

October 19-21, 1919. A guest of H. L. Hall, Nelspruit, Transvaal. This is a fine subtropical ranch. The country consists of an open low veld, mostly *Cymbopogon*, *Eragrostis* and *Andropogon*, with scattered tree growth of *Strychnos* and fig, a few acacias. The koppies are tree-covered with occasional fern, orchid and sansifera. The soil is rather sandy and deep. The hills are almost invariably rocky. The rainfall is about 30 inches or more.

At the time of our visit the country was very dry, due to the fact that this is the end of the drought period. Aloe and Euphorbia are common. Practically all crops are grown with irrigation.

Crops and Trees.--The country looks like Southern California, and Grevillia is a prominent tree. It is here called silver oak. Navel and Valencia oranges are grown on Citrus trifoliata stock, narches, quamquats and papaya, lovi-lovi, or tomi-tomi,--a jam fruit from Ceylon, and also the Chinese leitchie nut, the durian, a nut called the Queensland nut, tomatoes, the yellow guava, and the large strawberry guava, are grown here. Mangoes do especially well. The principal varieties are the <sup>Long</sup>~~Young~~ Green, called the Bombay,--a large variety which grows well, the Saber, from the botanical garden at Durbar,--a very heavy bearer, the Kidney,--the common Natal type, and very prolific, and the Peach. Mangoes begin to ripen about December 15 and all end about February. The Saber, Kidney and Long Green are first. Grapefruit grown here is unusually sweet. Mr. Hall is also growing the avocado.

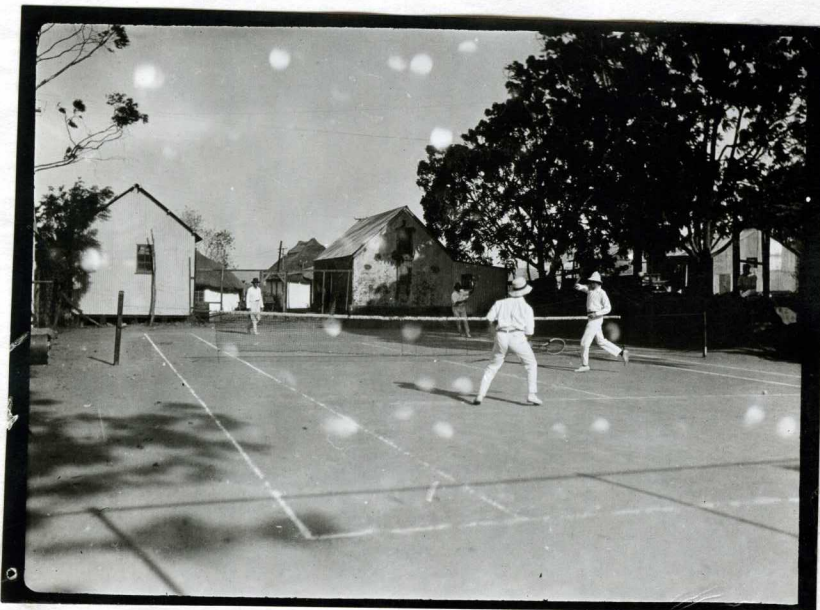
People.--Mr. Hall employs 4-10 white men or apprentices, as he calls them, and about 80-100 natives. His family consists of four sons, two daughters and a governess. He had twenty guests for the week end.

The Zulus wear short hair, wrist and leg bands and carry battleaxes; the Swazis long hair, which is often bleached. Are very fine looking men.

All the work is done by these tribes.

Stock.--The stock consists of oxen, mules, donkeys, horses, also pigs, geese and chickens.

The soil is sandy for the most part. Water is abundant and is used as power to run a dynamo for lighting purposes, for grinding and churning and crushing.



k-7. A tennis match at the ranch.



K1-8. Another view of the tennis match at the ranch.



K1-9. A view of the tennis gallery.



G-3. A new farm house for the gardener. Mr. H. L. Hall shown in the photograph. The grass thatch shown in the foreground and also partly applied to the roof.



G-4. S.P.I. 48825, Strychnos pungens, the Kafir orange, a sweet fruit, fairly good.



8.1.5. 1910

G-5. High grass, 3-4 feet, trees in the back.



8.1.5. 1910

G-6. Rather open grassland and low veld. Trees. Mostly *Eragrostis*, *Cymbopogon* and turpentine grass.



G-7. Cymbopogon and trees. Shows the parklike aspect of the country.



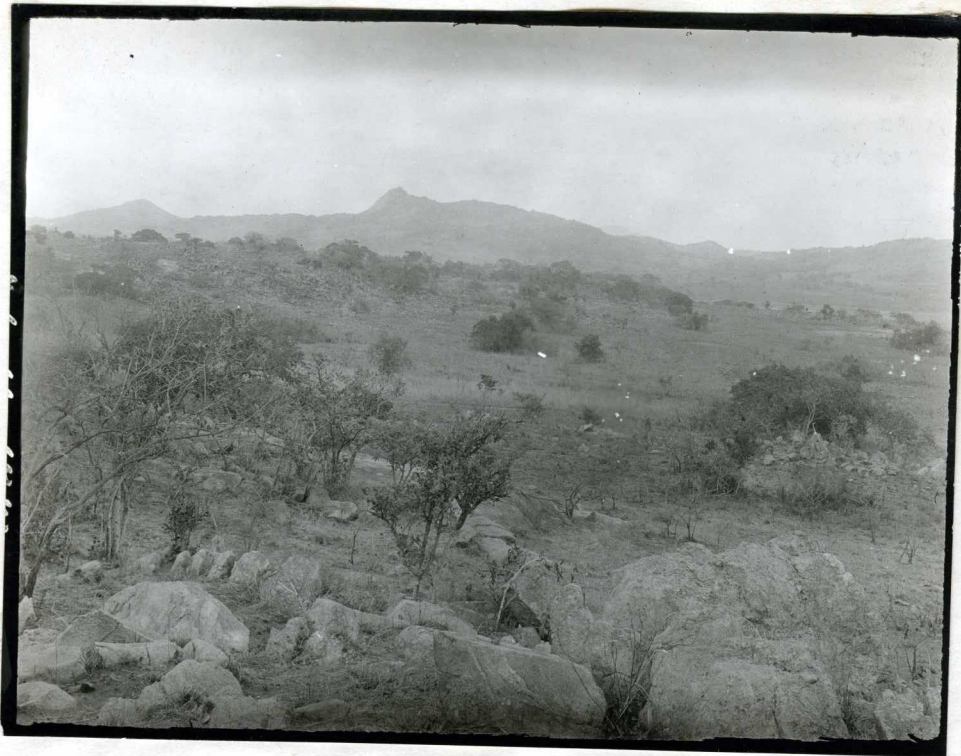
G-8. An anona with an ant nest in the tree. The ants are working on the scale insets.



G -9. Grass burned off, with a kuppie in the background.



G-10. Detail of one of the kuppies shows white quartz rock, also Strychnos pungens.



G-11. A general view. Trees are largely *Acacia* and *Cymbopogon*.



G-12. *Candelabra Euphorbia*. These are not especially abundant, although they are widely scattered throughout the country.



H-1. A general view, showing eggplant,--a long purple type. Terocarpis angolensis is the large tree at the right in the foreground.



H1-2. A one-year-old orchard, quamquats in the foreground.



H1-4. Mango at the left. Tamarind and grapefruit and H. L. Hall.



H1-5. Napier fodder cut back. Camel thorn at the left.



H1-6. Kikuyu grass, with a few bunches of Tricholaena rosea. Citrus orchard in the back.



H1-7. Three farm houses with a Cymbopogon thatch.



H1-8. Tennis court, farm buildings, Grevillia and eucalyptus.



H1-9. Dicklow Hall in the Judge's stand.



Hl-10. A general view of the farm home.



Hl-11. A general view of the garden with Mr. and Mrs. Hall and Thelma.



H1-12. Thelma Hall holding a grapefruit. This fruit is exceptionally sweet. Has no bitter taste whatever.



I1-1. As H1-12. Grapefruit four inches in diameter.



L1-2. A nursery of papaya, mango and avocado. Trees are grown in tin cans and are shaded by a camel thorn tree.



I1-3. As I-2.



11-4. A general view of the nursery.



11-5. Detail view of the Cape Gooseberry, one of the most important fruits of South Africa.



Il-6. Lemon stock, being grown under irrigation.



Il-7. The avocado nursery. Dark-blue and green, pear-shaped fruits are the types grown here.



Il-8. Begonias, maidenhairs and coleus, which form the background of the tennis court.



Il-9. Saber mango planted in 1903.



Il-10. Saber mango, a detail of fruiting branches.



Il-11. Kidney mango.



Il-12. Propagating leitchi by the Chinese method.



Jl-1. Leitchi and saber mango with H. S. Hall.



J1-2. Long Green Mango.



J1-3. A detail of Long Green Mango.

Mr. Hall has a very large number of seedlings which came from German East Africa, sent to him by his sons during the date of the war, and it is possible these might be secured from him, as he is a man of experience in packing and shipping tropical fruits.

This is the height of the drought season. A 10 a.m. reading was 91-69 degrees for wet and dry bulb.

Note.--It would be well to ask J. Pole-Evans for Citrullus echinosus, a green melon from the Namib, Acanthosecyos horrida, the naras of the Southwest. It furnishes food for the Hottentots. Should grow in the sand hills of the Colorado desert. The library should also secure "Flowering Plants of South Africa", -3 pounds per volume, Reeve and Company, London. Ochna pulchra is a beautiful shrub and should be J1-4. grown in this country.

Send Pole-Evans the Mexican istle.

The following list of plants should be secured in Natal: Pineapple (small and large); papaya; Paspalum dilatatum; morula, sometimes called an African mango and very attractive; Indigofera punctata, -a forage plant; and mafurra, an oil tree; Cynodon incompletus; and Vigna triloba.

October 21, 1919.. Nelspruit. This country is a grassland with scattered trees. The grasses are relatively tall, but seldom over four feet, and form a relatively continuous cover. This is typical low veld. The trees are far apart and seldom over 20 feet high and for the most part are not flat-topped. They are chiefly fig, Strychnos and acacia. The principal plants collected in this region are Herbarium Nos. 295-321.

The soil is deep and uniform, usually sandy or sandy loam. Crops consist of corn, Kafir corn, tomato, potato, lemon, Valencia and Washington

navel oranges, quamquats, tangerines, mangoes,--Long Green, Peach, and Saber, and Kidney , papaya, leitché, durion and lovi-lovi. Almost every tropical and subtropical fruit will grow here. Several packages of seeds were mailed out from this point. Mr. H. S. Hall, Nelspruit, Transvaal, could furnish plants which will grow on the east coast, since he is in the nursery business and is accustomed to shipping plants continually. He would also be glad to cooperate. He is especially anxious to secure information as to budding, pruning, fertilizing, packing and shipping citrus, avocado, leitché and mango, and at the time I was there was anxious to secure a sorting machine as soon as possible. I here secured the following numbers:

S.P.I. 48833	A saggitate-leaved Aureum, similar to the calla
S. 172	lily, collected on dry ground in one of the
-----	kopjes.
S.P.I. 48806	A large Scirpus, see Herb. 315, with a hexagonal
S. 173	stem, very strong and fibrous, and used especially
-----	in making rugs and baskets. The stems are so
	unusually long and strong that this should be
	valuable wherever rush fiber can be used.
S.P.I. 48818	Kikuyu grass, <u>Pennisetum longistylum</u> . It here
S. 174	grows in very dry ground and is doing poorly.
-----	Should have abundant water supply for the most
	successful growth.

These plants were mailed out of Nelspruit in order to take advantage of the Transvaal postal rates.

The following numbers were collected only in small quantities, with the hope of securing more seed at a later date. This now seems unlikely and they were accordingly sent in just as secured:

S.P.I. 49298	<u>Diospyros</u> sp.,--jackal's fruit, small tomato-
S. 175	like berry with hard seeds, eaten by jackals
-----	and occasionally used for jam. Herb. 135, Secured
	at Kenkelbosch, Sept. 10.
S.P.I. 49299	<u>Diospyros</u> sp., apparently the same as the number
S. 176	above, Herb. 297.
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- S.P.I. 49234 Undetermined. A few seeds collected  
S. 177 between Cradock and De Aar, Sept. 23.  
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- S.P.I. 49303 Harpagophytum procumbens. A few seeds of this  
S. 178 most noxious weed. The seed pod is armed with  
----- many recurved hooks.
- S.P.I. 49300 Eragrostis sp. Seems to be an important forage  
S. 179 plant. (This sample may be same as 4240). See  
----- Herb. 238. Mafeking, Oct. 2, 1919.
- S.P.I. 49301 Eragrostis sp. , a grass with the habit of  
S. 180 , Herb. 240, as above.  
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- S.P.I. 49318 Vicia sp. A few seed of Herb. 226, Kimberly,  
S. 181 Sept. 12, 1919.  
-----
- S.P.I. 49312 Phaseolus lunatus,  
S. 182 Is three beans presented by S. P. Powell, of  
----- Johannesburg, said to be of an exceptionally  
fine variety.
- S.P.I. ----- Euphorbia truncata. A few seed of a low capitate  
S. 183 Euphorbia, occurring abundantly on the high veld,  
----- useless but may be of interest to botanical gardens.  
Collected at Veraniging, Oct. 16, 1919.
- S.P.I. 49294 Cassia sp. A legume with a long, dark, sticky  
S. 183-a pod. Not eaten by stock. Herb. 310, Nelspruit,  
----- Oct. 20, 1919.
- S.P.I. 49295 Crotalaria sp. A form growing about 8 inches  
- S. 184 high..  
-----
- S.P.I. 49307 Macadamia ternifolia. 2 nuts from Mr. Hall's  
S. 185 orchard grown here under the name of Queensland  
----- nut. These he secured from Ceylon.
- S.P.I. 49384 Calilepis sp. A very attractive composite. May  
S. 186 prove valuable as an ornamental. Almost white.  
----- Reminds one somewhat of daisy or chrysanthemum,  
10-14 inches.
- S.P.I. 49317 Tricholaena rosea. Red-topped grass. Very prolific.  
S. 187 Flowers early following cultivation (said by Mr.  
----- Hall to change into quack grass, since it is soon  
replaced in the succession by quack grass.) This  
looks very much like the form already introduced  
into Florida as Natal grass. See Herb. 307.
- S.P.I. 49292 Bidens pilosa. Called blackjack, a very troublesome  
S. 188 weed in the Transvaal, but regarded as a good feed,  
eaten almost as readily as is alfalfa. See Herb. 105.

S.P.I. 49304. Holcus halepensis. A very few seeds of a wild  
S. 189 sorghum grass, here called buffalo grass. Seems  
----- to be a perennial.

General note.--Adenium multiflorum is very attractive, fleshy plant. The flowers push out of the fleshy stem ahead of the leaves and the root is large and succulent and used as fish poison.

? Canavalia obtusifolia is a very large pink bean.

October 21, 1919. Left Nelspruit at 9:30 a.m. en route to Lorenzo Marques. Mr. Hall's ranch is at Tomango Halt, an expression which corresponds in our country to Tomango siding. This is not far from Nelspruit and his mail should be addressed to Nelspruit. At Nelspruit, which is 2342 feet above the sea level, there is a bush veld which becomes denser, the grass about 3-4 feet high, trees abundant and in good leaf in places. Most of the country beyond is burned. The valley narrows and becomes true brush along the steep slopes.

Kaapmuiden. 1342 feet elevation. Acacia horrida just before reaching this point. This is acacia-tall grass. The grasses are not as dense as one might suppose. Not very distinct in that respect from the country at Mafeking. Sansevieria becomes more abundant and the vegetation is almost thorn forest.

Hectorspruit. 1043 feet elevation. Grass, bush and trees. A good veld country. Unusually find lot of natives along the road. Soil here is gray, but for the most part African soils are red. Beautiful open veld.

Komatipoort. Elevation 619 feet. This seems a little more tropical, especially after leaving the boundary. The trees are large, Ficus and Acacia are abundant, the rivers relatively wide. Komatipoort is situated on the bank of the river and is a relatively attractive place.



k-10. A general view showing Acacia horrida forming practically a thicket.

The soil is dark chocolate brown and cracks open in dry weather.  
Shells of large land snails are abundant here.



k-11. Shows the typical low veld, mostly thorn trees.



1-1.(ell-1). Shows the thorn veld with two natives in the foreground, one is carrying an empty bottle on his head. This young native was able to play and run about at will without losing the bottle.



ell-2. Shows the open low veld, most thorn bush.

Moamba. At this station there are plantings of papaya and eucalyptus and there are three or four houses.



ell-3. Taken beyond the station. Shows open grassland with acacias. The country seems timber here, but thorns are still abundant. Thickets occur again just beyond.

Strychnos is very abundant here. This is said by the British Consul General to constitute excellent elephant food. Also many candelabra Euphorbia, but this Euphorbia never becomes important in the vegetation. There is a beautiful shrub along here with flowers resembling in color at least the purple Bugonvillea.

Pessene. An abundance of the shrub just mentioned.

Tenca. Not much change in vegetation. Palms somewhat more abundant. The side walls of the huts here are made of Arundinaria, the roof and thatch of Cymbopogon.

Matola. Corn and Kafir corn produced in abundance at this place. This is the first stop at which any considerable amount of agriculture is

shown and here the natives are apparently moving from field to field. Maniok is the principal crop. Fields are very small and irregular and the vegetation mostly burned off. There is a great deal of Imperata grass and Tricholaena rosea. Anacardium occidentale is also abundant here. The trees are scattered throughout the region and this plant looks exactly like a native plant. When the fruits of this tree are ripe the whole native population is drunk. A little further down a few palms occur. These palms have leaves similar to the date palm. Eucalyptus is planted along the track in places and along the bay there are native gardens.



ell-4. A view of Delagoa Bay from the trains.

Arrived at Lorenzo Marques at 4 p.m. This is an unusually interesting Portuguese city. The population is mixed, consisting of English, Portuguese, Chinese and Indians. Almost any type of currency can be used. I went at once to see the American Consul, John J. Ray, and also the British Consul General, Earl McDonald, and the Portuguese man of all work, who at the