



# THE INTERNATIONAL POTATO CENTER

Address:  
Apartado 5969  
Lima - Perú  
Cables: CIPAPA - Lima  
Telephone: 854283 - 354354

BG-212-79

July 16, 1979

Ir. L. J. M. van Soest  
Gene Bank - Potato Dept.  
Institut Pflanzenbau FAL  
Bundesallee 50  
D-3300 Braunschweig  
W. GERMANY

Dear Ir. van Soest,

I am sorry that I cannot provide data on the distribution of potato cultivated species from Bolivia in the CIP collection. I would need to plot in maps the provenance data by species but manually, since we have not a computerized way to do it at this time. So, I would suggest you use the collecting data on cultivated material from Bolivia collected by Hawkes in 1970 and by van Harten in 1975. I guess you already have these data in your data bank at Braunschweig.

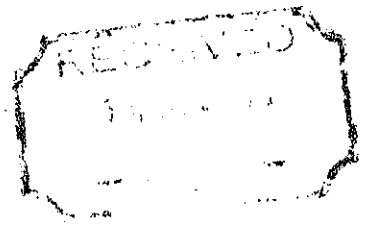
Regarding whether I consider GON and STN as sub-species or species, I use the system published by Hawkes in 1978 which consider them as two species as in 1956. However, I personally consider GON as being part of the variation found in STN and therefore, it should not be considered neither species nor sub-species.

Sincerely yours,

*A. Cornejo, Sec.*  
P. Z. Huaman  
Breeding & Genetics

ZH/acz.

*The International Potato Center (CIP) is a scientific institution, autonomous and non-profit making, established by means of an agreement with the Government of Perú with the purpose of developing and disseminating knowledge for greater utilization of the potato as a basic food. International funding sources for technical assistance in agriculture are financing the Center.*



No. 122/1979  
Cochabamba, Bolivia  
May 23, 1979

Dr. J. G. Hawkes  
Dept. of Plant Biology  
University of Birmingham  
P. O. Box 363  
Birmingham B15 2TT  
England

Dear Jack,

Thanks for your letters and especially for the article on the origin and meaning of native names for potatoes. I have found this very interesting and will pass it around to others when I am finished with it.

With regard to your query about the possibility of renting a vehicle from the Ministry: I referred this to Gonzalo Claire, who, after some discussion with other officials, concluded that it will probably be very difficult for them to part with one of their vehicles for the length of time we are talking about.

I have checked with a car rental company and obtained the price list enclosed. They list "jeeps" and "vagonetas" (vans) but at this time do not have vagonetas. They do, however, expect to have them by the time of your expedition, but it may not be wise to count on them. The "jeeps" are mainly Toyota Land Cruisers and, as you can see, rent for 10,500 pesos per month, plus 5 pesos per kilometer, plus tax. Gonzalo is supposed to be checking with another agency that may offer better prices, but since he hasn't yet given me any information, I thought it best to answer your letter so that you could have at least an estimate for your budget.

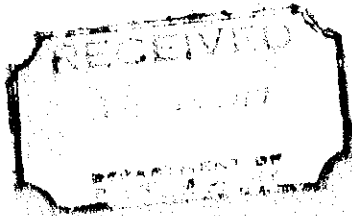
Another point you may wish to consider is the price of gasoline. It is still 2 pesos/liter, as it was when you were here, but that price is considered by many to be unrealistically low and there are persistent rumors that it will soon be raised to about twice the present figure (that price was for "extra").

Thanks again for the copy of your paper. I expect to be out of the country on vacation during the month of July, so if anything important should occur then, you should probably refer it either to Dr. James in La Paz or to someone in the Ministry. Otherwise, let me know if there is anything I can do for you. Best regards to your wife.

Sincerely,

Robert W. Hoopes  
Casilla 3229  
Cochabamba, Bolivia

cc: D. W. James, La Paz



La Paz (Bolivia), 18 de mayo de 1979

Señor Professor  
Dr. J G Hawkes  
The University of Birmingham, P.O. Box 363, Birmingham B15 2TT  
Inglaterra

Muy estimado doctor Hawkes:

Lamento profundamente, haber recibido su estimable carta de fecha 28 del pasado mes de febrero, recién el 10 del mes en curso, a la que doy respuesta con todo agrado, sin antes pedirle mis disculpas, por el pésimo servicio postal de mi patria.

También, yo, lo sentí mucho no haberlo podido ver cuando por pocas horas visitaba ésta ciudad, habría sido muy interesante cambiar ideas y planificar algo, con referencia a posteriores trabajos. Si su carta hubiese llegado a mi poder con la oportunidad debida, quizá hubiese sido posible realizar algunos viajes de colección de semillas, por sitios conocidos y con dificultad de acceso, ya por el mal estado de caminos o por la distancia. Pienso que, en una sola vez de recorrido, por algunas zonas, no es posible encontrar todas las especies, hay años que no aparecen algunas, entonces, sería bien, realizar este trabajo por dos o tres años consecutivos, para poder lograr un trabajo completo, de ahí que, pensaba, en éste año realizar viajes de reconocimiento y localización y por cierto de colección, para ahorrar trabajo posterior y dedicar a otras zonas aún no conocidos, bueno, no sé que criterio tendrá Ud con relación a mi sugerencia.

Con Zavaleta, nos vimos y charlamos sobre éste y otros problemas, es posible que también él le haya hecho conocer sus sugerencias, aunque ya puedan ser tardías, pero, si se pueden efectivizar al año.

Muchas gracias por haberme enviado, el plan de trabajo que debe realizar la expedición, alemana, holandesa dinamarquesa é inglesa, supongo que Ud. como siempre será el Jefe de la Expedición, creo que tendremos la oportunidad de vernos aquí. Si tiene Ud. algunos otros comentarios, le agradeceré me los haga conocer, espero, me esté dando noticias sobre el particular. Su plan de trabajo es muy interesante y contiene detalles importantes, que son necesarios conocerlos.

En espera de sus próximas noticias, me es grato saludarlos muy cordialmente.

Prof.  Vidurre V.

JGH/SED

19th April 1979

Dr. D.W. James,  
Consortium for International Development,  
Av. Camacho No. 1471,  
Casilla No. 8019,  
La Paz,  
Bolivia,  
South America.

Dear Dave,

Thank you very much for your letter of March 15th. I quite understand that you may not have as many vehicles available as you had previously thought possible. Of course we should appreciate two vehicles, and I am sure the Dutch/German group will feel the same about this and will be writing to you after their committee meeting next week. We shall now need to go ahead with arrangements for vehicle hire with the Bolivian Ministry of Agriculture in La Paz or Cochabamba.

Thanks also for enquiring about getting materials through customs. We will make arrangements with our respective consulates in due course. I am a little doubtful, however, about making our "base" in La Paz because of the enthusiastic support offered by the Toralapa people and Ing. Alandia, all at Cochabamba. Nevertheless, I appreciate your offer of help and will keep this suggestion in mind for further thought and discussion. In any case I appreciate your kind offer of temporary storage space and I look forward to receiving news about vehicles from C.I.D. as plans develop.

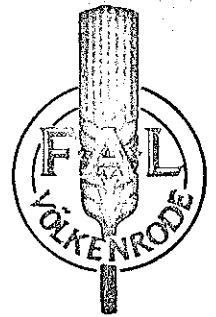
With grateful thanks,

Yours sincerely,

Professor J.G. Hawkes

c.c. Dr. van Soest ✓  
Dr. Roger Rowe

INSTITUT FÜR PFLANZENBAU UND SAATGUTFORSCHUNG  
Bundesforschungsanstalt für Landwirtschaft Braunschweig-Völkenrode (FAL)



Direktor: Prof. Dr. M. Dambroth

Gene Bank  
"German-netherlands potato department"

Institut Pflanzenbau FAL · Bundesallee 50 · D-3300 Braunschweig

Dr. K.A. Okada  
Estación Experimental Agropecuaria  
C.C. 276

7620 Balcarce  
Argentina

Ihre Zeichen

Ihre Nachricht vom

Unsere Zeichen

Telefon (05 31) 59 61

Datum

Soe/Sch  
12-50

Durchwahl 59 6 605

March 21, 1979

Dear Dr. Okada,

Thank you very much indeed for your letter of February 21, 1979 and the seed samples of the wild species which arrived in good order at Braunschweig.

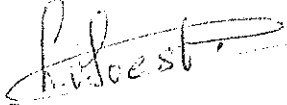
I hope you will be able to clear-up the morphological problems in the S.gourlayi x S.infundibuliforme complex. If you have information on chromosome numbers of the INTA-accessions yet present in our collection, I would very much appreciate it to receive the data. So far we have not tested material from the INTA-collection but as I wrote to you in my last letter we hope to start with evaluation against P.infestans (horizontal resistance) of some accessions of which we have sufficient seed available.

Now something in connection with our expedition to Bolivia. Two weeks ago I discussed with Prof. J. G. Hawkes the plans of our expedition. He has been in Peru and Bolivia in February and made several arrangements for us including transportation. Therefore, I don't think we have funds available to share the expenses with you of a third expedition car. However, depending on the participation of Bolivian colleagues and CIP staff-members there may be opportunities that you can fit into one of our two teams. You wrote, however, that you have not worked out a detailed itinerary of your planned trip and I wonder whether your and our plans are the same. From the attached map it can be seen where we plan to concentrate our activities. Most probably we will not collect in the far south of Bolivia because the 1974 expedition collected this area rather intensive. You may be more interested in this part of Bolivia, being adjacent to N-Argentina and it certainly will complete your collections in this part of the gene centre. However, our major concern is the collection of those areas in Bolivia of which little or no material is available in gene banks.

...

I hope that final arrangements in connection with the collecting activities in Bolivia for 1980 can be made during the next Planning Conference and I look forward to meet you.  
With best regards.

Yours sincerely,  
by order



Ir. L.J.M. van Soest

Enclosure

La Paz, Bolivia  
March 15, 1979

Prof. J. G. Hawkes  
The International Potato Center  
Apartado 5969  
Lima, Perú

Dear Prof. Hawkes:

This is in response to your letter of February 13. We have been trying to obtain approval for purchase of new vehicles to replace the well-worn ones now in use by our team. Needless to say this is not an easy process; we are confident that USAID will ultimately allow us access to the transportation facilities needed to be able to fulfill our contract obligations.

It is good to note that you may be able to obtain vehicles on hire if CID is not able to follow-through. It is quite clear now that we will not have all three vehicles that you will need. Hopefully we will have at least two available for your use. We will stay in contact with you, relaying developments as they occur here in Bolivia.

CID will be happy to accommodate your team with temporary storage space here in La Paz. Let me suggest that your equipment be retained here in La Paz rather than sending it to Cochabamba. I note that one of the three expeditions you outline will be based in La Paz. This part of the equipment need not be forwarded to Cochabamba for latter return. In fact, you may want to consider La Paz as your staging base since only one team will be working in Cochabamba proper.

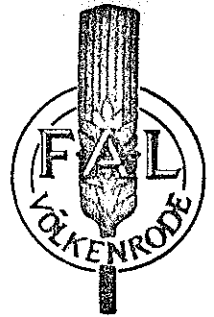
We believe your expedition will be good for the Bolivian potato improvement program in IBTA. The possibility of European training for Bolivian potato agronomists is especially encouraging.

Respectfully,

D. W. James, Chief of Party

cc: Simón Riera  
R. Hoopes

INSTITUT FÜR PFLANZENBAU UND SAATGUTFORSCHUNG  
Bundesforschungsanstalt für Landwirtschaft Braunschweig-Völkenrode (FAL)



Direktor: Prof. Dr. M. Dambroth

Genebank  
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Institut Pflanzenbau FAL · Bundesallee 50 · 3300 Braunschweig

Dr. D. W. James  
Chief of Party  
Consortium for International  
Development (CID)

*Casilla 8019  
La Paz  
Bolivia*

Ihre Zeichen

Ihre Nachricht vom

Unsere Zeichen

Telefon (05 31) 59 61

Datum

Soe/Sch  
12-50

Durchwahl 59 605

March 12, 1979

Dear Dr. James,

I refer to my recent discussions with Prof. J. G. Hawkes regarding our cooperative potato collecting expeditions to Bolivia scheduled for 7 February to 6 March 1980. Prof. Hawkes informed me about your kind offer to help us with the transportation during the collection trip. Your assistance is indeed very much appreciated and an excellent example of international cooperation. We also hope that Dr. B. Hoopes, potato breeder and member of the CID team is able to participate in some of the collecting trips.

Since we plan to collect with 3 teams together, I would like to know whether your Consortium for International Development is willing and able to provide transportation for all teams? (1 team of Prof. J. G. Hawkes and two teams of our department). Living expenses of the drivers and the transport and maintenance costs will indeed be provided by our funds.

Furthermore I would like to know whether there are opportunities to forward our expedition equipment to your La Paz office before it will be transmitted to Cochabamba where we hope to have our expedition headquarters in the Regional Office of the Ministry of Agriculture.

I would be grateful to hear from you on these matters and thank you for your kind support to our expedition.

Yours sincerely,  
by order

  
Ir. L.J.M. Van Soest



No 055/79  
Cochabamba, Bolivia  
February 28, 1979

Prof. J.G. Hawkes  
Dept. of Plant Biology  
The University of Birmingham  
P. O. Box 363  
Birmingham B15 2TT  
England

Dear Jack,

Thank you for your letter of February 19 and the drafts of your trip plans. It was a pleasure to visit with you and discuss the upcoming collecting expedition, as well as our program here. We appreciated your advice on various matters. I think you may have inspired the Toralapa technicians, because they can often be seen tramping around the hills digging up wild Solanums these days.

Thanks also for the reprints you passed around and for the information on the course that you give (as well as the short courses) in Birmingham. I hope some of the Bolivians will be able to take part in these courses.

I spoke to Dave James about the possibility of our receiving your equipment prior to your arrival in Bolivia, getting it out of customs, and so forth. Dave might communicate this to you himself, but in case he doesn't, I will tell you what he said. Apparently we can get things out of customs only when they have been "consularized," which is a procedure that has to take place in the consulate of the country from which the goods are coming. I do not understand just what the process is. The upshot of the thing is that we would have quite a difficult time getting things out of customs if they came from England, Germany, and Holland, and were for the use of your expedition. I am sorry that it looks as if it will be difficult for us to help you in this phase of the project. I hope other satisfactory arrangements can be made without too much problem.

I asked you when you were here if you could send me a reprint or photocopy of the paper you wrote on Quechua and Aymara names for potato varieties. Jeff Jones, the anthropologist with whom we had dinner, has said he would be extremely interested in a copy of this paper. His address is Dept. of Anthropology, University of California at Los Angeles (UCLA), Los Angeles, California.

Margaret sends her regards to you and your wife, says she thoroughly enjoyed the time we spent together, and is looking forward to your return. She asked me to convey special thanks to your wife for the lovely picture linen which now graces the wall of our kitchen.

I'm looking forward to your arrival next year. My sleeping bag and tent are all ready to go.

Sincerely,

Robert W. Hoopes  
Casilla 2220  
Cochabamba, Bolivia

Prof. J. G. Hawkes  
Dept. of Plant Biology  
The University of Birmingham  
P. O. Box 363  
Birmingham B15 2TT  
England

February 20, 1979

Dr. R. E. Hanneman, Jr.  
Department of Horticulture  
University of Wisconsin  
1575 Linden Drive  
Madison, Wisconsin 53706  
U. S. A.

Dear Bob,

I have just been spending five days in Bolivia fixing up the arrangements for the cooperative potato collecting expedition in 1980 between Dutch and German scientists, together with Peter Hjerting and myself. We shall have three teams in the field simultaneously, covering different parts of the country. Each team will include two European scientists, a Bolivian agronomist and a Bolivian driver. The vehicles we use will be kindly loaned by the Consortium for International Development. A subsample of every seed collection we make will be sent to Sturgeon Bay, by agreement with CIP. We shall of course be able to discuss further details when we meet in Lima at the germplasm planning conference in October.

Now comes the difficult part of this letter. Gonzalo Claure and Segundo Alandia tell me that you and Okada have some tentative plans afoot to visit Bolivia, also in 1980. They asked me (with some diffidence) to mention to you that they did not feel they had the facilities to support a fourth team in the field that year. If you wanted to come down and fit into one of our teams they said that would be fine. I am sorry to have to convey this information, but let me say at once that speaking for myself I should be delighted to fit you

into my team, though it might be a bit of a squash if the vehicles are only 4-seaters. However, the vehicles to be loaned will be of the "Trail Blazer" type and may be wide enough to put 3 on the back seat. There would not be room for Roman or Armando, and I do not like to interfere with the two Dutch/German teams, especially since I have just told them that they should not bring out more than 2 men for each vehicle.

Maybe your trip is not yet fixed, or is not quite what the Bolivians believe it to be, so please write and let me know your plans. I am sorry to have got myself into this position as bearer of bad tidings and I do hope that something can be arranged of advantage to all of us.

Best wishes,

Yours,

JGH/acz

P.S. Please reply to Birmingham



# The University of Birmingham

DEPARTMENT OF PLANT BIOLOGY

The University of Birmingham, P.O. Box 363, Birmingham B15 2TT  
Telephone 021-472 1301

Mason Professor of Botany: J G Hawkes Sc D

27th February 1979

JGH/EMH

Dr L.J.M. van Soest,  
"German-netherlands potato department"  
Institut Pflanzenbau FAL,  
Bundesallee 50,  
3300 Braunschweig,  
West Germany

Dear Dr van Soest,

As I told you on the telephone yesterday, I was able to visit Bolivia recently and had some success in advancing our plans for the Bolivian expeditions. Inevitably, the Dutch/German and the English/Danish ones have had to be associated very closely in order to derive the maximum benefit from the offers of help that have been so generously made to us from all directions.

In carrying out the cooperative arrangements I have had to make a number of provisional decisions on your behalf. Your committee may not agree to these, so I must know as soon as possible, please, if you wish to modify any of them.

Probably the most important relate to the number of scientists taking part. I strongly urge you to limit your numbers to four, thus two for each team. You could have less, if you liked, but I hope not more. If you send three only it is probable that Dr Hoopes could travel with one team. The reason for these low numbers is the low seating capacity of the vehicles.

The other point concerns routing. I am strongly of the opinion that we should divide the total potato areas of Bolivia into three parts, one for each team. A decision as to which team covers which area can be taken later, but I think I would wish to be involved with team (Group) A or B. The routes are tentative at this stage and will be revised shortly by the people at Toralapa.

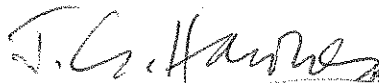
I have not made decisions about camping and collecting equipment yet, and you may wish to discuss this with me. Peter Hjerting will be working at Birmingham during August this year and you would be very welcome to pay me a visit then, if you wished. Alternatively, you might wish to come sooner.

Continued .....

You will know that CIP is not able to supply its own vehicles but will certainly bear many other costs. We shall be meeting at CIP in October, so can discuss financial responsibilities at that time. However, decisions about collecting and camping equipment must be made before then if heavy materials are to be sent by boat.

I look forward to hearing from you.

Yours sincerely,

A handwritten signature in cursive script, appearing to read "J.G. Hawkes".

Professor J.G. Hawkes

MINISTERIO DE ASUNTOS CAMPESINOS  
Y AGROPECUARIOS  
DIRECCION DEPARTAMENTAL  
COCHABAMBA

Prof. J. G. Hawkes  
Dept. of Plant Biology  
The University of Birmingham  
P. O. Box 363  
Birmingham B15  
England

Febrero 19, 1979

Ing. Agr. Segundo Alandia B.  
Director Departamental  
Ministerio de Asuntos  
Campesinos y Agropecuarios  
Apartado 999  
Cochabamba  
BOLIVIA

Muy distinguido amigo:

Le escribo la presente para hacerle llegar mi agradecimiento por su ayuda durante mi estadía en Cochabamba, y también por las generosas promesas de apoyo durante la expedición colectora de papas en el año 1980.

Adjunto sírvase encontrar mi informe sobre los planes para la expedición mencionada. Si Ud. tuviera tiempo de hacer una revisión de cualquiera de sus partes y sobre todo de las rutas planificadas, le quedaría sumamente agradecido.

Esperando sus gratas noticias, quedo de Ud.

Cordialmente,

Adjunto



The University of Birmingham  
Department of Plant Biology  
P. O. Box 363  
Birmingham B15 2TT  
ENGLAND

Febrero 19, 1979

Dirección General  
Ministerio de Asuntos Campesinos  
y Agropecuarios  
Casilla 5783  
La Paz  
BOLIVIA

De mi mayor consideración:

Por la presente me es grato informarles que estoy encargado llevar a cabo una expedición colectora de papas en colaboración con los Ingenieros Segundo Alandia, Jefe de Agricultura del Departamento de Cochabamba y Gonzalo Claure, Jefe de la Estación Experimental de Toralapa. Además contamos con el apoyo del Centro Internacional de la Papa en Lima, Peru, y del Dr. David James, Chief of Party del Consorcio Internacional de Desarrollo en La Paz.

En esta comisión vendrá conmigo un grupo de 4 científicos holandeses y alemanes del Banco de Germoplasma de Papa en Braunschweig, Alemania Occidental, así como un científico danés del Jardín Botánico en Copenhague. Pensamos llegar el 1° de Febrero de 1980 y permanecer dos meses en Bolivia, colectando muestras de papas cultivadas y silvestres para ser usadas en el mejoramiento. Se dejarán submuestras de cada colección en Toralapa para crear nuevas variedades de papa en Bolivia.

Les quedaré sumamente agradecido por la ayuda que se nos pudiera brindar, personalmente y por parte de sus distinguidos colegas antes mencionados.

Cuando arribemos a La Paz agradeceré nos pueda recibir en su Despacho y estimaré se nos facilite cartas de introducción y otros documentos que nos pueda ser de ayuda en nuestra tarea de hacer colecciones en todas partes de su país.

Aprovecho la oportunidad para reiterarles los sentimientos de mi más alta estima personal.

Muy atentamente,

Prof. J. G. Hawkes

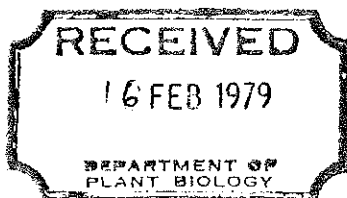
JGH/acz.

cc: Ing. Segundo Alandia  
Ing. Gonzalo Claure





MINISTERIO DE ASUNTOS CAMPESINOS  
Y AGROPECUARIOS  
DIRECCION DEPARTAMENTAL  
COCHABAMBA



Dirección:  
Apartado Postal 999  
Cables: Minagricultura  
Teléfonos: 2-3994 2-1619

DS-2-28/79

Cochabamba,  
enero 29, 1979

Señor  
Profesor J.G. Hawkes  
Mason Professor of Botany  
University of Birmingham  
Inglaterra.

Estimado Dr. Hawkes:

Recibí con mucha satisfacción la noticia de su próxima visita para el mes de febrero. Tendremos mucho agrado de conversar con usted y de programar la proyectada nueva expedición. Pienso que para ella habría que pensar también en lugares no recorridos antes.

Combinaremos nuestro plan de ésta temporada, puesto que con Toralapa tenemos pensado hacer un recorrido por Oruro, Potosí y Chuquisaca después de mediados de febrero. Conversaré con ellos para salir después de la visita suya, por lo que no tendremos impedimento para esperarlo.

Le reitero mi cordial saludo y lo grato que será volver a tenerlo en Bolivia.

Atentamente.



  
Ing. Segundo Alandía Borda  
Director Deptal. Min. AA. CC. y Agropecuarios

JGH/SED

18 de enero, 1979

Dr. S. Alandia,  
Ministerio de Agricultura,  
Casilla 999,  
Cochabamba,  
Bolivia,  
South America.

Muy distinguida colega:

Le escribo la presente para avisarle que tengo planificada una visita corta a Cochabamba los días 14 y 15 de febrero proximo. Este viaje es con el fin de arreglar una nueva expedicion coleccionadora de papas en el año 1980 y de charlar con Ud. y con la Dra. Ana Maria Kruger sobre el asunto. Tambien, cuando este en Bolivia espero arreglar planes para que los senores Zavaleta y Vidaurre me hagan algunas colecciones de papas en este año, 1979. Espero con placer anticipado la visita a Cochabamba, despues de cinco años.

De Ud. cordialmente,

Profesor J.G. Hawkes

Dr. Fonge heeft originele  
bglagen

Dr. Fonge  
Mr. Van Soest  
Dr. M. Rombouts



# The University of Birmingham

DEPARTMENT OF PLANT BIOLOGY

The University of Birmingham, P.O. Box 363, Birmingham B15 2TT

Telephone 021-472 1301

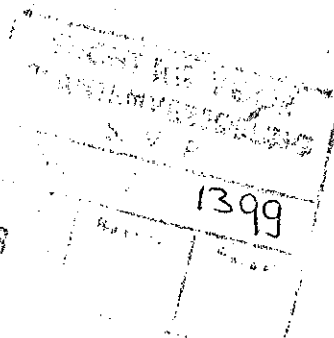
Mason Professor of Botany: J G Hawkes Sc D

JGH/SED

20th June 1978

Dr. L.J.M. van Soest,  
Instituut de Haaff,  
Stichting voor Plantenveredeling, S.V.P.,  
Postbus 117,  
Wageningen,  
The Netherlands.

27 JUN 1978



Dear Dr. van Soest,

I am glad to know that you are continuing to make plans for the Bolivian expedition in 1980. As it happens, Mr. J.P. Hjerting and I will also probably be there then, rather than in 1979, as previously planned. I hope we shall be able to collaborate in the exchange of material and reducing areas of overlap. Such matters can be discussed nearer the times of the expeditions.

You ask a number of questions that are hard to answer, especially the first:

1) Localities of particular interest from the genetic erosion and the breeding point of view. Genetic erosion occurs in the cultivated potatoes, and I would say that it is most intense in the regions of La Paz and Cochabamba, though probably some is taking place in the Oruro region also.

Interest from the breeding point of view comes back to a discussion of what the breeders are interested in! If cyst nematode resistance is of greatest interest I believe that the areas of Potosí, Sucre and Oruro could be of greatest interest, especially where S. sucrensis occurs, acting, as we believe, as a natural bridge for the flow of resistance genes from S. oplocense to subsp. andigena. Would you let me have your views on any other problems in which the plant breeders are interested? I shall then be happy to provide further comments.

2) You can certainly collect species in Bolivia which are available in gene banks. I suspect your secretary omitted the word "not". Probably about 13 species are not generally found in gene banks, namely:

- |   |                                     |                         |
|---|-------------------------------------|-------------------------|
| ✓ <u>S. alandiae</u>                      | ✓ <u>S. colominense</u>             | ✓ <u>S. vidaurrei</u>   |
| ✓ <u>S. acaule</u> subsp. <u>aemulans</u> | ✓ <u>S. ciraeifolium</u>            | ✓ <u>S. virgultorum</u> |
| ✓ <u>S. achacachense</u>                  | ✓ <u>S. higeranum</u> <i>med</i>    | ✓ <u>S. yungasense</u>  |
| ✓ <u>S. candolleianum</u>                 | ✓ <u>S. pachytrichum</u> <i>lph</i> |                         |
| ✓ <u>S. candelarianum</u>                 | ✓ <u>S. torrecillasense</u>         |                         |

*S. capsicibaccatum*

*S. weyr.*

continued .....

Some of these may be synonyms, and there are one or two other entities that may be distinct species. The study on which Mr. Hjerting and I are currently engaged may help to solve that problem.

3) Your map is a good one, agreeing remarkably well with the one I enclose, on which the localities of all collections known to us (living and herbarium) are marked.

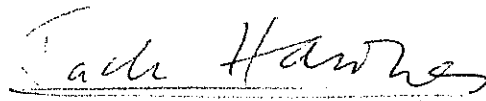
4) The "white spots" within the areas marked merely indicate regions where potatoes almost certainly occur but have not been collected. The chain line encloses, too generously, areas that could be collected, and I return it to you with modifications. However, it gives a general impression. You will see also that there is a region on the Bolivian/Chilean frontier where wild potatoes have been recorded twice and where further exploration might produce useful results. You should, indeed, try to collect in the "white spots", and I have tried to indicate by letters A, B, C, D, in descending order of priority, the importance of further exploration in those areas. The ones not marked are probably of little significance.

5) The reasons why the "spots" have not received attention in the past are poor roads and inaccessibility as you correctly surmise. The regions marked X probably do not contain wild potatoes since the climate will not be appropriate.

6) Yes, of course I shall be delighted to talk to a group of interested research workers on these matters. When to do it will depend on the conference organizers. I have already agreed to spend an hour or two with Hank Lamberts on Eucarpia Gene Bank Committee matters, and the conference programme seems a full one. Could you arrange your meeting with me in consultation with Lamberts, please? There might be some time on Monday, Tuesday or Friday evenings, perhaps.

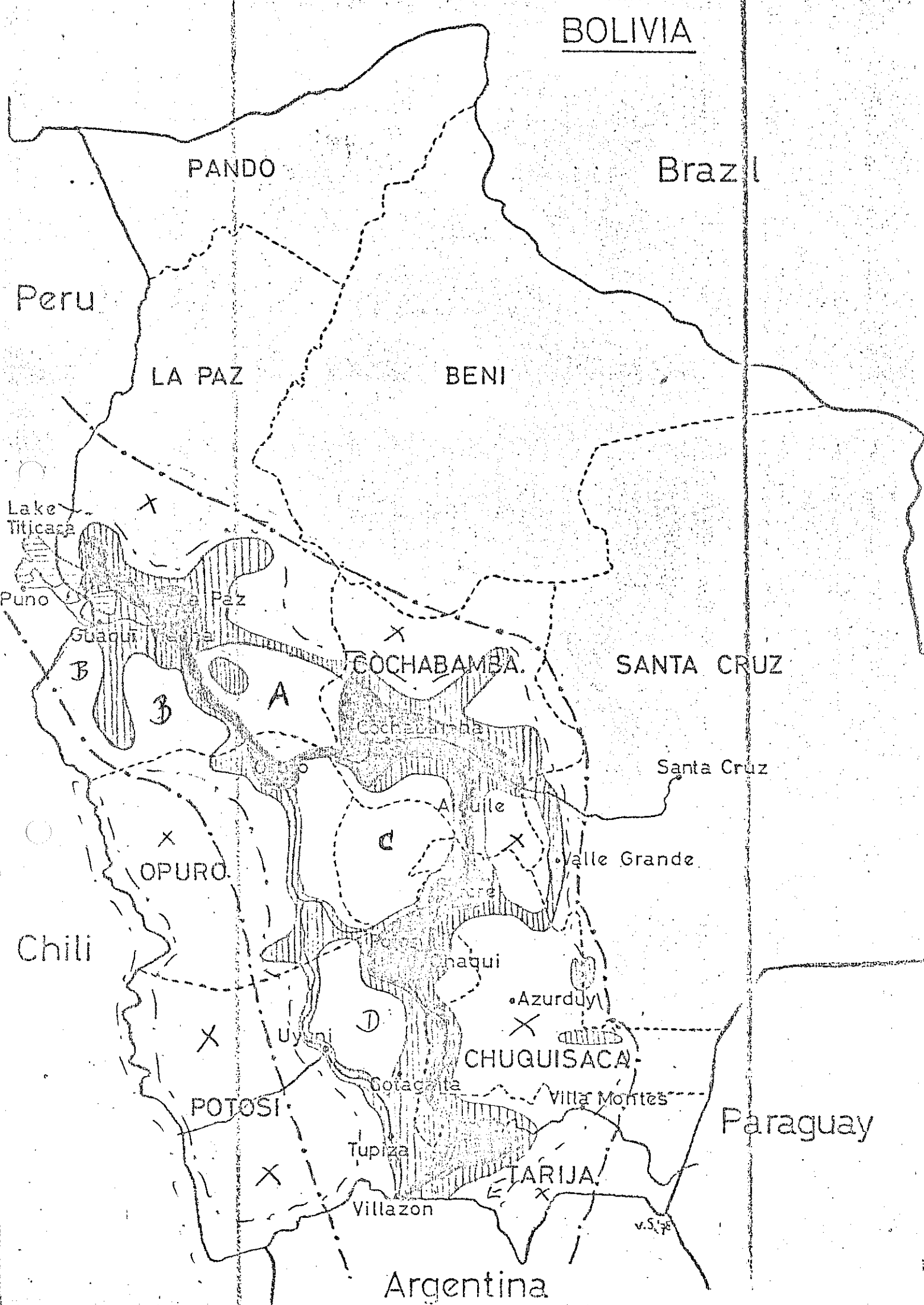
With best wishes,

Yours sincerely,

A handwritten signature in cursive script that reads "Jack Hawkes". The signature is written in dark ink and is positioned above the typed name.

Professor J.G. Hawkes

BOLIVIA



PANDO

Brazil

Peru

LA PAZ

BENI

Lake Titicaca

Puno

La Paz

Guacumani

COCHABAMBA

SANTA CRUZ

Cochabamba

Santa Cruz

Ayule

Valle Grande

OPURO

Chili

Inaqui

Azurduy

Uyuni

CHUQUISACA

Gotacaita

Villa Montes

POTOSI

Paraguay

Tupiza


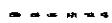





TARIJA

Villazon

Argentina

v. S. 78

Key to map of Bolivia refering to previous collecting activities of wild species

-  borders between countries
-  borders between departments in Bolivia
-  important cities
-  main roads
-  areas where wild species were thouroughly collected
-  areas where some collections of wild species was previously undertaken
-  white areas between these lines are the possible areas of collecting interest because no collections have been undertaken ('white spots')