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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.

Sevilla, Colombia
July 23, 1940

Mr. R. H. Hemer:

The following covers my observations in Santa Marta Division during the past five months.

1. Status of Infection.

In February of this year infection was rather general in the Company farms but not particularly severe except in a few small areas. Some Independent farms were rather seriously damaged, others were lightly infected, and others showed no infection at all. The amount of infection in Company farms decreased from February until late May when very serious increases were noted, especially in Agustina, Paulina, Gabriela and Latal. Independent farms around Sevilla and Orihueca have become severely infected and a number of them are, I believe, permanently out of production unless Sigatoka is controlled. Further increases are still noticeable from week to week in Company farms where control system have only recently been placed in operation but all new infection of any consequence should cease to appear by early September. In the most seriously damaged parts of the Division our control has already eliminated practically all new spotting.

While it is possible that new infection appearing within the next six weeks may be quite serious it is more probable that we have already gained control of all those areas which would be most likely to show any considerable loss in fruit. In Agustina, Paulina and Gabriela, I think there will be a very noticeable lowering of quality in August and September fruit from the damage already done but I do not believe it will be necessary nor advisable to do any more general chopping down in these farms. The plants are

in good shape and if a sufficient number of leaves are produced between now and their shooting date, we can expect to harvest good fruit. I should recommend that the farms be pruned as usual and that obviously poor fruit be eliminated by day labor gangs at about one month intervals.

It is still too early to form any justifiable conclusion, but I should estimate that the progress of Sigatoka in this Division will come some where between the Honduras experience and that in the West Coast of Guatemala. I still believe it should be possible to control the Sevilla farms with a 28-day cycle, using 5-5-50 between April and November and 3-3-50 during the balance of the year.

2. Control Installation.

Installation of the 8 projects in Sevilla District is now complete and we have sprayed them long enough to be able to form some conclusion. Six of the pump houses are of the pit type construction while two are according to plans sent by the Boston Office. Costs are not complete as yet but there are very few further charges to come in and we can see that the Boston type has afforded no savings in cost. While it avoids the expense of the pit and retaining walls, the roof framing and roofing is more expensive and the fill for the raised bodega must all be hauled from outside since there is no gain from the pit. The advantages of the pit type in saving of labor, saving of space, increased ease of administration, and lessening of danger to operators have been mentioned before and are obvious to any one who has had actual experience with spray plants. If later installations are to be made I should still recommend the pit type house.

The pumps we have installed are less satisfactory than we should like to have. These Hardie LCX pumps are the same as those first installed in Tela Division, except that the speed has been reduced to 100 rpm. which

gives them a maximum capacity of about 45 gpm. The unloading valve is even less satisfactory than the diaphragm type with which we had so much trouble in Honduras and Guatemala. The valve unloads at 700 lbs. and remains partly open until the pressure drops to 400. In actual practice the valve remains partly open at all times causing serious wear on valve seat, ball and valve stem as well as decreased capacity of the pump. Plunger cups are wearing rapidly as usual and there is too much wear showing already on the herring-bone gears which drive the pump. We have tried a "Friend" regulator on the Sacramento pump and we feel justified in recommending it for installation on all the others. A considerable advantage also would result from fitting all pumps with a simple clutch to disengage the agitators during the time that we pump water in the afternoon. These clutches would save wear on sprockets and chains and would improve the quality of late afternoon spraying. Without a clutch the pump must be stopped to remove the chain and the spray men realize that water is being pumped and try to get rid of the spray dope as rapidly as possible.

A good water supply seemed at first to present quite a problem in this Division but the present indications are that a small well rig would solve all the difficulties. The new well in Macondo supplies abundant water of good quality from a porous stratum at 115' without strainer of any kind through a solid 6" casing which was left in the well. Shallow wells are not satisfactory even though the soil is quite sandy. There is such a high proportion of mica in the upper layers of soil that percolation is very slow and an exceedingly large number of well points or shallow wells would be needed to afford the quantity required. The water we are now taking from irrigation canals and drainage ditches carries so much silt that we find excessive wear in plunger cups and valves. What is even more important we are probably allowing a considerable deposition of Bordeaux-covered silt in long sections of our pipe systems.

The interval between spray lines used here is 175' and this has worked out quite satisfactorily so far. We have tried double spacing (350') and while this does not slow up the work as much as we had expected, it still has enough effect when added to increased cost of hoses to prove that it is quite uneconomical. We have experienced some trouble with the Central Brass "Y" valves especially in the 2" size and I believe it would be well to request the maker to change the material in either the valve seat or discs so that it will seat itself more exactly. On particularly long lines we have installed an additional control valve in the center to facilitate repairs and I believe that this is well justified.

Operation

We have started operations in this Division at pump pressure of 700 lbs. and because of this we have been able to use a Triplex gun with a 7 hole whirler in the center nozzle. Principally because of these two things the coverage has been better in this Division than in any other new installation I have seen. The triplex gun delivers a more completely atomized stream and covers a wider area than the single nozzle gun used in other Divisions for tall plants. Using a pressure of 500 to 550 lbs. at the nozzle, spray men are able to move more rapidly than they could with any other set up we have tried and I feel certain that we can accomplish very good coverage with about 20 gallons less spray mixture per acre than is usual. Even though it is possible that a pressure of 700 lbs. will cause more wear on our pumps, I feel certain that it is well justified by economy, as well as more effective coverage. A reduction of 20 gallons per acre per application means a saving of at least \$1,000.00 m/a. per year on each project, disregarding the greater saving from more effective control.

Because of higher pressure used and the decreased capacity of the pump,

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I do not believe it is advisable to use more than 12 hoses in any of our projects. While it is possible to use 14 hoses when starting off a new gang, we find that as the men become better trained and leave their guns open a greater proportion of the time, the pump is not able to maintain the desired pressure. The same amount of liquid per day can be used by 12 hoses and they will cover more efficiently a slightly greater acreage than the 14 gangs at lower pressure.

At present we are spraying with a concentration of 5-5-50 with as short a cycle as possible. I should recommend that all projects be put on a 21-day cycle immediately and kept there until two months after the first cycle is finished on each project. Better control can be effected with a 21-day cycle easily maintained than with a 16 to 18-day cycle which is maintained only with difficulty. When the two month period is up I believe a further lengthening to a 28-day cycle will be possible. If no appreciable amount of new infection can be seen I think we can be safe in making such an economy. As a general rule it is advisable to economize first by lengthening cycles up to 28 days, and after that by reducing concentration. Since the Sigetoka spores require about 5 weeks for development in the leaf, a space of more than 28 days between cycles might allow both primary and secondary infection before spray was applied. We are conducting experiments in Honduras at present to test the possibilities of a spray calendar and if this works out we shall be able to apply the results in Colombia to allow a gap of 3 to 4 months during the dry season when no spraying need be done.

If it should happen that severe infection in any one project makes it advisable to spray on a 14 day cycle for a short period of time it is possible to use one of the large portables as a booster pump, connecting it to the outlet and inlet pipes of the stationary pump. Adding portable "A" to a project will allow 20 hoses to be used and portable "C" will allow 16

or perhaps 18 hoses.

Organization.

In order to train most rapidly the men who are in actual charge of the projects, and the labor to be used in spraying and to attain an efficient organization most quickly, I believe it is advisable to place one supervisor in charge of all projects and to give him complete charge of all matters pertaining to spray, spraying technique, and project administration. Instructions or orders from his superiors concerning spraying practices should be passed through him to the spraymasters or assistant supervisor. The spray job is so new to our spraymasters here as well as to the labor, and it is so highly technical in comparison with their other work that we cannot afford the confusion caused by conflicting orders. Any overlapping of authority or differences in even minor instructions will greatly impede the training of men and the reduction of spray operations to a set routine. Unless one has had rather long experience with spray operations, it is difficult to realize just how much expense may be involved in slight deviations from the proper system. For example, it has been experienced in other places that a change in the procedure of mixing Bordeaux has damaged its sticking qualities to such an extent that a serious increase in infection has resulted very quickly. A variation also in technique of spraying may change the rate of application by 20 or 30 gallons per acre. By proper handling the supervisor may be able to reduce the rate by this amount, saving thereby \$1,000.00 to \$1,500.00 m/a. in each project per year. If he makes a reduction of this kind, however, without justification it may necessitate a reduction in length of cycle which will cost a great deal more than the \$1,500.00 m/a. per year. It seems very important to me that all the laborers and administrators be trained in the same system even to very small details.

Under the spray supervisor and assistant there is a spraymaster in each project who is usually a well trained timekeeper or assistant overseer. The overseer, of course, is directly responsible for spray on his farm but a spraymaster can relieve him of the great load of detailed work. A good foreman on each project is very necessary just as in any other job and the practice worked out here of using sub-foremen over each group of 4 hoses seems quite valuable during the early months of spraying. Another procedure worked out in this Division of making the pump men responsible for mixing and all other work in the pump house is quite practical and worthy of consideration in other Divisions.

3. Washing

After watching it in operation for some months I believe the sweep system of fruit cutting used in the Santa Marta Division has a great deal to recommend it. The combination dunker known as the "Strange Washing Machine" which was worked out to fit this system of cutting, has made it possible to wash fruit for one car at a time more rapidly than any other machine I have seen in operation. When the men become well trained it should be possible to wash at least 250 stems per hour with one of these set-ups. If it should be found that we have difficulties in maintaining fresh water, I believe that a small pump like the "Homelite" could be carried from spot to spot and connected to shallow wells to freshen up the water tanks. If shallow wells will not furnish sufficient water, it might be necessary to use a small tank truck or rail tank to be pulled by motor car.

4. Cultivation

As noted in other Divisions, application of Bordeaux mixture has a certain stimulating effect on banana plants. This is attributed to stimulation of the chlorophyll by metallic copper to make it more efficient in utilization of nitrates. My observation on these projects which have been sprayed for

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three or four weeks indicates that the stimulation in Santa Marta will be greater than any other place I have seen. A change in color of plants is so striking that we may expect a considerable improvement in fruit, both in size and quality.

The pruning procedure in this Division will have to be changed very little on account of spraying. In most places it has been necessary to shorten the pruning cycle in order to effect proper application and eliminate serious sources of infection, but pruning is done here so often and so thoroughly that no change is necessary. The only improvement, I believe, would be the elimination from time to time of obviously poor fruit.

During March, April and May of this year, practically all of Sevilla District suffered from inadequate irrigation. The plants suffered so badly from lack of water that there was a considerable loss in fruit from doubling and when windstorms came there was a great deal more loss from blowdowns than should have been experienced. Some experimental work on overhead irrigation would quite probably show more results here than any where else and any improvements in uniformity of application and shorter irrigation cycles would undoubtedly pay big dividends.

Most of the Company farms show considerable suffering for lack of nitrate. These lands have been in cultivation for quite a long time and are now at the point where maintenance fertilization is necessary. I do not believe that sodium nitrate applications, even if made three or four times a year, are adequate to maintain the plants at full efficiency. Sodium nitrate leaches very rapidly where water is applied so heavily to light soils. One of the more lasting chemicals, Urea or Cyanamid, is indicated. The whole area would be greatly benefited by a rather large amount of Urea well distributed over the whole year. Urea can be incorporated into Bordeaux mixture and applied in this manner at least once each month. I feel certain that at

least 400 lbs. per hectare per year would far more than pay for itself.

5. Portables.

We have originated a system here of making Bordeaux mixture in auxiliary tanks and supplying it to portable machines thereby increasing their efficiency through keeping the hoses at work continuously. The auxiliary is loaded at a central point where a small centrifugal pump is used for agitation while lime and copper sulphate are being combined in the same manner as in our stationary plants. Agitation is then stopped and the tank is hauled to where the portable is working and Bordeaux is pumped in by use of the tank refiller. We use 4 long hoses on the large portables and they spray by the same system as in the stationary projects. By using this system and pressure of 600 lbs. at the pump we are attaining excellent coverage even with portable machines.

In Antioquia we have made a test of combined stationary and portable system. A small portable is connected to 3/4" lines and the men spray as in the large systems. This combination has nothing to recommend it since the 3/4" lines could be connected by 1-1/4" pipe and powered by same pump at a lower total cost of installation than the combined system. The only situation in which this combination would have anything to recommend it would be one in which a number of very small, widely separated areas were to be sprayed and were so shaped that the portable alone with long hoses could not reach them.

We have experimented to a small extent with a Hardie 99 pump, which is about the smallest possible portable. It furnishes only about 4 g.p.m. at a maximum pressure of 300 lbs. but by using long canes with small discs in a double nozzle it is possible to effect a rather good application on medium size plants. Good coverage can be made with less expenditures of fungicides than is necessary in our large systems, but the labor cost is

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bound to be very much higher. This sort of arrangement may have possibilities for the small grower who can afford extravagance of his own or his family's labor when it means a saving of cash expenditures for fungicides. Even in this case, however, a slightly larger tank and a pump which will maintain a higher pressure would be more economical.

We have no evidence to show that portables will ever approach the stationary system in economy of spraying but if they are to be used by Independents simply because a high first cost cannot be borne, the most practical machine will be a 30 gallon per minute pump, with a 300 gallon tank driven through a power take-off from an Allis Chalmers or similar small tractor. Four hoses can be used, of the proper length to meet between farm roads.

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If any developments or discoveries have been made in other divisions I shall, of course, advise you of them as soon as possible. I appreciate very much the opportunity I have been given to learn conditions in Colombia and to join in the installation of control systems here.

Geo. F. Bowman

Copy to Mr. W. E. Turnbull (La Lima)
BC: Mr. Edw. J. Witter
Mr. H. S. Bailey

Research Department
La Lima, Honduras
August 9, 1940

Dr. Wilson Popenoe
c/o United Fruit Company
Guatemala City, Guatemala

Dear Doc:

Your very pleasant letter from Barranquilla arrived, of course, some months ago, but things were happening so fast in Colombia that I was unable to compose a very satisfactory summary of the situation until the installations were completed and we came back. I am enclosing a copy of my final report which I believe covers the Sigatoka situation there as well as I can do it. Infection is still on the increase in Independent Farms and undoubtedly it will be necessary to install control and effective control before they can harvest very much of a crop in 1941. The Rio Frio District is suffering so badly from drought that Sigatoka does not appear to be so very important, but as soon as they have enough rain to produce bananas, we expect to see enough Sigatoka to stop them from raising bananas. The Orihueca District is burning up now and most of the Independents around Aracataca are practically out of production. Mr. Hamer is working on the contract and he expects to be able to start installations early in next year. He tells me that I will go back there for a longer visit in December or January.

We enjoyed ourselves very much in Sevilla and found the colony to be just as friendly as you said it would be. We lived in the other half of the apartment house from your old home, since the Von Walds have taken your house. Sevilla is quite

Dr. Wilson Popenoe

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thickly populated now and has become quite a booming community. We met so many of your friends there that we feel as if we are already personally acquainted with Mrs. Popenoe. The Von Walds, Baileys, Atwoods, Witters, etc. mentioned you both very frequently.

We returned to Tela and La Lima day before yesterday and we are just now catching up with all the news. Dr. Dunlap is laid up at home with arthritis in the ankle and Lydia is in Tela Hospital with tonsillitis. As you probably know, Van Diepen is in Ecuador and Lungwitz in Santo Domingo. The rest of the staff is practically normal. Lindsey resigned and went back to the States some months ago and Ike Smith has been transferred to Golfito. Dave Creighton, Sr. has just returned from Quepos where he installed the refrigeration system. Jackie Klain has been transferred to Costa Rica and Masters is replacing him in Uraco District.

The rubber experts are here now and I have been trying to collect information for them from our files. About the best I have been able to find is from the old Annual Reports and a few memos and letters which you wrote in the period between '26 and '31. Dr. Baldwin has already gone to Guatemala to meet you there, and you will be able to advise him of any further information which we may be able to find in our files.

The staff here joins with Red and me in best regards to yourself and family, and wish you all kinds of luck in growing enough quinine to cure the world.

Geo. W. Bowman

MAGDALENA FRUIT COMPANY

R. H. HAMER
MANAGER

J. R. STRANGE
ASST. MANAGER

CABLE ADDRESS
MAGFRUITCO.-SANTAMARTA

SANTA MARTA (REP. OF COLOMBIA)

AIR MAIL

October 15, 1940.

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

Dear Dr. Popenoe:

I have just received copies of your letter to Mr. Hamer concerning Vicente Velasco, who is stationed at the Government Research Laboratory in Sevilla, and am taking the liberty of answering as Mr. Hamer is now in Bogotá. We also received a letter from Mr. Turnbull concerning this same man and I hope to have the pleasure of making his acquaintance within the next few days. I have asked Hiram Bailey to tell him that we have heard from you concerning him and that we are all interested in his proposed educational trip to the States.

I am quite sure that you will be interested to know that all of Sevilla District is under Sigatoka control and we think that we are running along at pretty good speed and are really encountering less difficulties than we expected. Of course, a lot of this is due to the help given us by Bowman and also in having men like Roberts and Beers to start off the control work.

We are also getting some very interesting information from the portable spray units and, even though I had to admit it I must do so, the 50-gallon spray tank recommended by you a year or two ago is really an excellent machine and does considerably more work than you told me that it would do. While all of our men here feel that it will not give such good control to high bananas, we have had it working on about 12 hectares of Abarca which, in my opinion, are typically good soil Colombian bananas and in comparing the control work there with the stationary units I find practically no difference in the amount of infection.

Reggie has been kept hopping to and from Bogotá most of the year working on Sigatoka matters with the Government. He returned here Saturday and flew back to Bogotá yesterday afternoon. We have some hopes of coming to some kind of an arrangement with them or at least knowing definitely within the next few weeks if such an arrangement is possible.

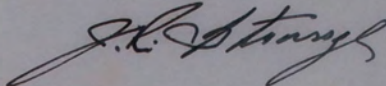
Dr. Wilson Popenoe

October 15, 1940.

You will be interested to know that we now estimate that 7,000 hectares of independent cultivations are commercially out of production due to the disease and this area lies principally between the Sevilla and Riofrio Rivers which, of course, takes in all of the excellent Orihueca soil. These farms are now cutting around two and a half stems per hectare per week. Needless to say, we are not shipping this fruit but are merely receiving it and selling it for local consumption in Ciénaga. The bad times that we have often discussed with you are now right on top of us and I think that they will be about twenty times as bad before the end of the year.

With best regards,

Yours very sincerely,

A handwritten signature in dark ink, appearing to read "J. C. S. Stuebel". The signature is fluid and cursive, with the first letters of each name being capitalized and prominent.

Antigua, Guatemala, 27 November 1940

Mr. J.R.Strange,
Magdalena Fruit Co.,
Santa Marta, Colombia.

Dear Jack:

Your letter of October 15 was most welcome. I would have thanked you for it sooner, but I have been on the West Coast of Guatemala with the Rubber Survey Party sent down by the U.S. Department of Agriculture. What with quinine work and rubber work this summer, I have almost forgotten what a banana looks like.

Yesterday I had a long talk with Mr Turnbull in Guatemala City. He gave me the sad news of Hiram's death. Helen and I sympathize deeply with Miss Lu, and we know all of you down there will miss old Hiram and his kindly philosophy just as we shall.

You mentioned Vicente Velasco and my efforts to get him some sort of a scholarship in the States. I have not accomplished anything definite as yet, but there seems to be a good chance of getting him a place at the University of Florida. What I am trying to do, is not to land a regular scholarship, but to get one of the good schools to offer him a job in the Entomological Laboratory for a year, where he can work for a year with some bang-up good man, and learn a lot of entomology of the practical sort, and at the same time find out to his own satisfaction that the yanquis are not such *baf gente* after all. If for any reason you decide that we ought not do anything for him, let me know right away and I will drop the matter; otherwise I'll push ahead, though it may be next summer before I can get anything definite lined up.

I was extremely interested in your statement that 7000 hectares are now out of production in the Rio Frio-Sevilla area. The mills of the Gods grind slowly, but they grind exceeding fine. So far

there seems to be no exception to Sigatoka's record, if you take it over what Mr Babson calls the "long pull". The folks here on the Guatemala West Coast had begun to feel that they were going to get by, until July of this year, when, after four years of scattered Sigatoka in their farms without too much damage, things blew up higher than a kite. Parrish told me the other day that they are now getting 25,000 to 30,000 stems a week off the line, and that it is all poor stuff; two years ago they could get 25,000 of good fruit. As you probably know, Mr Turnbull has entered into rehabilitation contracts with half a dozen of the principal growers here; a few others are trying to get control by dusting. But a good many patches have just been chopped down and forgotten. There no longer seems to be any doubt about the ultimate outcome, for those who dont attempt some sort of control.

I am interested in what you say about the small portable sprayers. In talking with Dunlap the other day, I get the impression that he feels the sort of control obtained with small outfits may only last until Sigatoka clamps down in full force; but at the same time I think he is open-minded about the whole matter and personally I do not feel that control is hopeless with such machines in dry climates and on soils such as many of the heavier ones in Colombia and Jamaica. George Bowman has gone, or is going, to Jamaica to see what he thinks of the work being done with portables over there. When I left Jamaica in May, the control maintained in our St Catherine farms with the portable sprayers was still altogether satisfactory.

Recently there has been an outbreak of "Red Spider" in some of the sprayed areas on the Guatemala West Coast. I am sure you are familiar with this bug from your days in the States. It used to bother us a bit in Florida on Citrus and Avocados, and is a

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common enough, though never a very serious, pest. The one we have here is not red, by the way, but a pale greenish yellow color. It rather looks as though spraying has disturbed the natural control of this bug in some way, allowing it to multiply beyond the normal extent. When it gets numerous, the banana leaves begin to turn brown and fall prematurely, and we had an area of fifty acres or more recently, on the West Coast, where defoliation took place to a serious degree. We have an idea that it gets worse in dry weather which makes me think it may some day show up on sprayed areas in Colombia during the long dry season. If you see any areas where the leaves are turning yellow, then brown, and dropping prematurely, look on the under sides of the leaves for the mites, which would in that case be so numerous you could not fail to find them. They can be seen with a naked eye, though they are pretty tiny; it is easier to see them with a lense of 4 or 6 diameters. We did some experimental spraying with Nicotine sulfate (Black Leaf 40) here, but found it did not kill them; then with kerosene emulsion which killed them alright; but the last report is that some sort of natural control seems to have taken place and at present there seems no indication that the pest is going to attain serious proportions or require combative measures.

Best regards to all of you.

Sincerely yours,

MAGDALENA FRUIT COMPANY

R. H. HAMER
MANAGER

J. R. STRANGE
ASST. MANAGER

CABLE ADDRESS
MAGFRUITCO.-SANTAMARTA

SANTA MARTA (REP. OF COLOMBIA)

February 20th, 1941.

AIR MAIL

Dr. Wilson Popenoe,
C/o Mr. Isidoro Gonzalez,
General Agent, United Fruit Co.,
Havana, Cuba.

Dear Doctor:

Thanks for your very interesting note of February 14th. Matters here are delayed more than ever because of a last minute shift in the Government's plans. The Government does not now want to sign the contract direct in Bogotá but wants the Junta de Fomento to sign it here and then have the whole matter approved up in the capital. The idea is that the Government does not want the responsibility and wishes to avoid any future criticism regarding the terms of the contract. You can imagine that the Junta hardly know what it is all about for the time being and it will take some time to get things straightened out.

Notwithstanding all this, we are proceeding with surveys of independent farms, both as to boundaries and studies to decide whether they warrant rehabilitation or not. Henry Kuylen has turned his work over to Lindellie and is now devoting all his time to inspecting farms. Van Diepen has arrived from La Lima and will assist Kuylen in establishing lines between good and bad soil. We have made up a lot of forms to be filled out on each property that will eventually give us all the information of interest as regards soil, cultivations, irrigation, drainage, financial and legal status, etc. All of this will take time and will call for checking and rechecking and so even if you do not arrive until the middle of April, you will still be most useful in giving us your views on what work will have been done up to that time.

Everybody claims much interest in new crops but everything is still in a terribly disorganized condition. The Junta is very interested but to date not one cent of the famous three million pesos has made its appearance - The entire sum was supposed to have been in Santa Marta since January 6th and now the Junta is talking about considering itself very lucky if it gets occasional dribblets of a few thousands or ten thousand pesos. Many grandiose ideas have become completely deflated and not even much progress has been made on taking over the 2,000 hectare block we donated in the Theobromina-Magdalena Tract.

Dr. Wilson Popenoe

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February 20th, 1941.

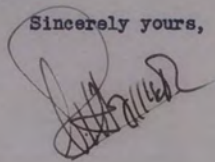
We have turned over to Barrios Ferrer a block of 20 hectares adjoining the Sevilla Laboratory to be used as an experimental station. We offered him land at the back of the station where soil is about average and we could give him water but, against everything we could tell him, he insisted on having it along the railroad line so that people could see the garden and the result is that he has some rotten soil and no irrigation water, except what he may be able to pump out of a drain that goes through there. This does not encourage me to think that diversity of crops are getting off to a good start. Barrios Ferrer and his agronomists have lost all interest in Sigatoka and are working around the laboratory but all that we have been able to find out that they are doing is puttering around with making some wine and some alcohol from bananas.

Around here there is also much talk about peanuts and Ismael Alberto Noguera has grown some with reported fair success. There is a vegetable oil factory in Barranquilla that will take any quantity of peanuts and pays, what I understand is, a very good price. I do think it would be a very good idea to get from the States while they are available seeds of different varieties of peanuts, even if it means our planting them ourselves down here, if no one else is sufficiently interested or capable. Therefore, whatever you can do for us along these lines will be greatly appreciated and you can incur whatever expenses are necessary for account of this division.

I will keep writing you so that you will be posted on how things go along. At present everything seems to have hit one of those snags that always crop up and make it impossible to figure out what or when anything will happen.

With kindest regards,

Sincerely yours,



c.c. Mr. A. A. Pollan
Mr. W. E. Turnbull - Boston

MAGDALENA FRUIT COMPANY

R. H. HAMER
MANAGER

CABLE ADDRESS
MAGFRUITCO.-SANTAMARTA

J. R. STRANGE
ASST. MANAGER

AIRMAIL

SANTA MARTA (REP. OF COLOMBIA)

November 21, 1939

Mr. A. A. Pollan, Vice President
Magdalena Fruit Company
Boston

Dear Sir:

During Mr. Turnbull's recent visit we discussed Sigatoka control fully and his and my joint recommendations are that we purchase and install the 250-acre unit which the government has here, and before the middle of next year consider putting in additional units to protect Company cultivations as may be indicated by advance made by Sigatoka through this rainy season - Mr. Turnbull's opinion is that at the very least and regardless of how slow Sigatoka may go we should have not less than 1000 acres under control before the May rains start.

Sigatoka has been moving very rapidly in the last three or four weeks and repeating its performance elsewhere and what occurred here last year the increase in intensity is most virulent on the best cultivations, principally the Vega lands. Where last year it can be said that no fruit was lost from Sigatoka on Company farms, this year our best cultivations along the Sevilla River are already suffering and it is obvious that before the dry season can hold back Sigatoka spread considerable damage will be done.

In going over with the engineers and farm people details regarding the proposed stationary layout, questions have come up which indicate that our field problems are going to be different from those of other divisions - the dimensions of the sections, the desirability of not having to cross cart roads with spray hoses, etc., etc., are details which we are going to have to work out for ourselves and where experience in other divisions will be of little help.

I am attaching copy of letter written me by Dr. Popenoe in reply to one in which I outlined in general terms the plans for small stationary unit and different types of portable equipment which I recommended to you. You will note that Dr. Popenoe agrees that as a starter our plans seem to be the best that can be followed.

I am also attaching copy of letter written by Chief Engineer Witter about the proposed stationary unit, as well as plan showing the layout. I am sending a carbon of this letter and attachments to Mr. Tallon at La Lima with the request that he have Sigatoka people there go over our work and let us have the benefit of any suggestions or recommendations.

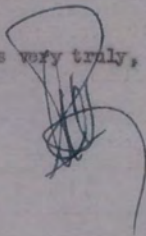
You will note that Chief Engineer Witter figures that this stationary

unit will cost us, as shown on the plan, about \$60.00 UScy per acre, including washing equipment. Our original thought of what this installation would cost was around \$40.00 UScy and apparently this figure would have been right if the installation had been an ideal one such as planned at the time of ordering the material for the Campaña de la Sigatoka. We are having the Campaña's figures as to the value of material checked by Purchasing Department, but apparently the difference arises from the shape of our layout as compared to their ideal rectangular one, plus the fact that our pipe system is laid with the view of avoiding crossing cart roads with hoses. We are going to want to try one sub-lateral down the center of each section to see how this works. This will mean using longer hoses than have been used anywhere else, but because of less mud and cleaner farms this length may be feasible here where impracticable in Honduras and Guatemala.

To sum up, for the time being and provided, of course, that prices of material are correct, this is to request your radio authority to proceed with the purchase and installation of the equipment we can take over from the Campaña and the placing of the order for the balance of material to complete the 274-acre layout as shown on the attached plan. By working this installation in the next few months we are certain to find an answer to many questions peculiar to this division only, and this experience will help us avoid more costly errors on a larger scale later on. In addition to this, of course, our principal reasons for starting work now are as demonstration to independent planters of how a stationary unit works and what results it accomplishes, the training of personnel for future and the getting together of correct statistics on cost of installations and cost of spraying with various mixtures.

May I hear from you by radio as to whether we can proceed to take over the Campaña's equipment.

Yours very truly,

A handwritten signature in dark ink, appearing to be a stylized name with a large initial letter.

cc: Mr. W. E. Turnbull
Mr. W. L. Tallon - La Lima
b/c - Dr. Popence

ENGINEERING DEPARTMENT

Sevilla
Nov. 11, 1939

Mr. R. H. Hamer:

In accordance with your letter of November 2nd to Mr. Bailey, with copy to us, in regard to the proposed Sigatoka spray installation in Abarca farm, we are attaching herewith three prints of our Plan 30-33 showing the layout.

The layout as shown covers 274 acres instead of 250 as originally planned. The reason for this increase is that we made the layout as far as the Acequia Abarca in the eastern end of the farm as this is a natural boundary. Throughout the entire layout we have held to the most efficient and most economical spacing and the length of pipe, as per Mr. Bowman's report to Mr. J. F. Aycock of March 29, 1939. In this report the most economical length of pipe is as follows:

2"	-	10,000'
1-1/4 "	-	3,400'
3/4"	-	800' to 1,000'

The spacing is 175'. All lots in Abarca Farm are 108 meters (350') wide with the exception of Lots 3 and 13, which are slightly wider. By using two sublaterals to a lot we can make use of the 175' spacing which is declared by Mr. Bowman to be the most economical and efficient. If we use one sublateral per lot it would mean spacing the sublaterals 350', which is twice the most efficient spacing. It would also be necessary to make use of 200' hoses, whereas on our layout 140' hoses are sufficient.

It will also be noted that in the wider lots, that is, Nos. 3 and 13, the spacing of the hose cocks is 60' instead of 100'. We did this so we could use 140' hoses. If we held the spacing of the cocks to 100' on these two lots it would be necessary to use a hose slightly longer than 140' and therefore making it necessary to have two lengths of hoses for

the project. Moreover, the man in charge of the project would have to remember the exact days and time when Lots 3 and 13 would be sprayed in order to arrange for the special hose. In our layout 140' hoses can be used throughout the entire 274 acres.

When the actual field work is done many of the lines will be changed in order to allow for mechanical cultivation and traffic. In many cases it will be necessary to change lines or change roads. It may also be necessary to bury certain lengths of pipe, but this is impractical because of the very high importance of rapidly locating and stopping leaks.

We could write several pages on the advantages and disadvantages of our layout, but believe we can arrive at better results by talking it over among ourselves and experimenting in the field. However, it must be noted at this time that the material which was ordered for the Campaña Contra la Sigatoka for their ideal layout of 250 acres is in the Division and costs \$29.00 m/A per acre as it stands today. This does not include any kind of labor, import duties, taxes, pumping plant, tool house, pumpman's quarters, nor any other small items which will be necessary once installation is started. Taking everything into consideration we do not believe that this installation can be made for less than \$60.00 M/A per acre.

In one report we received from Honduras it was stated that the pumphouse complete was \$3.50 per acre. The total cost of the 274 acres at \$3.50 per acre equals \$959.00 M/A. The spray engine, pump and the 1,000 gallon mixing tank purchased by the Campaña cost \$969.00, or \$10.00 more than the entire pump house layout did in Honduras, including equipment. Furthermore, by making a comparison of the unit costs of the material received in this division with those of the Tela Railroad Co. we find that the unit costs in Tela were considerably lower than in this

Division. Taking all of these items into consideration we believe the \$60.00 per acre figure is not too high for this particular installation. However, it will be possible to lower it considerably on a larger sized project, say 800 acres.

(S) E. J. Witter



1. 1/2" = 100' (Scale)
 2. 1/4" = 100' (Scale)
 3. 1/8" = 100' (Scale)
 4. 1/16" = 100' (Scale)
 5. 1/32" = 100' (Scale)

MAGDALENA FRUIT CO
 COLOMBIA, S. A.
 SPRAY SYSTEM
 MARCONIA (ABARCA) FARM
 Scale 1:5000 Nov 9 1939

digitized by Hunt Institute for Botanical Documentation,
 Carnegie Mellon University, Pittsburgh, PA

MAGDALENA FRUIT COMPANY

R. H. HAMER
MANAGER

CABLE ADDRESS
MAGFRUITCO.-SANTAMARTA

J. R. STRANGE
ASST. MANAGER

AIRMAIL

SANTA MARTA (REP. OF COLOMBIA)

November 21, 1939

Dr. Wilson Popence
c/o United Fruit Company
Kingston, Jamaica

Dear Dr. Popence:

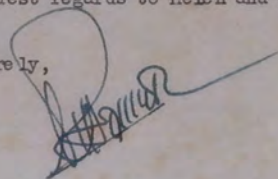
Thanks ever so much for your letter of October 28th giving your views on what we have in mind for starting Sigatoka control work here. We are just waiting for final word from Boston to go ahead with the purchase of the government unit and install it right away. It is a shame that this could not have been done two or three months ago so that we could have used it throughout the rainy season, but anyway, we will be deriving valuable experience and information from the work done in the coming months.

Since you will have had Mr. Turnbull and Jack Strange with you for a week they will have posted you on how everything is here, and there is no need for me to repeat. I greatly appreciate your offer to come by Colombia on your way home for Christmas, but I do not think that the boat schedules you mention from Cristobal to Barrios are now in effect. I think that the first months of next year will be ample time to start work with portable units and maybe at that time you can run over and be with us to go over the stationary layout operations and getting some portable equipment under way. How about this?

We have heard from the ships' captains of the terrible damage done throughout Jamaica by the heavy rains and winds. I presume it will take some time for the cultivations to come back, and by then Sigatoka will be more of a serious menace than now. I again repeat that I would rather face the future here in Colombia than in Jamaica. Drop me a line and let me know what you think the Island's prospects for the future are.

Mildred joins in sending kindest regards to Helen and you.

Sincerely,



MAGDALENA FRUIT COMPANY

R. H. HAMER
MANAGER

CABLE ADDRESS
MAGFRUITCO.-SANTAMARTA

J. R. STRANGE
ASST. MANAGER

AIRMAIL

SANTA MARTA (REP. OF COLOMBIA)

November 23, 1939

Mr. A. A. Pollan, Vice President
Magdalena Fruit Company
Boston

Dear Sir:

Knowing that you will find it of interest in connection with our plans for starting Sigatoka control work here, I am sending you copy of letter which Dr. Popenoe wrote for Mr. Strange, now in Jamaica, giving him some excellent suggestions as to different things we might try out here. I am going to start working on list of the portable units we would like to try out here, and in connection with these will order sufficient small pipe to try out one of the small pipe-line layouts with one of the portable units as the central pumping plant.

Yours very truly,

cc: Dr. Wilson Popenoe

Many thanks.

MAGDALENA FRUIT COMPANY

R. H. HAMER
MANAGER

CABLE ADDRESS
MAGFRUITCO.-SANTAMARTA

J. R. STRANGE
ASST. MANAGER

AIRMAIL

SANTA MARTA (REP. OF COLOMBIA)

December 22, 1939

Dr. Wilson Popeñoe
c/o United Fruit Company
Guatemala City

Dear Dr. Popenoe:

Thanks for your letter of December 10th which I found most interesting, especially as regards Jamaica production which affects us vitally on the basis of the old saying of "what is one man's meat is another man's poison" - at present Jamaica's poison means that we are living off the fat of the land with considerable English tonnage.

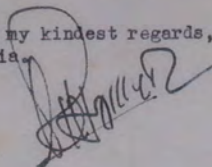
The books which you inquired about were forwarded by Bill Mais several months ago (on the CADMUS to Mobile) and Bill is now tracing through New Orleans as they certainly should have been forwarded to you a long time back.

Jack Strange returned yesterday and has much to say about what he saw both in Jamaica and Central America. I hope to go to Honduras next month to be there about three weeks for a short rest. Possibly I will bump into you somewhere around there.

Sigatoka here has moved rapidly in the last few weeks, but already the dry season is definitely established and the farms have been irrigating practically since December 1st. The rainfall data for this year here is going to establish an all-time low for as far back as rainfall records have been kept. The increase in virulence we are seeing at the present time is doubtless a carry-over from the last of the rains and should ease up in the next few weeks. All of the Vega lands are badly infected, some few patches are now completely out, but whether the rest will go completely out of production will depend on what happens in the next few weeks. Probably by the end of January we will take an inventory of what occurred during the 1939 season and compare it with what happened during 1938. There is not the slightest doubt in my mind that if this had been a year of normal rainfall damage would have been very considerable, as Sigatoka is showing up strongly in places practically clean up to short time ago.

Please give Helen Mildred's and my kindest regards, y usted reciba un abrazo de su amigo que lo aprecia.

Sincerely,



MAGDALENA FRUIT COMPANY

R. H. HAMER
MANAGER

CABLE ADDRESS
MAGFRUITCO.-SANTAMARTA

J. R. STRANGE
ASST. MANAGER

AIRMAIL

SANTA MARTA (REP. OF COLOMBIA)

December 27, 1939

Mr. A. A. Pollan, Vice President
Magdalena Fruit Company
Boston

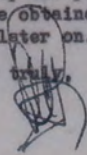
Dear Sir:

Attached is letter written me by Chief Engineer Witter under date of the 23rd, listing portable equipment, both spraying and dusting, and necessary tanks, pumps and tractors to go with it, which we would like to have to try out here for experimental and demonstration purposes. These requirements have been gone over with the Farms people and represent the consensus of what we feel we should have so as not to miss trying anything which might prove useful in finding a solution for the various Sigatoka problems of this division in the future. There are some comments under item 11 as to amount of dusting that is being accomplished by the Campaña which are incorrect - anyway from the standard of what we know as proper dusting, but I am not taking time to correct remarks as they do not affect the principal subject matter of the letter. I am anxious that this letter reach you as soon as possible as the first seven items, which will cost over \$7000, are to be ordered from the Hardie Mfg. Company whose prices, according to Mr. Rowe's Circular letter of November 29th, may be increased effective January 1st for all orders not shipped before January 15th.

As you will notice, of the total estimated cost of all equipment listed of \$14,350, \$5,700 are for 4 spraying units, \$1,350 for 4 steel water tanks, \$600 for 4 pumps to go with the tanks, \$1,100 for one Niagara Duster and \$5,600 for 3 tractors for use on the units that will not be drawn by oxen.

I am sending copy of this letter and list to Dr. Popence who, because of his familiarity with our conditions here and with portable equipment in Jamaica, can advise whether he feels that any other machinery should be tried out. I am sure that Dr. Popence will be in agreement that everything already listed should be tried out, but if this is not the case I hope he will give us his comments by radio.

As soon as you advise that you approve of the purchase of this equipment we will have the necessary order placed through the Caja de Crédito Agrario, but this formality need not hold up the purchase of any equipment from the Hardie Mfg. Company that should be obtained right away to avoid having to pay an increased price a little later on.

Yours very truly,


cc: Mr. H. Rowe

Mr. R. H. Hamer:

SIGATOKA EQUIPMENT

We have carefully gone over Sigatoka control equipment with the Agricultural Department and would like to order the following:

From the HARDIE MFG. COMPANY - Hudson, Michigan, U. S. A.
1939 Catalog - Eastern Edition.

Item #1. - One only Imperial Tractor Trailer Sprayer outfit #150E1000 with Model "L" pump to be powered by a D-2 Caterpillar Diesel Tractor. Furnish as per specifications on catalog page 40 with the following: - Imperial "L" pump, 400 gallon wooden tank, steel wheels 54" x 10" with roller bearings, Imperial Tank Filler, and steel rear platform.

Item #2. - One only Imperial Model XXX Streamlined Cutunder Sprayer - outfit #130U0100 - Catalog page 26. Furnish as per specifications with the following: steel wheels 24" x 8" front and 48" x 8" rear, Imperial Tank Filler, and steel rear platform and 300 gallon wooden tank.

Item #3. - One only Imperial Model XV Streamlined Cutunder Sprayer - outfit #115U0100 - Catalog page 30. Furnish as per specifications with the following: 200 gallon wooden tank, steel wheels 24" x 8" front and 48" x 8" rear, Imperial Tank Filler, and steel rear platform.

Item #4. - One only No. 99 x 0108 Sprayer - Catalog page 47. Furnish with 6" steel wheels if possible and a Junior Tank Filler.

Item #5. - One only 450 gallon steel tank mounted on one pair 54" x 10" steel wheels with roller bearings and necessary axle and framing. To be used as auxiliary water supply.

Item #6. - One only 350 gallon steel tank mounted on one pair 48" x 8" steel wheels with roller bearings and necessary axle and framing. To be used as auxiliary water supply.

Item #7. - Two only 250 gallon steel tanks each mounted on one pair 48" x 8" steel wheels with roller bearings and necessary axles and framings. To be used as auxiliary water supply.

From NIAGARA SPRAYER AND CHEMICAL CO. Inc.
Middleport, New York

Item #8. - One only Niagara Cyclone Engine-driven Duster powered with Model CW Novo Engine. This Duster should be similar to Niagara Duster Serial S.P. 567.

From HOMELITE CORPORATION - Port Chester, N. Y., USA.

Item #9. - Four only Homelite 2" Self-priming Centrifugal Pumps - Model G. Each unit to be complete with 20' suction hose, 10' discharge hose and suction hose strainer.

From CATERPILLAR TRACTOR COMPANY - Peoria, Ill. USA.

Item #10. - Two only D-2 Diesel Tractors 40" Gauge Models with the following: Speeds - Reverse 2.8; first 1.98; Second 3.04; and third 4.52 miles per hour. With wide track shoes, crank case shield, front pull hook, rear pull hook, and direct drive rear power takeoff to power Hardie Imperial Tractor Trailer Sprayer as covered by Item #1.

From ALLIS-CHALMERS MFG. CO. - Milwaukee, Wis., USA.

Item #11. - One only Allis-Chalmers MFGCo. tractor Model B with rubber tires.

Item No. 1 - This unit makes use of the tractor for both power and traction, the tractor being connected to the spray pumps with a direct rear drive. This item should not be ordered until it is found out whether or not the D-2 tractor is equipped with a direct rear drive. If the tractors are not ordered this item must be cancelled.

Item No. 2 - It is not known at the present time whether or not a team of oxen can pull this unit. It is the general consensus of opinion that they can and we are going on this assumption. If they cannot then tractors must be ordered later on.

Item No. 3 - A team of oxen can very readily handle this unit.

Item No. 4 - All No. 99 units have only 50 gallon tanks. Moreover they develop only 300 pounds pressure which they may be too low for control work in tall bananas.

Item No. 5 - This 450 gallon tank is being ordered for an auxiliary water supply for Item #1. It is made of steel and comes 50 gallons larger than the same type wooden tank. We ordered steel because it will not be used with Bordeaux. It may be that a tractor will be necessary to pull it.

Item No. 6 - This 350 gallon tank is the reserve water tank for Item #2. It is also of steel and 50 gallons larger than the spray tank.

Item No. 7 - The first of these two tanks is to be used with Item #3 and the second one with Item #4. Although Item #4 has a 50 gallon tank a 250 gallon reserve water supply is being ordered so that a minimum of time will be lost in refilling. Fifty gallons of spray material will not last long.

Item No. 8 - This unit is similar to one used by "La Sigatoka" and is very satisfactory.

Item No. 9 - These four small pumps will be used to fill the various tanks with water. One will be assigned to each of the first four items.

Item No. 10 - These D-2 Diesel Tractors will be used with Item #1 and to haul either Item #2 or one of the larger water tanks. Frankly we want to order these tractors in order to find out definitely what they can do. The Model 22 is now obsolete and our next small tractor will be the D-2 if it is satisfactory. This is a good time to get acquainted with them in case we have to buy for a large program. If these tractors are not ordered, Items #1 and #5 must be can-

celled.

Item No. 11 - This tractor will be used to pull the duster. A Model 22 or D-2 is too large. "La Sigatoka" at first used oxen and dusted from six to eight hectares per day. They changed to the Allis-Chalmers and covered between thirty and forty hectares per day. They are dusting Acandí Farm of about 125 hectares in four days. Oxen work too slow and the dusting is patchy. There is also a tremendous waste. A tractor's speed can be regulated to perfection.

We believe that we have covered all necessary equipment in the above. You will notice that we have specified steel wheels throughout. We would like to stay clear of pneumatics because of repairs and loss of time in repairing. Spare parts for all units will be ordered when we definitely find out what we are going to get. Hoses, guns, discs, etc. will be ordered as soon as we receive the catalogs which we requested Mr. Rowe to send. The fungicides will also be ordered when we are advised on equipment.

From all data available, including "La Campaña Contra la Sigatoka" files we estimate the cost of the above-mentioned equipment to be as follows:

Item No. 1	3000 M/L	1750 M/A
" " 2	3100 "	1800 "
" " 3	3000 "	1750 "
" " 4	700 "	400 "
" " 5	700 "	400 "
" " 6	600 "	350 "
" " 7	1050 "	600 "
" " 8	1900 "	1100 "
" " 9	1050 "	600 "
" " 10	7700 "	4400 "
" " 11	<u>2100</u> "	<u>1200</u> "
Total:	\$24,900 "	\$14,350 "

(sgd.) Edward J. Witter

cc: Mr. H. S. Bailey

Antigua, Guatemala, 8 January 1940

Mr. R.H. Hamer, Manager,
Magdalena Fruit Company,
Santa Marta, Colombia.

Dear Mr. Hamer:

I have received copy of your letter to Mr Pollan, dated 27th December last, together with copy of list of equipment submitted by Mr. Witter, to be used in experimental control of Sigatoka in your Division. I have sent you a radio on this subject because I am in complete accord with the equipment as listed. I believe this equipment should, with addition of the permanent installation which I understand you are taking over from the Campaña Contra la Sigatoka, prove ample to show just what we need for our own use.

The more I think it over, the more I am inclined to feel that the two most promising methods for our farms will be the permanent installation, and the combination of portable tanks and pumps with light piping. From what I saw in Jamaica during the rainy weather which preceded my departure from that island (the first really rainy weather the south coast of Jamaica had seen in many months) the more I feel that the hauling of portable sprayers through the farms is not going to prove altogether satisfactory. For this reason I incline toward the combination of portable outfits, which can be kept on the guardarayas, and sufficient light piping to facilitate getting into the planted areas economically and efficiently.

While I believe you are wise in trying out one duster, I believe it is highly probable that dusting, if satisfactory at all in the long run, will only be so on the "second class" areas where Sigatoka is more easily controlled than on the vega lands. I am definitely in favor of giving dusting a thorough trial on such areas.

In connection with the use of low pressures, such as the 300 lb. rated pressure of the Hardie 99 type of sprayer (a machine which is proving highly satisfactory in Jamaica) I believe you may find it useful to use an eight foot lance or rod, which permits the operator to hold the spray nozzle some ten or twelve feet from the ground. In Jamaica they have used rods up to 10 feet in length, but at the time I left it was our feeling that eight feet is as long as can be handled satisfactorily. These rods can be of bamboo with a 1/4 inch copper or brass tube through the center, or of 3/4 inch aluminum tubing. They are a great help in spraying high plants with low pressures.

Yours sincerely,

cc Mr Turnbull

Trout House for Veterinary Farm - Years: 1938, 1939 & 1940 - 1215 Cases

Year:	Quantity of Items Rec. (Pittsburgh per case)	Plant (insects per case)	Items per case	Form	Items per case	Other Cases	Items per case	Total Items per case	1215 Cases
1938 July to Dec.	2343	2		34200	25			36543	30
1939 Jan. to Dec.	10573	10	4	71500	58	27058	22	114426	94
1940 Jan. to June	3746	3		264000	217	41299	34	309045	254

Agricultural Office
Legislat., March 12, 1940

MAGDALENA FRUIT COMPANY

R. H. HAMER
MANAGER

J. R. STRANGE
ASST. MANAGER

CABLE ADDRESS
MAGFRUITCO-SANTAMARTA

SANTA MARTA (REP. OF COLOMBIA)

January 13, 1941.

AIR MAIL

Dr. Wilson Popenoe,
C/o Mr. Isidoro Gonzalez,
General Agent,
United Fruit Company,
Havana, Cuba.

Dear Doctor:

Thank you for your letter of January 6th about Vicente Velasco. It so happened that this chap called on me a few days ago and said he had finally arranged for a government beca at Cornell University and so I promised to help him with free transportation to the States. He has gone to Bogotá to make final arrangements and we will take care of his passage when the time comes. Doubtless he has written you direct about this matter.

Mr. Turnbull had advised me that you would be coming here to help us this month and I am sorry to see that your plans have been changed but I still understand from La Lima that you will be with us toward the end of March. Sigatoka really stepped out during the last six months of 1940 and about 4,500 hectares of the best independent cultivations have been entirely abandoned. Another 5,000 hectares approximately are on our "sick" list, which means that fruit from these areas is not fit for export - All but about 1,200 hectares of these 5,000 are shipping below two stems per hectare per week, which means that revenues cannot cover even minimum maintenance. There remain only about 6,700 hectares of independents on our "clean" list and unfortunately these are the areas of inferior production both as to quantity and quality. Of our own farms we have closed down everything except the Sevilla District, which is in fine shape and is going to ship fruit this year that we will not be ashamed of. However, this is only 1,700 hectares as part of the Latal-Sacramento block is being replanted. It looks as though we cannot hope to ship more than about 2,000,000 stems this year.

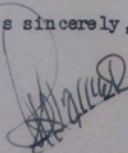
It appears as if we are going to sign the contract with the Government soon and will then start on the work of the selection of lands. Probably Barrios Ferrer will accompany us in this selection as Government Observer and I had hoped that you would be with us to help in the selection

Dr. Wilson Popenoe

January 13, 1941.

and help in our relations with Barrios Ferrer and the Government - Barrios Ferrer has always respected your opinions so highly that I know of no one better than yourself to handle him in case of difference of opinion. Of course, this selection work will take some time and doubtless if you come in the latter part of March, you can still be of much assistance. There are going to be many interesting things to be done.

Yours sincerely,



c.c. Mr. W. E. Turnbull - Tegucigalpa

MAGDALENA FRUIT COMPANY

R. H. HAMER
MANAGER

J. R. STRANGE
ASST. MANAGER

CABLE ADDRESS
MAGFRUITCO.-SANTAMARTA

SANTA MARTA (REP. OF COLOMBIA)

AIR MAIL

January 25th, 1941.

Dr. Wilson Popenoe,
C/o Mr. Isidoro Gonzalez,
General Agent, United Fruit Co.,
Havana, Cuba.

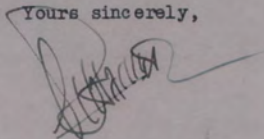
Dear Doctor:

Thank you for your letter of the 19th instant. I am more sure than ever that you will arrive here in time to be of assistance, as things are still going very slowly and at the present the government is devoting most of its attention to how to spend the three million pesos which have been appropriated to relieve conditions in the Department of Magdalena in different ways.

To help the government we are going to give them the Theobromina-Magdalena Tract and they talk of parcelling it out in small lots to colono type of agriculturists. Possible crops mentioned are rice and oil bearing plants such as peanuts, ajonjoli, etc., but everything is still very much in the indefinite stage including the appearance of the cash.

I will keep you posted from time to time of what of interest occurs.

Yours sincerely,



c.c. Mr. W. E. Turnbull - Tegucigalpa

Habana, Cuba, 14 February 1941

Mr R H Hamer, Manager,
Magdalena Fruit Co., Santa Marta,
Colombia.

Dear Reggie:

Many thanks for yours of 25th January, in which you advise that things are moving slowly and the government is still directing most of its attention to the problem of spending the three million pesos which have been appropriated for relief. I will be obliged if you will drop me another line shortly after receiving this, and let me know how early you think it will be essential for me to be get there, so far as you can judge at this moment. While I haven't much control over my plans right at this moment, if I know what it is your mind I will do my very best to fit in to the program. It looks as though we shall finish the field work here in Cuba by the end of March but it also looks as though it will be necessary for me to spend a few days in Washington after that.

You mention, in this last note, that the government is going in for agricultural rehabilitation along lines other than bananas. If you want to help them on this, I believe we are going to be in a position to render some really effective service. The job on which we are working here in Cuba is primarily the formulation of a program for agricultural diversification. In this connection, other members of the group of which I form one, have brought down from the States recent information along many lines. And a good deal of work has been done by people here in Cuba. For example, they have gone in for peanut oil and are turning it out on a big scale. I can get the dope on this, as also regarding several other oil plants. In fact I will get it anyway, in connection with the present job, so that if you want it down there I can put it at your disposal.

There is just one point on which we should do a little thinking right now: if you want to assist the Colombians on their diversification program, and we don't want to lose too much time, we ought to be lining up experimental quantities of seeds of various sorts for planting at the beginning of the rainy season. Some of these seeds, such as a good collection of peanut varieties (for they can't do anything along the line of peanut oil until they have tried out a number of peanut varieties and determined which are best), can only be obtained during the winter and spring months in the States. If we do not get them by March or April at latest, we can't get them until next year. I wish you would drop me word, telling me whether you are sufficiently interested so that you want me to go ahead and line up some of these things immediately. Some I can get free through the government and the experiment stations; some we have at Lancetilla; some we would have to buy but the total investment would not be anything serious. If we order the seeds now, they would be on hand by the time I get down there and we would be ready to start something worth while.

Write me here at the Hotel Ambos Mundos and tell me what you would like me to do. I'll make a genuine effort to do it. Best regards to all of you.

Sincerely,

cc Messrs Pollen and Frybull

c
o
p
y

UNIVERSITY OF CALIFORNIA
College of Agriculture
Agricultural Experiment Station
Office of the Dean And Director
DAVIS, California.

August 25, 1941.

Mr R H Hamer, Manager
Magdalena Fruit Company
Bogotá, Colombia, S A

Dear Mr Hamer:

This letter should arrive about the time the shipment of olive cuttings reaches you. They may already have left the Armstrong Nurseries at Ontario. Fifty cuttings each of our standard commercial varieties were provided by the Citrus Experiment Station at Riverside, and in addition we included some 16 other varieties that are under trial at the U. S. D. A. Plant Introduction Garden at Chico. These haven't been planted commercially, but so far are giving promise of being medium to heavy yielders and, of course, this is the important consideration in an oil industry. Also, certain of them give indications of better than average oil content. A list of these varieties is enclosed.

The armstrong Nurseries do their propagating later in the fall, using small tip cuttings of new growth. I suggested that cuttings of the standard commercial varieties be made up for shipment as rooted cuttings next April. This would give double the insurance of getting these varieties established.

Very sincerely,

(sgd) Knowles A. Ryerson
Assistant Dean

August 1941

Olive cuttings from U.S.D.A. Plant Introduction Garden, Chico, California

Ten cuttings each:	PI - 12910	Olea europea	Chitoni
"	13567	" "	Chemlali
"	50983	" "	Late Blanquette
"	63858	" "	Dolce del Morocco
"	63861	" "	Grappolo
"	63863	" "	Maurini
"	63865	" "	Marsioili
"	12569	" "	Barouni
"	12685	" "	Saiali Magloub
"	13257	" "	Grosse Aberkan
"	63862	" "	Lecci
"	86753	" "	Meslale
"	86754	" "	Zitoun
"	12684	" "	Bidh el Hamman
"	50993	" "	St. Catherine
"	62750	" "	Grossa de Spagna

Olive cuttings from Citrus Experiment Station, Riverside, California

Fifty cuttings each of standard commercial varieties:

Mission
Manzanillo
Sevillano
Ascolano
Barouni

septiembre 8, 1941.

Señor Ministro de la Economía Nacional
E. S. D.

Muy estimado señor Ministro;

Tengo el gusto de enviarle adjunto el original de la carta que acabo de recibir de la Estación Experimental de la Universidad de California referente a una remesa de estacas para la propagación de olivos, que por expreso aéreo fué remitida de California y consignada directamente al Dr Eduardo Mejía Vélez, Director de Agricultura del Ministerio de la Economía Nacional, en esta ciudad. Esta remesa corresponde la oferta que nuestro Dr Wilson Popence hizo al señor Director de Agricultura; y espero que contribuya al fomento de la nueva industria del olivo.

Soy del señor Ministro con toda consideración,

atento servidor,

R H Hamer, Corrente.

cc Mr AAPollan, Boston ✓
Mr WPopence, LaLima ✓

MAGDALENA FRUIT COMPANY

R. H. HAMER
Gerente

J. R. STRANGE
Sub-Gerente

Dirección telegráfica
MAGFRUITCO-SANTAMARTA

SANTA MARTA - COLOMBIA

September 18, 1941.

AIR MAIL

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

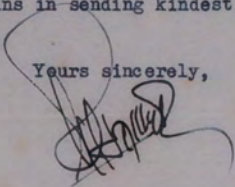
Dear Doctor:

You probably will have heard that the Government disapproved our map and plan of campaign, although everything looked satisfactory for a settlement at the time you left. Roldán behaved excellently to the very last. The new Minister can best be judged by the action he took and the way he took it. If you are around La Lima, and are interested, Taillon will be glad to show you the resolution handed down and the comments we have made regarding it. Barrios Ferrer also behaved very well and you can see copy of the report he rendered at Mr. Turnbull's office.

Attached is letter from Mejía Vélez acknowledging receipt, with thanks, of the olive cuttings, which I believe were sincerely appreciated by the proper people.

Please tell Helen that Mildred was delighted with the ring that she helped me select. Mildred joins in sending kindest, personal regards to both of you.

Yours sincerely,



Enc.



DEPARTAMENTO

AGRICULTURA

REPUBLICA DE COLOMBIA

Ministerio de la Economía Nacional

SECCION Dirección

NUMERO A-3738

Bogotá, 12 septiembre de 1941.

Señor Gerente de la
MAGDALENA FRUIT COMPANY
Apartado #3710,
C i u d a d .-

Acuso a usted recibo de su atenta comunicación de fecha 8 de los corrientes en la cual se sirve avisarme el envío de una remesa de estacas de olivo enviada por el Profesor Wilson Popenoe y remitidas de la Estación Experimental de la Universidad de California.

Las estacas en cuestión ya llegaron a esta ciudad y me ocupo en reclamarlas para disponer su inmediato envío al vivero de Villa de Leiva.

Doy a usted las mas expresivas gracias por su atención y sin otro particular me honro en suscribirme de usted atento servidor,

Eduardo Mejía Vélez
Eduardo Mejía Vélez I.A.
Director Depto. Nacional Agricultura.

JMO/adt.
Grupo C- #6.

Antigua, Guatemala, 9 October 1941

Mr R H Hamer, Manager,
Magdalena Fruit Co.,
Santa Marta, Colombia.

Dear Reggie:

Your letter of 18 Sept reached me a few days ago, and today I have received copy of yours of the 22nd to José M. Otoya.

I was in Costa Rica two weeks ago and there met Fletcher Hatch, who told me of the outcome of the Sigatoka program in Colombia. I have not been to Lima recently to look over the correspondence and get all the details, but I shall probably get down there in a couple of weeks. As you may know, I was called off in late August, shortly after reaching Honduras from Colombia, for a trip to Brazil, Venezuela, Ecuador, Costa Rica, and Salvador, to look over sites which have been offered for the proposed Interamerican Institute of Tropical Agriculture. This is something which the U S government is sponsoring. I went with two men from Washington and we finished up yesterday. Our last stop was Salvador; then we came here to write up the report and my colleagues took it up to Washington. I shall now devote myself to our own plans for a school in Honduras. I understand I shall be devoting practically all my time to this from now on.

I am glad to learn that the olive cuttings reached Colombia and were delivered to the proper people. So far as that project is concerned, I feel that we have done what we promised to do and started out to do. And we have done the same by the Cinchona job. My being called away on that trip for the U S govt prevented my being here when Zapata arrived to look over the Cinchona work here, but I made all necessary arrangements for him and I am informed here that he saw everything he wanted to see. He has written me to this effect, also. He did not stay long - I do not think he spent more than ten days in the Cinchona country altogether, - but he was welcome to stay as long as he wanted. According to his letter to me, he felt that he had obtained all the information necessary.

Now as to the letter from José M. Otoya R. and your reply with carbon to me: I do not remember this man's name and am wondering if he has taken the place of Eduardo Mejía Velez. He signs as "Secretario Encargado, Depto. Nacional

Agricultura". I have a vague impression that he may be the old fellow who acted as secretary for Eduardo Mejia Velez, and before him, to Varela Martinez. In any case I have never promised him anything and will do nothing about the dwarf coconuts are other plants he mentions.

XXXX XXXXXX XXXXXX XXXXXX XXXXX

Just at this moment I was stopped by the arrival of Ricardo Vazquez, Colombian Minister to Guatemala, who brought in ex-president Carlos Davila of Chile. I took advantage of the opportunity to ask Don Ricardo about Zapata. He says he got everything he wanted here; and that from here he went to Salvador, and was then going to stop in Costa Rica on his way back to Colombia. So I feel sure we lived up to our promise with regard to this man.

Helen was glad to hear that Mildred was pleased with the ring. The Fairchilds, whom you met in Bogotá (at least you met Dr. Fairchild are on their way here and will spend several weeks in Guatemala before going back to their home in Florida. I would appreciate it if you would let me know what has become of Eduardo Mejia Velez; did he go out with Don Mariano Roldán? I would like to keep in touch with him; to my mind he is a serious and earnest fellow who wants to do something for his country.

We join in warmest regards to all of you.

Sincerely,

cc Mr W E Turnbull

22 de Septiembre de 1941.

Señor don
José M. Otoya R.
Secretario encargado del
Departamento Nacional de Agricultura.
Bogotá.

Me es muy honroso avisar a Ud. recibo de su atento oficio distinguido con el número A-3781, de fecha 16 de Septiembre que corre.

Siento manifestarle que la Empresa que represento no tiene las plantas a que Ud. se refiere en su mencionado oficio.

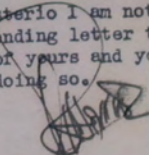
Una copia de la carta de Ud. ha sido enviada al señor Wilson Popenoe, con el objeto de que él tome nota de la referencia que Ud. hace sobre las frutas tropicales que han sido introducidas al país bajo su dirección, y así pueda el señor Popenoe informar a Ud. sobre el particular.

Soy de Ud. atento amigo y seguro servidor,

BC: Dr. Popenoe, con una copia de la carta aludida. ✓

Dear Dr. Popenoe:

Due to change in attitude in Ministerio I am not particularly keen on helping them out but am sending letter to you so that in case Otoya is personal friend of yours and you wish to help him, I have no objection to your doing so.



REPUBLICA DE COLOMBIA

Ministerio de la Economía Nacional

Sección: Dirección
Número/A-3781

Bogotá, 16 de Septiembre de 1941.

Señor Gerente de la
MAGDALENA FRUIT COMPANY,
Ciudad.

De la manera más atenta me permito rogar a usted se sirva dar las órdenes del caso para que se envíen a Mompós, al agrónomo Director de la Granja Agrícola, señor Alberto Nanclares, unos ejemplares de palmas de coco de las variedades Green-Dwarf, Lellow Dwarf y Semi-Dwarf originarias de Java y Filipinas. También sabría agradecerle el suministro para la misma granja de algunas plantas de otras frutas tropicales como el Mangostan, las cuales han sido introducidas al país bajo la dirección del doctor Wilson Popenoe.

Anticipo a usted mis agradecimientos por la buena acogida que se digne dispensarle a esta solicitud y sin más por el momento me suscribo su atento servidor,

José M. Oyoya R.
Secretario encargo
Depto. Nacional Agricultura.

MAGDALENA FRUIT COMPANY

R. H. HAMER
MANAGER

J. R. STRANGE
ASST. MANAGER

CABLE ADDRESS
MAGFRUITCO.-SANTAMARTA

SANTA MARTA (REP. OF COLOMBIA)

October 28, 1941.

AIR MAIL

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

Dear Doctor:

I see from your letter of the 9th that far from slowing up after you left here, you continued to cover a lot of territory. It must have been a relief to both Helen and yourself to get back to Antigua and catch a breathing spell.

You ask if Mejia Velez is still in the Ministry. I believe he is but I will check definitely the next time I go to Bogota. Ruiz left with Dr. Roldan. The Minister that disapproved the map has now been shifted to the War Department and there has been appointed as Minister of Economy an engineer by the name of Marco Aurelio Arango. This gentleman was Minister of Agriculture in the last days of the Lopez regime and from the considerable dealings I had with him at that time I would rate him as about the same as the man he has just succeeded. Conditions are rapidly going from bad to worse. Of the 14,500 hectares of independent cultivations in the entire zone, 5,300 are now completely abandoned. An additional 2,700 are on the sick list cutting about a stem per hectare. Of the 6,500 hectares on the clean list over 3,000 are suffering so badly from lack of proper attention that they are averaging only about $2\frac{1}{2}$ stems per hectare per week. This leaves less than 3,500 hectares which can be said to be producing more or less normally, as they are averaging about 10 stems per hectare, per week. All of these last mentioned farms are going down so rapidly that my present guess is that for next year we cannot count on over 3,000 hectares in normal production for the first half of the year.

Sevilla fruit is getting better all the time and we should go into next year in wonderful shape, barring some disaster. It is impossible to tell what is going to happen here from now on but it is going to be interesting to watch developments.

With kindest regards to Helen and yourself,

I am,
Yours sincerely,

c. c. Mr. W. E. Turnbull