Mrs. Kendall was quite surprised that we worked as hard as we did but I did want to check out the area north of Malaga on this trip. Up around Almeria I think there might be possibilities of obtaining larger acreages of land. It would be necessary to have an assurance of water supply but I think this can probably be obtained. Furthermore, I believe we would have to plan on good wind breaks right from the beginning of a planting program. There seems to be a good deal of wind in the areas both north and south of Almeria.

Both Magdahl and Sarasola mentioned the Huelva area and it is my thinking now that sometime next spring (March, April, early May), I would like to spend two to three weeks in that area looking over possibilities. It is my understanding that larger acreages of land may be available there and if the climate is at all favorable, possibly this may be a good area to make a start on avocado plantings. I just feel that the market for avocados in Europe in the years ahead will be a very good one. I think if anyone can produce good avocados at a reasonable cost and get them to the market in good condition that it will be a profitable venture. I think South Africa is too far away and I think Israel has its problems. It seems to me that if suitable acreages can be obtained in Spain that this might be a real possibility for an avocado industry in that part of the World. I don't feel however, that you can support a large industry with land costing from fifteen to thirty thousand as I found in both the Canaries and the Southern Coast of Spain.

I am wondering if Rosengarten would do well to consider a place like South Africa for Macadamia nut growing? He wouldn't need a closeness to market such as we need for fresh avocados and it seems to me that in South Africa there are areas that might be suitable for Macadamia.

One of the problems of course we are all concerned with when we plant trees which will have a life of thirty to fifty years is stability of government and availability of good labor. I think both Spain and South Africa may be satisfactory in these respects. It is just too bad that we can't depend upon more stability of government in Central America.

I wish that Mrs. Popenoe and you could have accompanied us. We were more or less feeling our way on our own and yet I think we did cover about as much ground as would have been expected in the time allotted. I would hope that if in the Spring of 1972, you might consider going to Spain that we might try to work this out as we had originally planned. Possibly sometime between now and Spring we may get a chance to talk as I would like to go over with you some of the things we saw and did in Spain. We will be quite busy here until the first part of February trying to move our winter crop of avocados and limes. After that we will have a good deal more time to go into the question of "where to locate a new avocado industry".

Our best personal regards to Mrs. Popenoe and you. Again I am very sorry for not writing to you earlier.

Very truly yours,

HAROLD E. KENDALL

HEK/fh

MONDAY - P.M. To La Oratava Botanical Garden to see Dr. Cabezon. Then to farms and plantations from La Oratava to Las Canadas to Parado at del Tiede.

TUESDAY, 9/28/71 Valle Guerra (Experiment Station)

Instituto Nacional de Investigaciones Agronomicas, Dr. Andres Garcia Cabezon, Director.

Land - Terraced with sprinkler irrigation now costing \$30,000 per acre with concrete walls as wind protection. Other bare land costs about \$6,000 per acre. Probable final grove cost \$1,000,000 pesetas (\$15,000 per acre).

WEDNESDAY, 9/29/71 East & South sides of Teneriffe

Several avocado plantings were seen around Guimar. These were mostly of local seedling varieties. Though some Fuerte trees were seen, mostly all in good condition. Newer plantings in this area are all of the new varieties also at south end of Island below Los Cristianos at Fanfaje, Teneriffe Fruit Company?

THURSDAY, 9/30 Exp. Station - Valle Guerra for Budwood. Spent morning with Director Garcia Cabezon and his assistant getting budwood of five selected best varieties grown locally.

P.M. - Talking with shipping companies and port officials also Iberia Airlines re Transportation Service available.

Some Land available for planting to avocados on East and South Coast area of Teneriffe Island - probably best place to start looking for land would be in the area of Guimar; though probably only small acreages available 3 - 5 - 10 acres at most in one plot.

Further South there are some larger areas of land available. These would require bringing in irrigation water, terracing and wind breaks to protect against winds on this coast.

Initial land cost \$4 - \$6,000 per acre. Final development cost from \$12 - \$15,000 per acre, some as high as \$20,000. Need to study production of various local varieties to see how much tonnage per acre can be obtained. Also probably have to experiment with new varieties suitable for this area.

No Frost Hazard - No Hurricane hazard

Limes probably would grow here but citrus in general is pretty badly infested with white fly and they don't seem to be able to control it. Saw several lemon trees in poor condition on account of this.

Can get development loans from Agricultural Bank on 8 year basis. Labor is available at \$3.00 to \$3.50 per day. This is competitive with tourist oriented labor getting \$3.50 to \$4.00 per day in hotels, etc.

Growers are presently getting 50¢ to 70¢ per Kilo (23¢ to 32¢ per pound)., for their avocados. Cabezon estimates growers can raise 10,000 pounds per acre. Estimates \$2300 to \$3000 gross per acre. Government might rebate taxes for first ten years if land is developed etc. No problem for foreigner (Corp.) to own land, plant and market own fruit.

Cabazon says no good land available on Gran Canaria, possibly on Island of Las Palmas.

Present avocado varieties: Hass seems best; early and heavy bearer; Fuerte seems to be alternate bearer here. Hass harvested here in April to May. Fuerte harvested here in November to March. Seasons approximately same as Israel.

Brought back budwood of: Gema, Robusto, Ortava, Chavannier, Ettinger. Noted many Chestnut trees - look like Horse Chestnuts but Cabazon said that these were edible and were harvested by farmers:

Can grow here: Artichokes - Papayas

Tried Pine Windbreaks but they took too much water. Believe trickle irrigation would work here.

Bananas are all of Dwarf Cavendish variety.

Production of these annually: 1600 stems per hectare in Valle Guerra. 2000 stems per hectare in Guimar.

Cabazon wants budwood: Lime - Persian
Mango - Keitt
Kent
Zill

Send direct to Exp. Station at Teneriffe via Iberia.

FRIDAY: 10/1/71 Teneriffe to Malaga

Leaving Teneriffe at 8:30 A.M., we arrived in Malaga about noon where we rented a small car and proceeded to drive east from Malaga. Malaga to Nerja - intensive farming in Velez Malaga area, mostly stalked tomatoes, Bananas, Winter Vegetables, Beans, Melons, etc. Sugar cane; most land not suitable for fruit, heavy soils, etc., small acreage.

SATURDAY: 10/2

SUNDAY: 10/3

MONDAY: 10/4

Malaga - Fuengirola - Marbella

Mostly tourist near sea, hills very dry, water supply short, land very expensive. Some avocado trees growing in small finca areas with citrus, etc. Nothing commercial, BaCon Avocado variety noted.

TUESDAY: 10/5/71 Marbella - Malaga - Almunecar

Small valley cultivation of Cherimoya and few new interplants of avocados in branches of Almunecar valley. About 90% of Cherimoyas of Spain grown in this valley, remainder in adjoining valleys.

WEDNESDAY: 10/6 Almunecar - Almeria - Rancho California -

Don Luis Sarasola in charge. Sr. Magdahl (owner), waited especially to greet us. Avocado trees here approximately 12-13 years old. 3 acres in trees, balance in Cherimoyas, loquats, pines, etc.

Excellent terracing and ground preparation on down to river valley floor. Popenoe assisted in original variety selection and planting of trees. Sarasola does shield (vener budding) of young trees in nursery containing 8-10,000 seedling trees, growing in containers about 16" - 18" high and 5-6 inches in diameter. Plastic pot much more rigid than ours, printed with their name (Rancho California) on side of container. They said container .009 mm thickness.

Possibly these are the same as those used by—

California? Using mixture 1/3 sand and 1/3 soil peat moss, ^{1/3 soil} looks too heavy. Trees budded July 30, 1971 had 6" to 10" growth (2 months)

Seedlings being budded somewhat larger, taller and harder than ours (reason for veneer budding?).

Magdahl wants to sell operation, says they can sell 20,000 trees annually @ \$3.00 each. Also, acreage of avocado orchard produces gross income of \$25,000 pts per hectare (10,000 pts per acre/=^{when in full production} \$15,000 per acre). Yet, Popenoe said Sarasola told him they only ~~XXXXXX~~ cleared @2000 on the avocados produced last year. Possibly this is net profit on the operation?

Avocado variety being grown here is mostly Hass, bears heavy and early. Sarasola suggests that other varieties may be better suited for growing in the Huelva - Ayamonte region. He said he thought the Almeria - Mojarcar area was too hot and dry and windy? It seems to me they may have problems with the heavy soils and too much water if used improperly. Their grove area has a number of vacancies in the 12-13 year old tree area. Sarasola indicated they had some problems with Verticillium but not with Phytophthora (fungus cinnamomi). Possibly this may explain the vacancies in the older tree area?

Remainder of trees look healthy, in good flush growth, but I did not see any real heavy crops of fruit on the trees although the trees bloomed in February - March and fruit can be picked the following February to May - earlier than in California, about the same as in Teneriffe.

As we approached Almeria from the West, it appeared that for 10-15 Km there was new acreage being developed in citrus, table grapes, stalked tomatoes, plastic greenhouses and intensive farming on a larger scale than in any of the other valleys. More land seemed to be available with more graded slopes and less need of terracing,

Some terraced citrus groves (oranges & Lemon) had cypress and stake windbreak protecting against the constant and fairly strong (20 - 30 mph) wind. These seemed to be effective as there was very little air movement on terraces behind windbreaks. Citrus fruit seemed to be heavy and trees were in excellent condition. Cypress trees seemed to be slow growing - shorter and thicker than the tall Italian type cypress, trees were 12-15 feet apart. Believe with wind protection, avocado trees might well be planted here since soil was more sandy, gravelly and not as much silt and clay consistency. Also believe larger acreages of land might be available here though competition would be with intensive cultivation of market crops such as melons, staked tomatoes and beans and table grapes which have been well grown for many years in this region.

THURSDAY: 10/7

Almeria to Mojacar, then back to Salobrena, ^{In Almería} via main roads (#332 & 340) via Sorbas to Vera and then to Garrucha and Mojacar.

This is very dry area where the Moors stayed the longest; mostly olive almond, dates being grown here; some table grapes in protected areas where water available. Near Coast staked tomatoes, artichokes and melons grown in intensive culture on terraced land with water. Both Sorbas and Mojacar are walled towns, built on top of sharp peaks, continuing on from time of Moors to present.

As we left Mojacar coming South along the Coast continued stake tomato right up to the sea. Then, as we turned inland toward Nijar, beyond the first range of Coastal hills, a rather broad valley area spread out south westerly toward Almeria. Roads seemed to be newly paved;

noticed several wells being drilled, rather large melon and tomato planting areas on slopes not requiring terraces. These were in

acreages of large size but wind would be a problem here. Believe could be handled with windbreaks, cypress or Casurinas ? Think all this area around Almeria both East and West, might be good areas for avocado planting. Think new water supplies being brought into area between Mojacar - Nijar and Almeria. Also new roads. Probably larger acreages of good land can be obtained here which might be suitable for avocado plantings - provided suitable windbreaks can be provided and dependable supplies of water obtained.

This area around Almeria has the advantage of good roads to the Ports (water and air), probably within one hour drive, plus better roadways to the North (France and Europe), also to interior markets, Granada and Madrid. Believe this may be frost free and water will be available. Should check into cost of land, preparation cost of clearing, terracing, irrigation facilities and windbreaks. Possibly may be able to grow cash crops for 2 - 3 years while windbreaks are growing.

FRIDAY: 10/8

Salobrena - Almunecar - Malaga

We rechecked the Salobrena and Almunecar valleys, also Rancho California at Almuneca. I believe sugarcane, banana lands may be too heavy and wet for avocados though it was noted that both Cherimoyas and avocados were being interplanted on some of the sugarcane and banana lands. On the other hand, on some of the higher, drier slopes where almonds and olives had been growing, it was noted that some of these were being terraced and irrigation water added so that now Cherimoyas were being planted in place of the almonds and olives. Think maybe avocados could be planted in these locations, though it appears to me that this soil has a bit too much clay and silt in it?

wind, protected most anything can be grown here and are.

Land at Rancho California is being priced competitive with Urbanization prices - up to \$30,000 to \$40,000 per acre. With terracing and irrigation, Sarasola said that Cherimoyas ^{grapes} cost \$35,000 per acre in full production. Labor is from \$60 to \$75.00 per month for farm labor in this area. Closer in to Malaga and Almeria labor costs are higher.

However, in the entire Almunecar valley there probably are not more than 1,000 acres of usable land and this is cut up into many, many small plots. Doubt that a sizeable avocado industry could be developed here. Plus, the added disadvantage of difficult, dangerous roads to either Almeria or Malaga, the nearest ports. Climate in these valleys just like California, mild, warm, dry in daytime; a bit cooler at night the year round.

SATURDAY: 10/9

Malaga to Madrid to Miami

Suggest further - trip to the Huelva - Ayamonte area next Spring. Check temperatures in that area. Both Sarasola and Magdahl suggest that avocados could be planted there, though experimenting with other varieties may be needed. Also in the Huelva area understand that Agriculture there has historically been on a larger scale (not as intensively family cultivated in small acreage as in the Malaga - Almeria area). Also, labor and land may be more readily used since the competition with tourists for climate, land and labor will probably not be as intensive. Costs of land and labor should be less in the Huelva - Ayamonte area. *Also labor used for working on larger gardens, etc.*

During the past week in Spain we drove approximately 1150 KM, while *looking at tropical fruit* developments and evaluating future competitive as well as investment possibilities.

Antigua, Guatemala, 1 February 1972

Mr Harold E. Kendall
Box 458, Goulds, Fla. 33170.

Dear Harold:

Your letter of 27 November was very interesting indeed and I appreciated the copy of notes made on the trip. The Canary Island situation was about what I expected. Incidentally, as a result of Simon Malo's lectures over there the Bank, I believe it is, has asked us to take two canarios as students at Escuela Agricola Panamericana in Honduras. They offer to pay us well. It has always been against our policy to take students from the Old World, but my son Hugh who is now President of the Board thinks he can get approval at the next Board meeting, to take two from the Canaries and give them the usual course plus some special work on avocado culture. Again incidentally, I have just heard that the young Spaniard they sent over from the experiment station at Velez Malaga is back there and on the job. It seems he must have spent all his time in California. If so, it was a mistake on the part of his bosses.

Your mention of vacancies in the orchard at Rancho California. Sarasola told me, two years ago, that they had lost quite a few trees with Verticillium wilt. He had some correspondence with George Zentmyer of California about it. George couldn't offer a sure cure but name a new fungicide which would be worth trying. As for the chlorosis, this was almost certainly due to the large amount of lime up toward the foot of the slope. When I went over in 1958 Luis was just simply unable to produce a good nursery in that area. Nothing but yellow leaves on the seedlings. We moved the nursery down onto the alluvial soil (most of the orchard is on this) and had

As far as I have heard, *Phytophthora* root rot has not yet been found in Spain. The *Verticillium* root disease does not yet seem to be serious as yet.

I quite agree that Rancho California is not of interest to you because there is practically no hope of expanding avocado culture in the Almuñecar valley. I am sorry you did not get a look at the Huelva region on your October trip. I believe we certainly ought to take a good look at that this year. My ability to make the trip will depend upon my health. I was in such poor shape the last half of 1971 that I couldn't do very much, and of course I have not yet recovered entirely from the operation I had at the end of the year. The surgeon thinks I should be in good shape again in two or three months. We will see. Because of age I must realize that I won't again be able to do what I did when I was hunting for banana land and supervising the agricultural practices on United Fruit farms all around the Caribbean.

Again about the Huelva region: a few weeks ago I had a visit from Pat Keating, a Portuguese in spite of the name. Pat was head of FAO in Honduras when I was at our school over there and we spent a lot of time together. I asked him if he thought there would be any avocado land on the Portuguese side of the river, down toward Ayamonte - just across from the region we have in mind. He said he thought the Portuguese side is too mountainous; the flat land is on the Spanish side. I cannot help feeling that the climate would be suitable for Guatemalans and probably hybrids such as Fuerte of those like you have in Florida, Guat x W I. The presence or absence of citrus trees would probably tell the story and I

would certainly want to keep off of heavy soils; Phytophthora is likely to hit the Mediterranean region some day. I am sorry I have no information whatever regarding land values in the region between Ayamonte and Huelva. And I am a bit suspicious of that regions because in all my time in Spain I never heard anything about it. If it is an important horticultural region, Sarasola should know about it, and all he knew was that he had heard of some recent plantings of avocados - probably very small - near Ayamonte.

Burt Colburn dropped in for half an hour a couple of evenings ago. Said he had been asked to teach Roberto Carlos something about packaging and marketing avocados. I haven't seen the Carlos planting for a couple of years, but at the time I saw it, I would say it was by far the most promising orchard of size which we had in Guatemala. Mainly Fuerte and Nabal at that time, I believe.

I have been working pretty closely with the people who are handling the government's program for developing the avocado industry here. There are many problems. They have been propagating too many varieties of unknown commercial value; they have done a lot of guessing about the proper climate for some varieties; and not all of the men who are planting are going to give their trees even decent care. And I am afraid we are going to be slow in controlling the pests which are going to multiply as larger orchards are developed. Scab and anthracnose already are giving us some trouble; luckily we will probably not have much trouble on the sandy well-drained soils of the highlands, but Phytophthora may become serious at some of the lower elevations. But the biggest problem of all - and it doesn't seem to worry the local people very much, where and in what form are we going to sell our fruit?

With best regards always,

Faithfully yours,
 Digitized by Hunt Institute for Botanical Documentation,
 Carnegie Mellon University, Pittsburgh, PA

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Page 576
Antigua, 15 March 1972

Mr Harold E Kendall
Goulds, Florida.

Dear Harold:

Looks like I better give up the idea of going to Spain this spring. My doctor doesn't recommend it, and the fact that I hit 80 this week has had a bad psychological effect. I begin to feel that my days as an Agricultural Explorer are over. I hope a few months more may show that I am wrong, but I don't expect too much.

I have dug up a little information about the Huelva-Ayamonte region. Not much. I get the feeling that some parts of the area are not well drained, and in other parts the soils are not too good. The thing that worries me most is that the big maps I have do not show many houses, that is, towns, in the area. If it is all good farming land there would be some towns there by this time. Unless they have lacked a large-scale drainage program, or an irrigation system, or both. I am still very curious about the region and would love to see it. I am not so afraid of the frost hazard as are some folks, because they haven't yet had much experience along the Mediterranean coast with varieties like Fuerte which are pretty hardy. You know that I saw some good Fuerte trees in production on the coast not far from Barcelona. We all know that Fuerte has one or two serious faults, but we also know that people continue to plant in commercially in many parts of the world.

I wonder what Burt Colburn thought of the situation here in Guatemala. There have been some meetings recently, and what one might call an expansion of interest. Guatemala is talking about raising more meat for export to Europe. Maybe they may revive the banana

industry somewhat, with a view to the European market. I am not inclined to get enthusiastic about airplane transportation to Europe. And you will recall that I wrote you Frederic (Fritz) Rosengarten, who is a pretty smart guy and thinks in big terms like you folks do in Florida, is afraid of the political future here. We have lots of good avocado land here at very low prices, by Florida standards, and as long as we stay off of soils where Phytosphora prospers, I am not worried, as yet, about pest control.

I wonder if Mexico wont finally develop the European market, in some way. I mean for fresh fruit; I dont have any faith on frozen puree on a large scale, and they havent yet licked the edible oil problem. But Mexico has unlimited avocado land, and politically I would rather risk it than many other tropical American countries. I would by all means keep my eye on Mexico. Ten years ago I would have thought Chile had a fine avocado future, for the South American market, but our friend Roger Magdahl seems to have given up. Chile could grow a lot of avocados (so could Cuba) but it looks as though they will be grown by chilenos.

If Guatemala doesnt develop a good foreign outlet for its production, there are going to be quite a few avocado growers losing money about ten years from now. I must say, however, I am rather optimistic.

My four-year-old Hass is loaded with fruit the size of small olives. With best regards always,

Faithfully yours,

Wilson Popenoe