

S.P.I. 48790, Triumphetta trichocarpa is a rather inferior fiber plant..

S.P.I. 48756, Ademia sp., plant with a huge storage body. Herb.271.

S.P.I. 48768, Dimorphotheca spectabilis, Herb. 277. An attractive flowering plant, flower reminding one of a large daisy.

S.P.I. 48796, Ziziphus _____, a native tree on the bush veld, prolific and a good ornamental tree.

S.P.I. 4877, Mimusops leyheri, a small yellow fruit about an inch long when dried. Sweetish flesh similar to jujube.

S.P.I. 48763, Citrus sp. , a rough lemon used as stock for many different kinds of citrus trees in this country. This tree is on the botanical grounds. It is peculiar in that the seeds are not limited to the center of the fruit, but are found quite generally along the rind, at least in many cases.

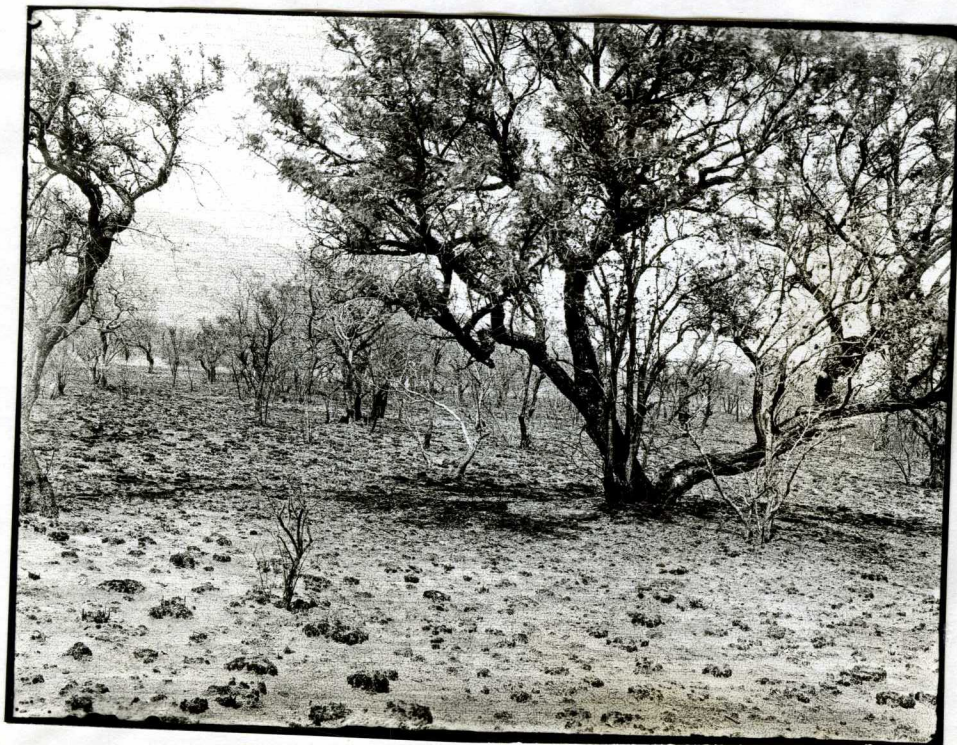
October 14. Up early and out for a trip over the low veld or bush veld to near Ristenburg to see citrus forms. Went with Mr. Nicholson and Dr. Pole-Evans.

C1-5. The bush veld, beyond Mositikatznek, Burkia africana, Caffra and Combretum.





Cl-6. A large fruited Combretum Czeyheri, one of the principal trees of the bush veld.



Cl-7. Acacia caffra, Combretum. The grass is burned off.



C1-8. Ipoemoea biloba. This was sent in as Herb. 157. It is a type of plant very common in both the low and high velds. The roots force out the flowers ahead of the rainy season.

As we passed out of Pretoria we saw a considerable amount of napier fodder, Pennisetum purpureum. The frost cuts it down each year, but it grows up each year and is useful for ensilage.

Acacia ^{car} spirocoides is occasionally coming into leaf and is quite important here.

Pinus longifolia also does well here on sandy land.

Very little of the oats grown in this country is fresh. It is mostly cut as rather ripe hay.

Mosilekatze Nek was ~~the~~ named after a Zulu chief, who was whipped out by the Boers and his tribe driven westward. The valley south of Mosilekatze Nek is a broad valley with no drainage channel. Acacia spirocarpoides is very important in the intermediate grassland; that is, the grassland lying between the high and the low velds.

Acacia horrida and acacia robusta are both badly parasitized by loranthus.



C' - 9

Ipomoea biloba

Rustenburg

Transvaal.

Flowers appear ahead of the
rainy period

S.P.I. 48802 is Acacia robusta, Herb. 281.

The soil here is very deep red and uniform. No change to 4 feet. Soil sample 4 was taken at 1 foot. Further down the valley the soil changes to a heavy clay with a lighter soil below. Soil sample 8 was taken at 1 ft., sample 9 at 3 ft. This is said to be very rich corn land. As we pass down to the bush it seems to become colder, at least the trees are not as far along.

We went to the farm of G. J. Fourie at De Korn. This is a fine orange ranch and trees an excellent color with no sign of frecking or mottling. Trees are irrigated about four times a year and plowed about 9 days after irrigation, and a spring harrow used just after each plowing. They are given a dressing of kraal mus, or manure, every third year. Some of the trees have been six years without any fertilizer. Each year he plows under green manure whenever it develops. They use principally cowpea and weeds.



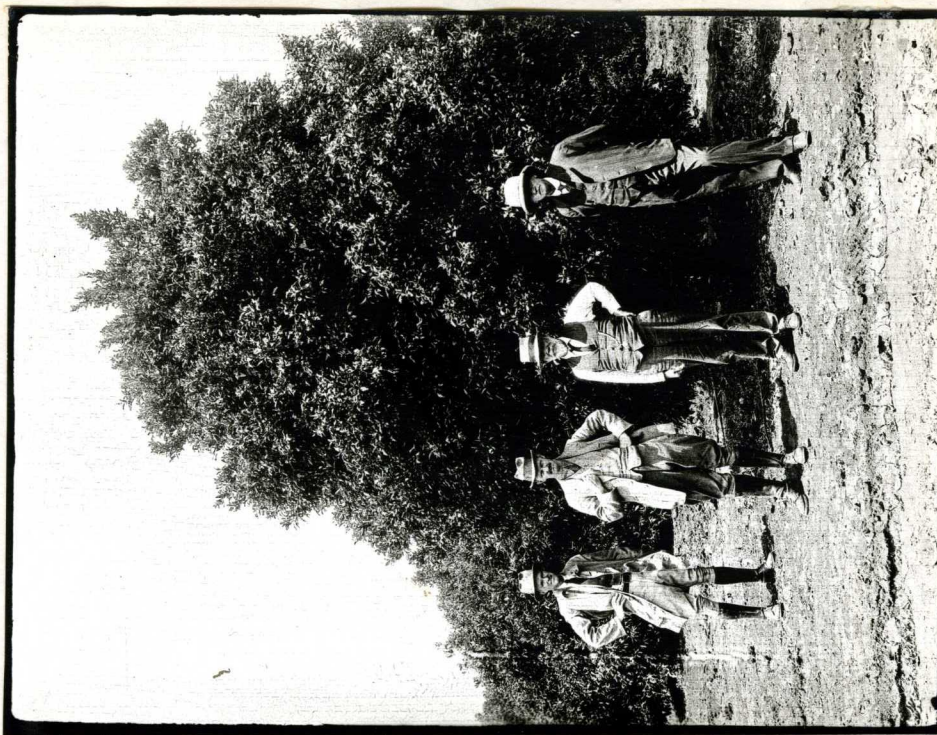
C1-10. A Valencia orange tree that is nine years old. In excellent color.



Cl-11. Young leaves of citrus navel orange.



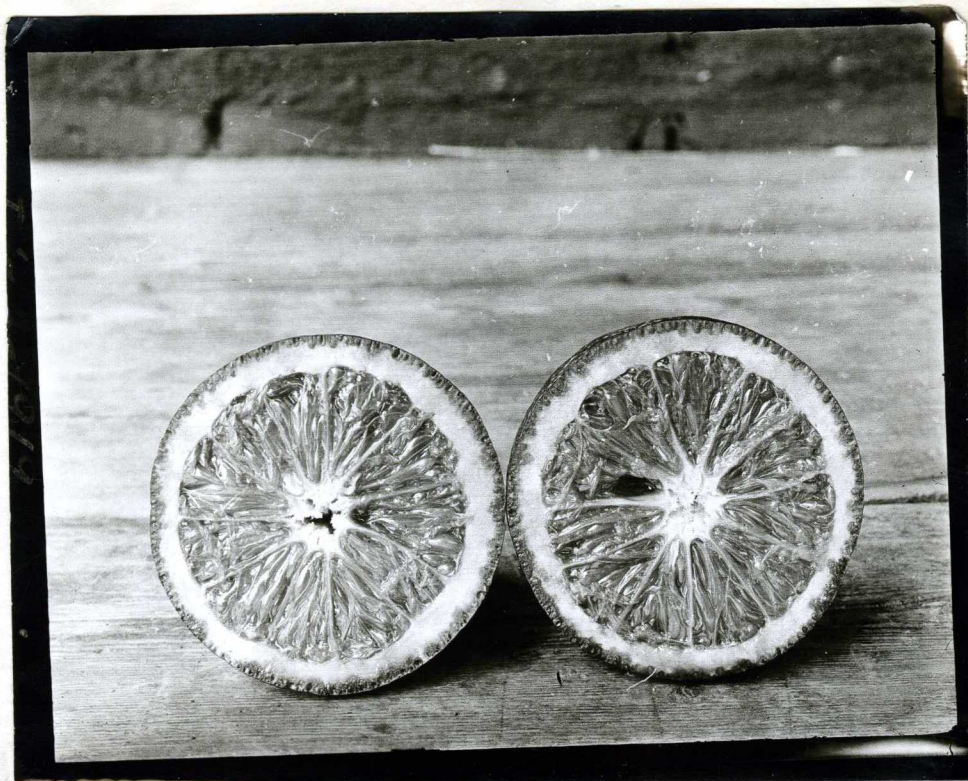
Cl-12. A general view in the orchard showing narches, Washington Navel and Valencia.



D1-1. A general view of the orchard. Shows Mr. Fourie, Pole-Evans, and Donaldson on the right.



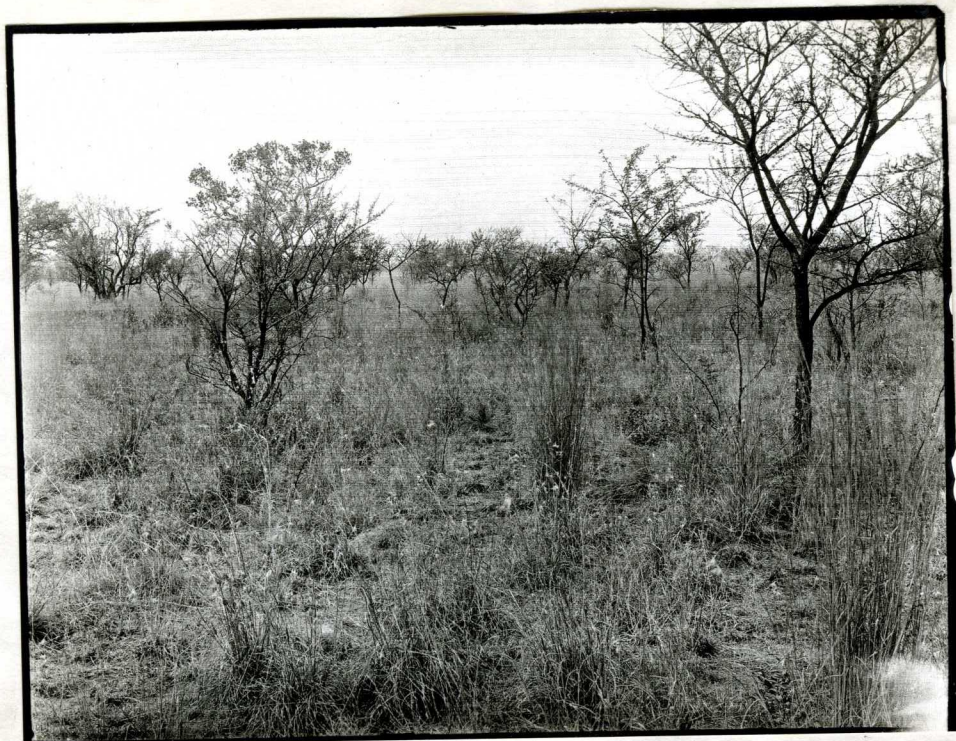
D1-2. A row of seedling trees nine years old.



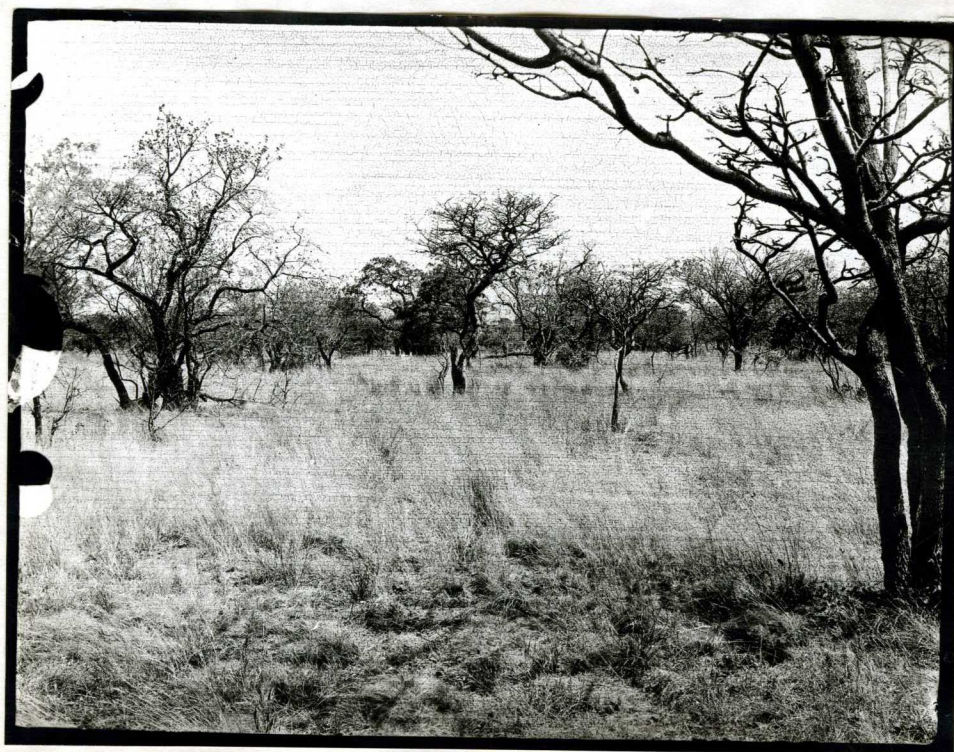
D1-3. Cross-section of the average Valencia 2-1/2 inches in diameter.



D1-4. General view of tan old Boer home. Tea was served as soon as we arrived.



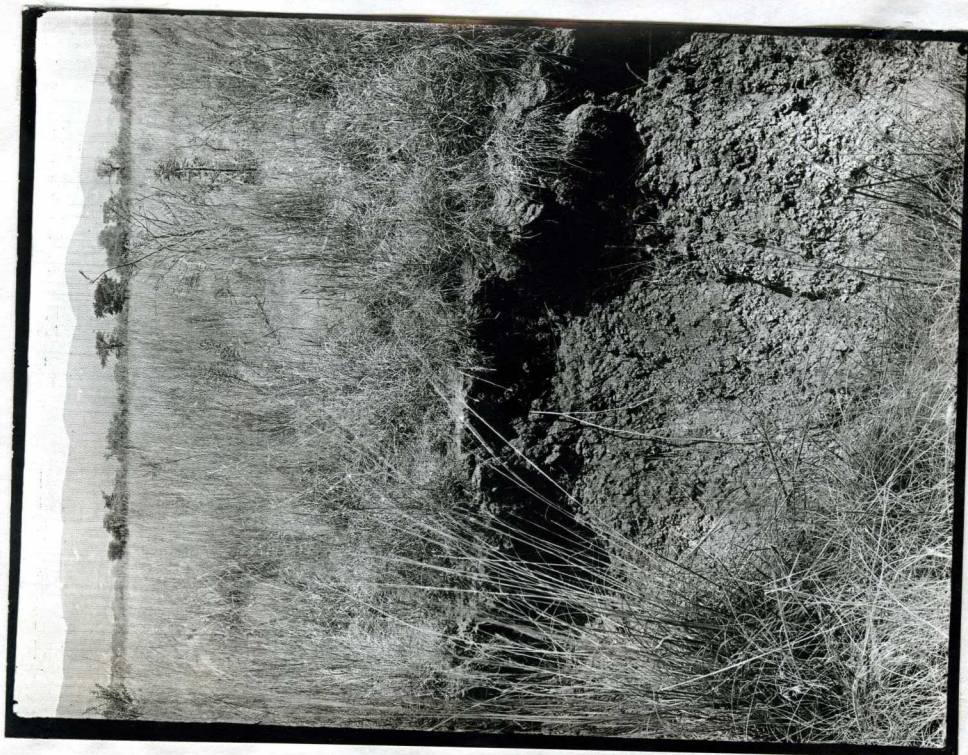
Dl-5. Bush veld with Acacia horrida, Themeda triandra and Andropogon.



Dl-6. Similar to Dl-5.



D1-7. Bush veld with the Magaliesberg in the back.



D1-8. A profile of the soil, also shows grass cover. Surface 3 feet, dark chocolate. Soil below is lighter in color.



Dl-9. Trichodesma elliptica, a very handsome perennial which forms the facies on burned grasslands.

At one place Sesbania aculilata is very abundant. This plant is covered with nodules, is a very promising green manure plant. It has the habit of a mustard. It is very slender and looks somewhat like an Epilobium.

The whole Magaliesberg is lined with blockhouses, from the first Boer war.



Dl-10. A detail of Trichodesma elliptica.

We returned to the laboratory where I took the following photographs:



Dl-11. Back of the laboratory. Shows the fumigating house, also aloes, euphorbias and pelargoniums.

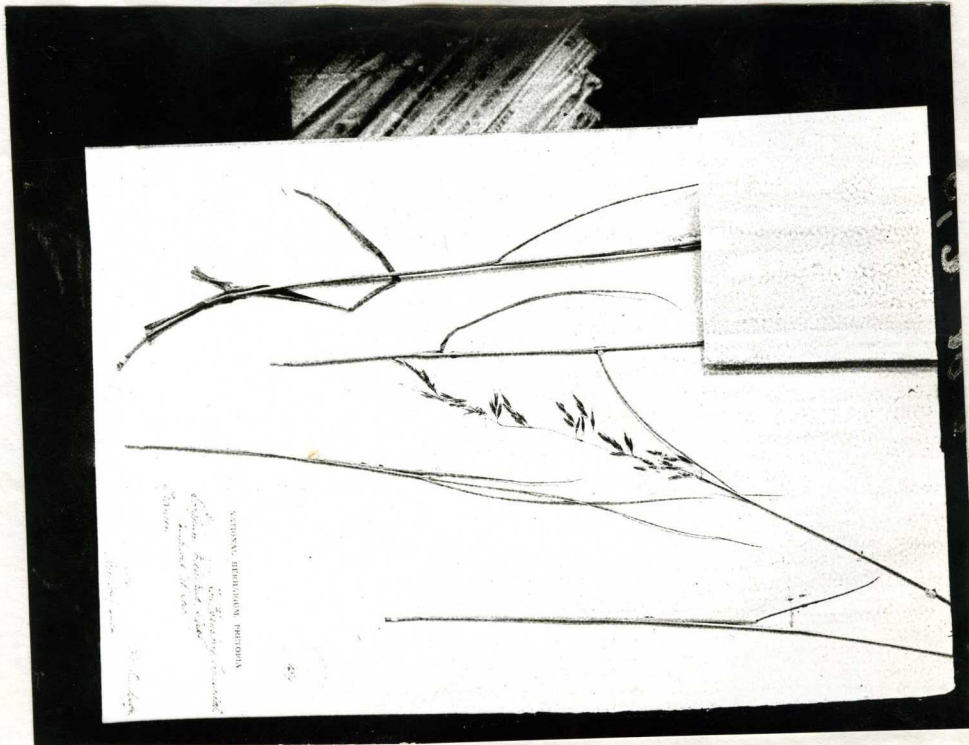


D1-12. The main laboratory at the right.

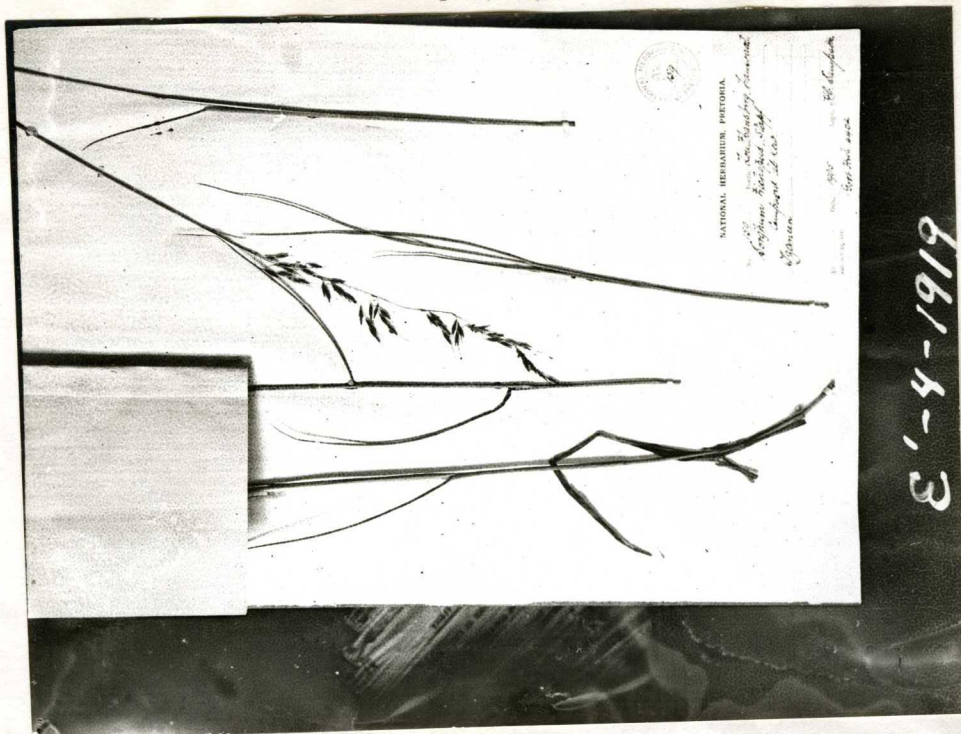
E1-1. Grounds, laboratory, and Union buildings on hill in the back.



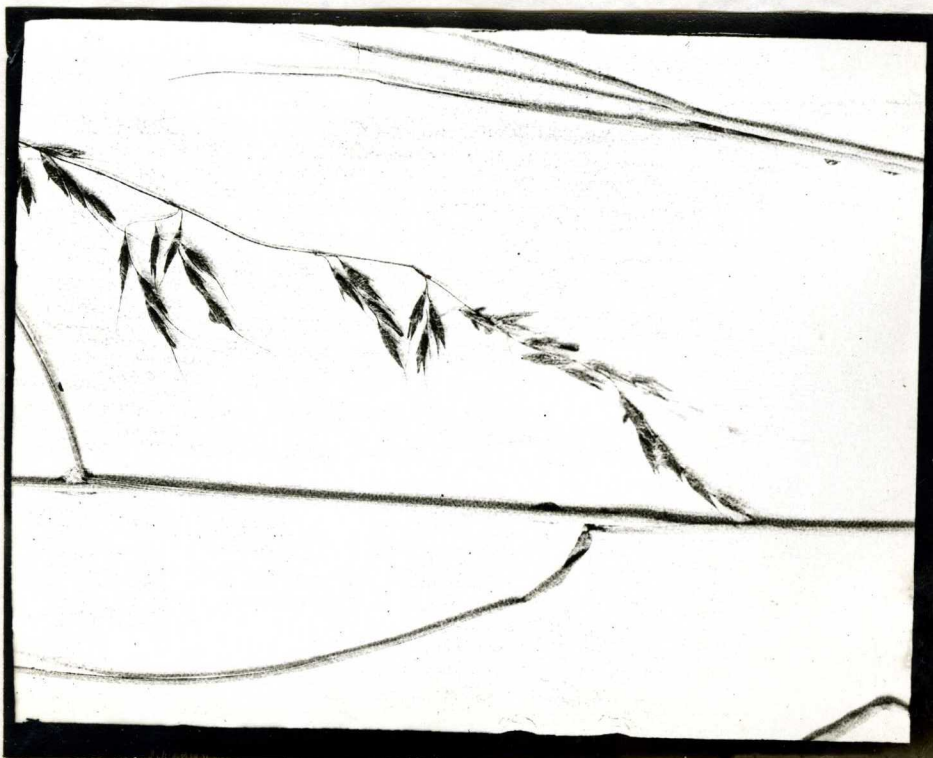
El-2. General view from the door of the laboratory looking out through the grounds.



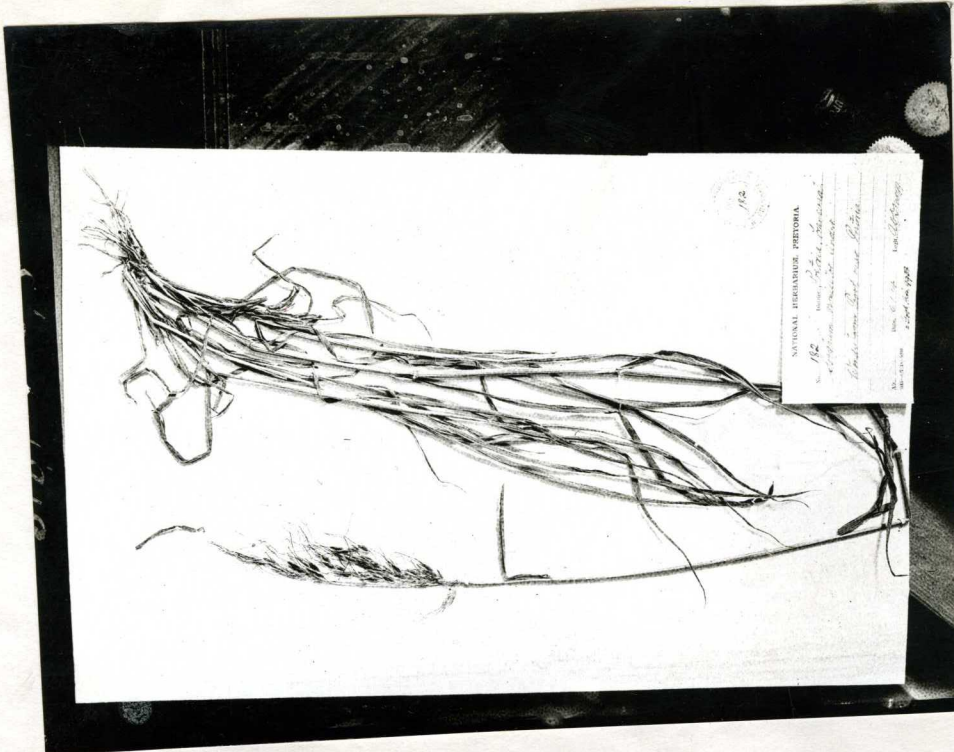
El-3. Sorghum trichopus Stapf. Collected at Fontspanburg. South African Herbarium No. 159, compared at Kew.



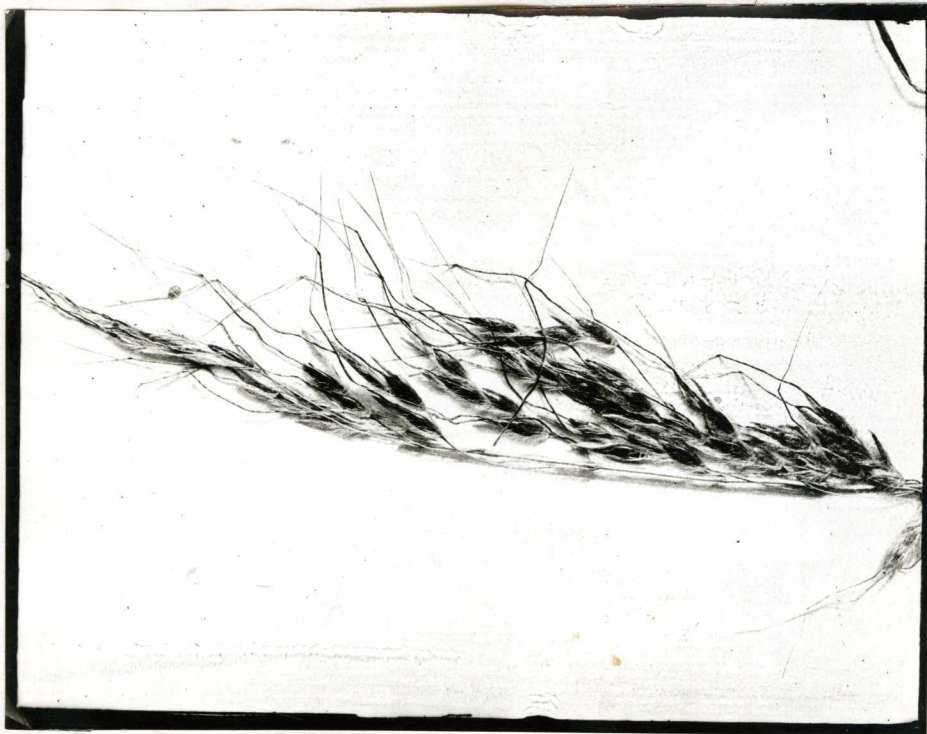
E1-4. Same as E1-3. These were copies of herbarium sheets and had to be taken in a great hurry and without scale, but the scale can be easily obtained from the size of the sheet.



E1-5. A detail of E1-3.



El-6. Sorghum visicolor Ander. Collected at Wonderboom Port, Pretoria, South African herbarium No. 182.



El-7. A detail of El-6.

In case these sorghums prove to be especially interesting they can

be photographed by Dr. Phillips' botanical staff.

Note on the bush veld:-- The grassland is burned over every year. It consists of Andropogons and Themedas, many deep-rooted plants which flower at the surface but are protected by their underground parts from damage by fire. Only trees which can withstand fire thrive. They are chiefly Acacia horrida, Acacia robusta, Acacia spirocarpoides, Acacia abyssinica, Burkea africana, Combretum zeyheri, etc., etc. Fire is a constant factor. It probably favors resistant shrubs. Overgrazing has about the same effect and makes the veld become brushlike. The trees are not far apart as a rule. It is decidedly an acacia and intermediate grassland. It should be mapped as acacia-tall grass, with Acacia, Combretum, Burkea, Andropogon and Themeda as dominants.

October 14. Left Pretoria at 5:20 p.m. and arrived at Johannesburg about 7. Left at 9 p.m. and arrived at Vereeniging at 11 p.m. Stayed at the Raleigh hotel.