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

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.

Antigua, Guatemala 19 May 1972

Mr-Bount Halberg
Ixtlan de Juarez, Oax.
Mexico.

Dear Mr. Halberg:

For several years the grape breeders in Califpmia (Prof. Olmo at Davis) and in Florida (Dr Mortensen at Leesburg) and now Frank Watlington in Puerto Rico, have been after me to get them seeds of the totoloche which I saw at several places in the Isthmus of Tehuntepec and collected when I was down there in 1918. This turned out to be a new species of the Muscadinia (Scuppernong) group and Joe Fennell gave it my name. He published it as Vitis popenoei and a few plants were grown in Florida and I believe California. Joe Fennell has a cross he made which he says pr duces good fruit, but is not hardy enough for northern Florida. Incidentally, this grape is the only member of the Muscadine group which grows so far south. The only other interesting grape I know in the tropics is V. caribaea of V. tiliaefolia which is common everywhere down this way and into South America. You probably know it in Mexico. The breeders think this species should enter into the composition of the "ideal" tropical grape. Prof. Olmo is strong for this idea and I like the idea myself.

Of course I also like the idea of using V. popenoei in crossing with some of the species from Florida, especially. And I want very much to get a batch of seed of this totoloche, as they call it in Tehuantepec (I bought it in Coatzacoalcos also under this name) and I wonder if you can help me out? Do you have a friend in Tehuantepec who could buy a nice batch of totoloches when they appear in the

market? The foto I enclose was taken 3 October 1918, but I imagine this fruit may come into the market in August or September.

In my time it was a long way from Oaxaca to Tehuantepec and no cars running, but I suppose today you have a two-lane paved highway and can run down there from Oaxaca in not more than a couple of hours. Verdad? If you do not know anyone who can do the job for us, I might be able to get enough money from Florida to pay your expenses if you would drive down there on market day and see if you can get some fruit. If none was available at the mmmmnt, p rhaps you could arrange with someone to buy up enough fruit when it comes into market, to give us 2 or 3 hundred seeds. Incidentally, it would be interesting to know more about the distribution of this species, and is it ever found in cultivation?

Allright; please tell me what you can do, and in the meantime take a look at the enclosed memo I have prepared to bring the enclosed paper - which you may have seen - down to date. And I think I might be able to help you get budwood of a few of the new pears we are testing here, if you are interested in pears. And we have the Anna apple from Israel which is loaded with fruit right now, at 4800 feet elevation. I ate this apple at Gainesville last year and it is pretty good.

Faithfully yours,

Wilson Popenoe

Address simply: Antigua, Guatemala Centro America

Some notes on "Temperate Zone Fruits in the Central American Highlands"

APPLES. Some of the Malling Merton rootstocks, if given special attention, have proved satisfactory on a small scale. We can not recommend them for extensive orchards - no one here is going to give them good enoughsoil and care. We are using local rootstocks, mainly those propagated vegetative, but one good nursery,an says seedling rootstocks make better root systems. As for varieties, Winter Banana and Wealthy account for more than 75% of commercial plantings. We do not agree with Ticho about Gravenstein but it is not widely planted. We have satisfied ourselves that the Juarez apple is really Wealthy. There may be a mixture of varieties in the Juarez orchard; he claims he has three, Juarez, Red Delicious and Jonathan. No one agrees with him about the two last-named, but Red Delicious is being grown on a small scale and Johnathan looks promising - we base this on imported trees which are true to name. The variety in the garden of Tomasa Cabrera at Sta Cruz Quiché has proved to be Wealthy, just as has the Juarez of Chichicastenango. No attention is being given to the varieties suggested for further trial by Ticho: Redjon, McIntosh and Alaska - assuming these were correctly named. Early McIntosh may be promising for the higher elevations. Yellow Delicious is gaining some ground, but not much.

CRABAPPLES. Several hybrid crabs in roduced for trial have not shown any promise. Transcendent does beautifully but no one is interested in crabapples.

PEARS. We are making progress, and pretty rapidly. Larga is probably Clapp Favorite, if you use the variety called Larga which comes first onto the market; there seem to be some other and later varieties under this name which are not Clapp Favorite. Redonda may be Lincoln and is still being propagated by nurserymen. We do not

recommend it. There is a variety at Quezaltenango which we cannot identify which is very promising and is being propagated; we are calling it Beurré Clairgeau but this is a guess. Of the hybrids, Hood which is called Kadman by many people, is being propagated heavily. The best of the old hybrid varieties. We have a new one from Tennessee which is believed to be 3/4 Anjou and 1/4 Garber which is very promising. Kieffer and Pineapple not being propagated extensively. We are getting away from Crateagus (manzanilla) as a rootstock and going in for Pyrus calleryana in a big way.

I do not believe we have Seckel here and the few trees we have imported have not done well. Bartlett looks very promising but for the highest elevations only; it has the highest chilling requirement of all the commercial pears we have tested.

PLUMS. Not being planted extensively, tho one man has several acres in Mariposa. The major varieties here are Santa Rosa, Satsuma, Mariposa and the yellow one which used to be called Reina Claudia and which is likely Shiro. What seems to be Methley is common in the Texpan region and is abundant in the early market but the price is low and very few trees are propagated.

PEACHES. The older varieties from Florida are practically forgotten. The newer ones, mainly products of Ralph Sharpe at Gainesville, and receiving much attention. His Flordawon starts off well and eats well but it looks as tho it may not remain in good production many years and the fruit does not ripen uniformaly - rots at the apex before it is eating-ripe at the base. Flordahome is not a fine peach and requires more cold than Flordawon, but does pretty well. Several other new varieties from Gainesville and elsewhere look promising but we dont know enough about them yet. I am getting really worried about the short productive life of some of the new peaches.

We have no good "canning clings" on which we can count for productiveness. I believe the ones we have here - seedlings - are the same type they have in Central Mexico. I am not clear about their origin; they seem different from the common "Spanish" peaches we have, and are all termed Melocotones here. The Monisterio de Agriculture and others have propagated thousands of trees from local seedlings which look good, but we dont yet know how they are going to turn out, as grafted trees. I am afraid of their productivity until we have more information.

GRAPES. No progress, very little interest. Isabella is the only one which is widely (but not extensively) grown. Niagara comes next, but is a weak grower and hardly grown here at all. I brought Catawba from Maryland to Honduras 10 years ago and it is still growing well (the main troible with most grapes is short life, after you rake into account the fungous pests). I have recently received cuttings of Stover from Florida; I saw it at Leesburg last year and was impressed by its productiveness and vinifera-like quality. Catawba is the strongest grower of all varieties we have tried but we are not getting good crops from it in Honduras.

VIVERO RANCHO TEJA
IXTLAN DE JUAREZ.
OAXACA, MEXICO.

Boone Hallberg
INVESTIGADOR BOTANICO

3 June 1972

Dr. Wilson Popenoe
Antigua, Guatemala

Dear Dr. Popenoe,

Thanks very much for your most informative letters of 26 January and 19 May. I regret this delay in answering, but my one-man operation has kept me quite busy these past months especially with our corn harvest Dec-March (with labor shortages) and our planting season commencing 15 Feb and not quite finished. Towards developing improved varieties of local corns and some converted to Opaque-2 (high in lysine and tryptophane) or sweet corns for high, medium and low elevations; I recently finished planting about 180 different strains to be utilized for further crossing purposes by hand pollination; these in addition to our principal commercial varieties. I see a great need for these varieties in view of the fact that the Mexican Agricultural Dept. has developed special hybrid varieties only for the chief agricultural areas of the central plateau and lowlands, while our mountain regions are neglected and I find that the special varieties of the central plateau do not produce well here. Once better yields are obtained, I hope to be able to interest the people in fruit culture as an even better crop than corn.

About the Totoloche, I am curious whether that might be a grape which I once tried in the market at Matias Romero (in the middle of the Isthmus of Tehuantepec along the railway). I remember that as quite red in color, about 3/4" in diameter, with a quite rough skin, and flavor extremely acid (similar to a biting under-ripe pineapple =or am I thinking of an over-ripe pineapple?=) but remotely pleasing. Otherwise, I know of the common wild grape, dark purple in color found frequently throughout these mountains from around 7,500 ft. elevation down through the wet forest to below 3,500 ft. (or would there be more than one species involved in these?). In any case, I hope to be able to collect ferns for a friend at the New York Bot. Garden along the continental divide from near Mitla east to the trans-Isthmian Highway in late July, when I certainly will be glad to look for that fruit and hopefully find someone who could send fruit or seeds to me at little cost, in case that it not yet be ripe when I am there. That sounds most promising.

Here I now have growing as small plants vars. Agawam, Caco, Campbell's Early, Catawba, Concord, Fredonia, Golden Muscat, Himrod Seedless, Interlaken Seedless, Niagara White, Pierce and Worden Blue; but unfortunately my other activities and need for immediate income for my family have not allowed me time to stake them up yet and provide them proper care, though we have obtained a few scattered sweet fruits in the month of March.

I enclose an old list of apple and peach varieties which is essentially valid today. Unfortunately, we have had two years in a row of misfortunes with our fruit. In 1971 we had three days of killing frosts around April 10 (colder temperatures than registered during the entire previous winter) which practically eliminated all of the flowers and young fruit. Then this year, on April 26, after most fruit was set and some quite large, we had a devastating hour-long hailstorm with some stones about 1-1/4 inch in dia. which not only mangled 99.9% of the fruit and flowers but also destroyed most of the leaves and even broke some branches while splitting many others. Surprisingly though, the trees recovered remarkably and now have an extremely healthy covering of new leaves and a good number of new fruit (apples) which resulted from a curious spurt of flowers apparently brought out by the chill or some other factor of the hail. The melting hail remained overnight in the irrigating rings around the base of each tree, often over 3" in depth.

Most of my trees are only four or five years old, and the first fruits give me the idea that for production, size, presentation and flavor Richared Delicious, Ruby and Imperial may be promising. Gallia Beauty seems excellent for production, size and pre-

sentation but its poor flavor makes it good perhaps only for show and baking as a Rome Beauty. Mutsu is an excellent grower on MM 106 rootstock, larger and better in most respects than Golden Delicious which it resembles, with a slight reddish blush of color and I suspect may have a future here. Rhode Island Greening, though lacking in attractiveness, seems to be a very good grower also on MM 106 roots and surprisingly good in flavor while very productive. Black Gilliflower which I have only as a graft on another tree, has produced some excellent flavored fruits, of medium size while pleasantly colored purple, but the elongated shape leaves much to be desired. Tropical (or is it Tropical Beauty?) from Australia has produced some quite good fruits in flavor, though somewhat mealy, but suffers extremely from physiological cracking at both the blossom and stem ends. Perhaps it would be better at lower elevations where no other varieties would produce. Golden Delicious here is very good in flavor but so far extremely subject to rust and rather tough in texture. Julyred, Anoka, Red Warrior produce quite good ripe fruit in June. Wayne has produced good fruits in September. Red Jonathan is a natural good standby, but does not size up well here. I have had a few excellent Gravenstein apples, but not enough to recommend them yet. Pink Pearl is a possibly good variety too, as it produces quite well with good flavor and the especially attractive water-melon-red meat covered by a light green skin.

Would it be possible for you to send to me a scion of your Anna variety from Israel, next winter? That sounds quite promising for lower elevations. Please advise me of any costs involved in sending this, if it be possible, so that I may reimburse you.

For unknown reasons, my pears, almost without exception have grown quite slowly and not yet produced a single fruit. I have the following varieties: Anjou, Bartlett, Beurre Hardy, Seckel, Starking Delicious, Tyson, Winter Nelis and dwarf Starkrimson.

I very much liked your comment in p. 4 of your reprint of Temperate Zone Fruits in the Central American Highlands about that "we would greatly like to know how far one can go in compensating for the lack of low temperatures by cool, cloudy (not too wet) climate.". Here I have reached similar conclusions, which have attracted Paul Stark, Jr. of Stark Bro's. Nurseries who mentions to me certain difficulties with breaking dormancy in apples at their new nursery near Saltillo in northern Mexico in that much drier almost cloudless climate. This is the reason that I am so interested in trying as many varieties as possible to see how they react here. My varieties also serve as a variety bank for others in this region who may wish also to experiment. In addition, I believe it is very important to emphasize what you comment about a <u>not too wet</u> climate, for I have found here that most temperate zone fruit trees are extremely susceptible to excess water around their roots during the rainy season June-October, and must be provided excellent drainage such as at the outer edge of terraces, even here where the climate is not exceedingly wet.

Though I would greatly like to expand my fruit experiments, right now I am in a bind waiting for the apples I already have to produce and help out my finances which were upset by an unfortunate miscalculation as to the motives of the influential man who first invited and helped me to become established here to later try to have me thrown out of the country to enable him to take over this place (the familiar old story of Mexican ambitions); which resulted very costly for my defense. As I now live mainly from results of a soon-to-terminate small inheritance from my mother, augmented by still small profits from my farming and fertilizer operations and with my Mexican wife and four little ones in elementary school, I must leave many aspirations for the future. I am especially sorry not to be able to revisit you soon and learn of the work being done there.

I would indeed enjoy your visit here though, if you could come, or send your friend Arturo Falla. However, this year is especially disappointing because of the hail damage and that few fruit will be seen. In addition to apples, pears, peaches, cherries, plums and grapes, I also have many varieties of apricots, prunes, figs, oranges, tangerines, grapefruit, calamondin, tangelo, loquats, walnuts, pecans, chestnuts, filberts, etc. Ionce had a good number of varieties of strawberries including

the giant, excellent flavored Sanvir from France, almost all of which have been lost by indestructible grubs (from the June bug beetle?). Avocadoes I have, but they do not seem to enjoy this cool, moist climate.

Of some interest, around the Valley of Oaxaca (5,000 ft.) I have planted in friend's homes, several trees of Ceratonia siliqua which seems very promising for dry areas. Once established, I suggest the possibility of importing improved fruit-varieties such as those now being planted in southern California.

John Bregger has pointed out to me the fact that most of my apple trees should be pruned much less than in the United States, and that perhaps this is one reason that my trees, especially the dwarfs have been delayed in production. So, this year for the first time, I have restricted greatly my pruning in order to learn from this experience. With peaches, I have learned also that much care must be taken with a pruning shears to be certain to always leave a terminal bud for each branch. But, even then, I find that many varieties prefer to send out new growth from the main trunk or near the base while the main branches remain dormant; similarly I have had experiences with plums, apricots and prunes.

Apples have, I believe, the most promising future here, for almost every variety tried has prospered quite well, though some better than others, though all are young trees. In the area are quite a number of trees planted around twenty years ago, also prospering. So, now I suggest the need for finding the best varieties or combination of varieties for pollination and marketing. Mexico's growing population provides a ready market for fruit, and especially if we have early varieties when no other apples are available from the more northern areas. Or, could it be that I am just prejudiced in favor of apples because of my background in the major apple-growing district of Sebastopol in Sonoma County, California where my grandparents, father and now brothers were and are principal growers and processors of apples?

As I learn more about other varieties when they come into production, I gladly will let you know how they appear here.

All for now.

With very best regards, I remain,

Yours very sincerely,

Boone Hallberg

Boone Hallberg

P.S. I shall always appreciate any of your suggestions and published materials which you might be able to send to me for my growing library.

VIVERO RANCHO TEJA
IXTLAN DE JUAREZ,
OAXACA, MEXICO.

Boone Hallberg
INVESTIGADOR BOTANICO

APPLE VARIETIES MARCH 1969

1) American Beauty
2) Anoka
3) Astracan
4) Baldwin
5) Beacon
6) Belleflower
7) Ben Davis
8) Beverly Hills
9) Black Gilliflower
10) Blackjon
11) Black Jonathan
12) Blaze
13) Britemac
14) Cauley
15) Chenango
16) Chesapeake
17) Close
18) Colora Red York
19) Cortland
20) Cox Orange
21) Davey
22) Delicious, red
23) Duchess of Oldenburg
24) Earliblaze
25) Earliest
26) Earlistripe spur
27) Early Harvest
28) Esopus Spitzenberg
29) Enmielada Cristal Rayada
30) Fallawater
31) Fameuse
32) Fireside
33) Fuji
34) Gallia Beauty
35) Golden Delicious
36) Granny Smith
37) Granny Smith, red
38) Gravenstein
39) Gravenstein, red
40) Grimes Golden
41) Golden Russet
42) Haralson
43) Holland (Summer Champion?)
44) Hubbardston
45) Idajon
46) Idared
47) Jean
48) Jonalicious
49) Jon-a-red
50) Jonathan Nectar
51) Jonathan, red
52) Jonwin
53) Julyred
54) King
55) King David
56) Lady
57) Lobo
58) Lodi
59) Macoun
60) Melrose
61) Minjon
62) Milton
63) McIntosh
64) McIntosh, All red
65) Monroe
66) Mutsu
67) Neipling's Stayman
68) Niagara
69) Northern Spy
70) Northwestern Greening
71) Nugget
72) Opalescent
73) Pacific Gold
74) Patton
75) Peck's Pleasant
76) Pettingill
77) Pink Pearl
78) Prairie Spy
79) Puritan
80) Quinte
81) Redgold
82) Red June
83) Red Melba
84) Red Spy
85) Red Warrior
86) Red Yorking
87) Rhode Island Greening
88) Ribston
89) Richared Delicious
90) Rome Beauty
91) Rosa de España
92) Roxbury Russet
93) Ruby
94) Russet Pearmain
95) Scarlet Staymared
96) Sky Spur
97) Smokehouse
98) Sops of Wine
99) Spartan
100) Spigold
101) Starkrimson
102) Stayman, 201
103) Summer Gold
104) Sungold
105) Thompkin's King
106) Tropical
107) Twenty Ounce
108) Tydeman's Red
109) Wagener
110) Washington Strawberry
111) Wayne
112) Wealthy
113) Wellington
114) Wellspur Delicious
115) Westfield
116) White Pippin
117) White Winter Pearmain
118) Whitney crab
119) Wickson
120) Williams
121) Winesap
122) Winesap, red
123) Winesap, Turley
124) Winter Banana
125) Wolf River
126) Yellow Newtown Pippin
127) Yellow Transparent
128) York-a-red
129) Abis
130) William Favourite
131) rootstock East Malling II
132) rootstock East Malling VII
133) rootstock East Malling IX
134) rootstock Merton Malling 104
135) rootstock Merton Malling 106
136) rootstock Merton Malling 109
137) rootstock Merton Malling 111

VIVERO RANCHO TEJA
IXTLAN DE JUAREZ,
OAXACA, MEXICO.

Boone Hallberg
INVESTIGADOR BOTANICO

PEACH VARIETIES **MARCH 1969**

1) Afterglow
2) Belle of Georgia
3) Blake
4) Bobolink
5) Collins
6) Coronet
7) Dawne
8) Dixiland
9) Earlired
10) Elberta
11) Elberta, Burbank
12) Elberta, Fay
13) Elberta, July
14) Florih Queen
15) Floridawon
16) Frank
17) Golden Blush
18) Hiland
19) Indian
20) Jefferson
21) J.H. Hale
22) June Gold
23) Keystone
24) La Gem
25) La Premiere
26) Laterose
27) Lovell
28) Loring
29) Madison
30) Mayflower
31) Maygold
32) Merrill Forty-Niner
33) Nectar
34) Redcap
35) Redglobe
36) Red Haven
37) Redskin
38) Redwing
39) Redwin
40) Rio Oso Gem
41) South China
42) Southern Xxxxx Glow
43) Southland
44) Springtime
45) Starking Delicious
46) Strawberry Cling
47) Sunhigh
48) Suwanee

Antigua, Guatemala, 6 July 1972

Mr Boone Halbberg,
Vivero Rancho Teja
Ixtlan de Juarez, Oax, Mexico.

Dear Boone:

That was a mighty interesting letter, yours of 3 June. I was particularly glad that you have a California background, which I have too, though I was born in Kansas of a horticultural family, my uncle Edwin A. Popenoe was one of the very first professors at Kansas State Agricultural College (as it was called in those days) in Manhatta. George T. Fairchild, father of my old boss David Fairchild, had come out from Michigan State to build the college at Manhattan, and my uncle doubled in brass, as we say; taught everything from horticulture to entomology to mathematics I believe. Just as I did at our little school in Honduras. At the start we didnt have much of a staff and I taught agronomy, horticulture, economic entomology and agricultural enginnerin though I am no more of angineer than you are a chiropractor, maybe not as much. But I knew something about soils after having worked on draining and irrigating a lot of banana land and I think the boys got what they needed, when I took them out on our farm and started with the soil auger, which some of them turned the wrong way, which I was glad to see, because it meant they hadnt use a corkscrew too much.

Now to more immediate problems. I havent much doubt that the totoloche is the fruit you have seen. I sent you a foto of it, didnt I? It is never really sweet, like a Muscat of Alexandria, but you probably got some immature fruits. When fully ripe they are purple, if I recall correctly. Do try to get some seeds for us this summer. There

are at least twp chaps who want them, first of all, Dr Mortensen at Leesburg in Florida, Mr Worthington in Puerto Rico and I think Prof Olmo would also be glad to have some more in California. Furthermore, I believe we should send a few seeds over to India, where they seem to be much interested in grapes. All in all, however, I think I go along with Prof Olmo who thinks Vitis tiliaefolia, the common wild grape we have in this part of the world, is called by the Lord to be the foundation stock for the ideal tr pical grape. OH, if we could only get a tiliaefolia as big as a Catawba with the flavor of a Muscat!

What a list of fruit varieties you have! You have spent a lot of money bringing together all that material. I dont like to say it, but I have a sneaking suspicion that you will end up like my father did in California and I have done in Central America - i.e., una gran satisfacci at having made a great and permanent contribution to horticulture, but just enough money to keep the Volkswagen running and feed the kids 3 times a day. But isnt that enough?

Gosh, how I wish I could get up there to see your collection and to talk with you for about three days. You ask about scions of the Anna apple. The only trees here are five which came from Florida, as scions, and which Arturo Falla has, here in the falley of Antigua. It will take a fence puller to get any scions out of Falla right now but I feel sure you could get scions from Ralph Sharpe at the University of Florida. Have you been in touch with him? If you have not, I would ask him to send you scions of Anna. And I wonder if you have the Stover grape? I got it from Leesburg, cuttings, last spring and they are growing beautifully. (As everything does here the first year)

I want to mention one point which is beginning to disturb me, and then I will lay off. The new peaches and nectarines we are gettinf from Florida come int bearing the second year, some of them produce a

good crop the following year, and some of them taper off and dont produce much in succeeding years. This does not seem to be true of the arieties with a vew low chilling requirement, such as Red Ceylon and Okinawa. It seems to be true of Flordawon, at our elevation. We have not tried it higher up. You know how they rate these peaches in Florida - some need 250 hours, some 450 hours and some 650 hours. I am wondering if this is where we are going wrong. It will take us a few years more to find out. What do you think?

I dont see much hope of my getting to Oaxaca this year. And I dont have many more years to think about. The best we can do is to continue to chabiar impresiones and maybe get some new material for experimentation from time to time.

As Commodore Perry said at Lake Erie, Dont give up the ship!

Faithfully yours,

Wilson Popenoe

VIVERO RANCHO TEJA
IXTLAN DE JUAREZ,
OAXACA, MEXICO.

Boone Hallberg
INVESTIGADOR BOTANICO

20 August 1972

Dr. Wilson Popenoe
Antigua, Guatemala

Dear Dr. Popenoe,

I have news for you! As I mentioned, I would look for your totoloche on my excursion into the Tehuantepec Isthmus area in late July. You may or not like to know that I found nothing which the natives called totoloche, but I did find out the area in which the following wild grapes are found:

1) The large red grape, perhaps 3/4 inch in diameter which I previously described, this color when ripe according to descriptions;
2) Another somewhat smaller white grape (light green), perhaps 1/2 inch in diameter when ripe according to descriptions;
3) Another still smaller purple grape (the common Vitis tiliaefolia ?);

All of these supposedly are ripe in September on the hills around Santa María Petapa south of Matias Romero at elevations around 1000-1500' and

4) Another grape described also as perhaps 1/2 inch in diameter, purple in color and ripe also in September around the ranchería of La Chiguzhé, Municipio of Santa María Yanagati, out from Cd. Ixtepec, Oaxaca and

another which is probably the same as 3) at La Chiguzhé but ripening supposedly in February in that wet area of about 1600' elevation.

What is the best way to collect and preserve these seeds in a viable condition?

Does this dampen your enthusiasm or whet your interest? Depending on your interest, I have contracted for a local boy to collect, dry whole fruits and send these to me from Santa María Petapa, and another boy to collect the same from La Chiguzhé. However, if there would be enough interest to pay me to go there, I could probably personally gather these in September in a special trip. I hate to be so mercenary, but right now I am in a bind, and otherwise cannot make such a special trip. In any case, I hope to get some seed for you from these boys who promised to collect them for me (I shall write to them to remind them of this).

As you write so fondly of your most interesting family experiences and your own most vivid and productive work, you might like to know of possible new developments here with me. Just last week I had a good chat with the federal director in charge of a very new federal program of establishment of junior high school level education (Escuelas Tecnológicas Agropecuarias) in all of Mexico in the rural areas to bring this level of education out into the country with the additional teaching of practical agricultural subjects. This man contacted me and requested my meeting him in Mexico City where he suggested the possibility of my joining forces with them to supervise especially the teaching of fruit culture with introduction of new varieties and species even from other countries of definite economic value to the local economies. Some forty such schools are now in operation or will commence with the new school year opening in September. In addition there are two senior high schools of the same agricultural emphasis here in the State of Oaxaca where even Systematic Botany is supposedly to be taught. By telephone I was just today informed that a representative of that office will come here for more talks the commence of next week. Needless to say, I am getting quite excited by the thought that the federal government is finally taking an interest in my work and may even give me not only financial support but also the opportunity to share my experiences and inspire others to greatly enlarge upon my foundations. I will let you know of developments, and may bother you for advice. Meanwhile, let me know of any special interest in those grapes which I do mean to help you with.

in this state of Oaxaca

in Oaxaca City

Sincerely,

Boone

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NUMERO DEL OFICIO 0005
EXPEDIENTE

ASUNTO: Se le solicita su colaboración indicada.

Ixtlán de Juárez, Oaxaca
14 septiembre 1972

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

Estimado amigo Dr. Popenoe,

La presente lleva mis saludos más afectuosos con deseos de que se encuentre usted bien y sin novedad gracias a Dios.

Luego paso a preguntarle si recibió usted mi ultima carta de fecha 20 agosto próximo pasado sobre mi excursión en busca de las uvas silvestres en la región del Istmo de Tehuantepec.

Es un gusto comunicarle de que acabo de ser nombrado como encargado del programa de fruticultura de este departamento de la enseñanza aquí en México con un programa al principio muy sencillo pero de alcance obviamente muy grande, y con la amplia colaboración de los directores superiores.

Para el desarrollo de este programa, quisiera contar con su colaboración de usted y sus tan amplias experiencias para asesoría técnica en todo lo que podría usted. Es que estoy en la necesidad de buscar todo apoyo en la búsqueda de libros técnicos pero prácticos, folletos ilustrativos extremadamente sencillos y prácticos; además para el desarrollo de un amplio intercambio de ideas, es mi deseo desarrollar comunicaciones no solamente entre maestros de agricultura y biología de diferentes partes de México sino también entre ellos y otros compañeros de trabajos semejantes en diferentes partes del mundo principiando con los paises de habla española y aparte fomentar entre los mismos alumnos comunicaciones amistosas aunque no sean precisamente para cambios tecnológicos de ideas de inmediato, con alumnos semejantes en otros paises.

Al principio estamos trabajando en la ESCUELA TECNOLOGICA AGROPECUARIA de aquí en Ixtlán de Juárez, Oaxaca para tierra fría (2,000 metros y precipitación anual de 1,000 MMs.) y en la ESCUELA TECNOLOGICA AGROPECUARIA de Reyes Mantecón en el Valle Central de Oaxaca cerca de la Ciudad de Oaxaca de Juárez para tierras templadas secas (1,500 metros y precipitación anual estimada en ±600 MMs.) como centros pilotos del programa a nivel de secundaria.

Desde el principio me he basado en los muy buenos consejos suyos publicados en el libro Plants and Plant Science in Latin America-1945 referente a la paciencia con que debemos llevar adelante este tipo de programas que no puedan desarrollarse con ninguna apuración.

De inmediato, deseo solicitarle su valiosa colaboración para obtener asesoramiento técnico para el desarrollo de un programa de cruzamientos de las uvas tropicales y finas que es mi deseo emprender conjunto con los trabajos que indica usted se están llevando a cabo en otros paises. Desde luego, se trata de comenzar con los detalles más básicos y enseñanzas a técnicos que apenas estamos formando, detalles que en verdad también desconozco practicamente.

AL CONTESTAR ESTE OFICIO CITESE LOS DATOS CONTENIDOS EN EL CUADRO DEL ANGULO SUPERIOR DERECHO

Otra pregunta es ésta. ¿No me pàdrá usted aconsejar la manera de obtener una copia de su tan útil libro Manual of Tropical and Subtropical Fruits que se publicó en 1920 que actualmente está agotado y no se consigue en ninguna parte? Pues, necesitamos urgentemente de la información contenida en ese libro, y no lo tenemos.

De inmemdiato también, quisiera que me aconseje usted de publicaciones útiles que se podría solicitar a diferentes instituciones del mundo entero, publicaciones gratuitas y prácticas que sé se distribuyen en forma gratuita de tantas instituciones y podrían servir para iniciar la formación de nuestras muchas bibliotecas que tenemos que iniciar.

Así es que tenemos esta tarea y agradeceremos desde luego e infinítamente cualquiera colaboración que podría usted brindarnos en beneficio de la población campesina.

En espera de sus gratas noticias al respecto, se despide de usted su amigo y afmo. y atto. y seguro servidor,

Boone

Boone Hallberg

C.C. para el C. PROF. ORLANDO BENCOMO CHULIN, DIRECTOR DE LA ESCUELA TECNOLOGICO AGROPECUARIO, Ixtlán de Juárez, Oaxaca - para su conocimiento.

Antigua, Guatemala 20 October 1972

Sr don Boone Hallberg
Vivero Rancho Teja,
Ixtland de Juarez, Oax. Mexico.

Dear Boone:

Sorry to be so slow in answering your letters of 20 August and 14 September. I just simply have more correspondence than I can handle, without a secretary, at my advanced age - then, too, I spend quite a bit of time over at Escuela Agricola Panamericana, wehere were grown the Catawba grapes shown in the accompanying foto. Of the American bunch grapes Isabella still seems rhe best bet for tropical America but I am beginning to feel that we could do something with Catawba. It is a stronger grower than Niagara and is much ahead of the latter in Honduras.

But to get down to business. The "wild" grapes you MENTION IN your letter of 20 August have me baffled. I cant figure out what you have run into. Paul Standley in his "Trees and Shrubs of Mexico" does not describe any species which seem to jibe with the fruits you mention, esxcept for V. tiliifolia which we all knew is a variable thing but not to the extent you mention. Dont you think you ran into some escapes or maybe hybrids of tiliiifolia and vinifera? There are several reports from Venezuela which suggest that such hybrids may have occurred down there. You sure have aroused my curiosity, but I am sorry to say I am not in a position to grow, here in Guatemala, any of these nteresting things and right now I cant get up any enthusiasm over at Zamorano (EAP) in Honduras. The man who would be most likely to take good care of such a collection, I think, is John Mortensen at the grape and watermelon

station of the University of Florida at Leesburg; though H.P.Olmo at the University of California at Davis is also actively interested in tropical grapes. I would suggest that you share any seeds you get with these men. As for the totoleche, which was not known to Standley, if it were not so late in the season I would back you to the extent of $50 to get seeds for all of us; the seeds require no special care in handling; they must be washed, dried in the shade, and shipped dry. If I were you, I doubt that I would go into the breeding business; Joe Fennell did a lot of it without very useful results, Worthington is doing quite a bit in Puerto Rico, and of course the boys at Leesburg have done a lot. My approach would be to get Mortensen all the promising material I could, and let him tie it up with some of the wild grapes in Florida which have looked so value for crossing. And frankly, I dont think the totoleche is likely to prove extremely useful because it is a muscadine.

Now as to your letter in Spanish of 14 septiembre, which I will answer herewith in English to save myself some mental exertaion which is onerous at 80 years. I am delighted that you are going in for education on the vocational level - which is what we have done at Zamorano though we are gradually being pushed into the academic side more than I like. My successor Bill Paddock made the mistake of requiring the bachillerato for entrance, and the boys with a bahcillerato are likely to be more interested in becoming ingenieros than they are in learning practical agriculture.

You ask where you can get a copy of my Manual of Tropical and Tropical Fruits, published in 1920. All you can get is a Xerox copy which costs about $20 and I wouldnt advise you to buy it. I think what you need is something like the enclosed "Fruitculture" which was published at Zamorano in 1950 as "Fruticultura Centroamericana" but the editor changed it. I revised it slightly and

it was republished by the University of Guatemala; then the folks down in Colombia asked to reprint it; I revised again, very slightly (mostly regarding fruit varieties) and they reprinted it twice but I dont think you can copies of any edition in quantity now.

I wrote this little book for our students at Zamorano. I think it is enough for instruction on a vocational level, with plenty of explanation by the teacher, especially on subjects I did not cover at all adequately because we had good courses in soils and irrigation and the like. And worst of all, I did not cover propagation, and that is just about the most important feature of all. But I advise you to steer clear of most of the texts in Spanish; they go in for too much theory and dont talk enough about practice. What the boys need is for the teacher to take them out in the field with a soil auger (as I used to do) and show the how to classify soils; take them out to the nursery and show them how to do the shiuld bud, the veneer graft, and the cleft graft - lay off the fancy grafts which the Spanish literature is full of, and which are not as satisfactory commercially as the three mentioned which are all that anyone needs to master.

You might get W H Chandler's "Evergreen Orchards" There is a Spanish edition published in Mexico City) but it us darned expensive and there is far too much theory in it for Boys on the vocational level.

As you go along with this educational work, tell me how I can help you. Remember I had 18 years of it at Zamorano, plus practice since 1911 when I grafted the first Fuerte avocado trees which were ever propagated - and have been grafting avocados ever since.

Faithfully yours,

Wilson Popenoe