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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Revenue DEPARTMENT

G.O. No. / B.P. No.	1327	Press. / Mis.
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Not to be folded or roughly handled

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GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

17th August 1878, No. 1,327.

Read the following paper :—

No. 232. Proceedings of the Board of Revenue, dated 16th July 1878, No.1,973.

Read the following letter from W. R. ROBERTSON, Esq., M.R.A.C., Superintendent of Government Farms, to C. A. GALTON, Esq., Acting Secretary to the Board of Revenue, dated Sydapet, 29th June 1878, No. 579 :—

With reference to paragraph 1 of G.O., No. 3,424, of the 20th of December last, I have the honor to enclose copies of reports affording information regarding the results of further attempts in cultivating "Sorghum Saccharatum" and "Planters' Friend" in this Presidency.

2. It will be observed that in South Canara the results obtained were highly encouraging. If the saccharine juice of the Sorghum Saccharatum is as well developed in the plants produced in that district as is the case with those raised at Sydapet, the manufacture of Sorghum sugar will merit attention there. In the United States, the production and manufacture of Sorghum sugar is a very important industry.

3. The Planters' Friend and Sorghum Saccharatum appear both to have failed when tried in the neighbourhood of Ootacamund. The first of these I thought would have succeeded there, as the crop is specially recommended in Australa as one not liable to be injured by a slight frost. The Sorghum Saccharatum is more suited for culture where the temperature is higher than at Ootacamund. It ought to succeed wherever coffee succeeds, and should have been tried at a much lower elevation than that of Lovedale.

4. The grains of "Planters' Friend" and of "Sorghum" are, as stated by Mr. Benson, at present unsaleable as human food; but this may, perhaps, be attributed to prejudice as much as to the objection pointed out; probably when the people are better acquainted with these grains, they will attach less importance to these drawbacks.

5. I expect to receive some further reports on experiments made in the districts with these crops which I will submit in due course.

Enclosure No. 1.

NILGIRI DISTRICT.

From the Rev. O. DENE, B.A., Principal and Secretary, Lawrence Asylum, to W. H. COMYN, Esq., Officiating Commissioner of Nilgiris, dated 17th November 1876, No. 2,134.

I beg to acknowledge receipt of your letter, No. 180, dated the 13th instant, and, in reply, to inform you that after receiving the seeds of the "Planters' Friend" and "Sorghum Saccharatum," I planted the following crops for comparative experiments :—

12th July 1876,—Planters' Friend, S. Saccharatum, Maize, country cholum.
20th " " —Planters' Friend, S. Saccharatum, Maize.
27th " " —Brome grass (Bromus Schraederii.)

On the receipt of your letter I cut a perch each of Maize, Planters' Friend, and Sorghum Saccharatum. The two latter yielded 7 lbs. of fodder per perch, the Maize 176 lbs. I had cut a heavy crop of fodder from the brome a week previously, but did not weigh it. The crop had a marked superiority over the S. Saccharatum and Planters' Friend.

The sowing on the 12th July were on a low-lying rich loamy soil. Those on the 20th and 27th of the same month were on a terraced slope of sandy loam. The plots adjoined each other and had undergone precisely the same previous cultivation, but from the beginning the Planters' Friend and S. Saccharatum had a sickly appearance, and had been outgrown by the Maize and B. Schraederii in a very marked manner.

The country cholum was a failure. A plot of Lucerne sown early in April of this year has already been cut four times.

Cattle eat the Planters' Friend and S. Saccharatum freely; but the area sown is too small to enable me to give any information as to its effects on milk.

Considering the results obtained, I do not consider either of the plants (Planters' Friend and S. Saccharatum) suitable for forage at this elevation.

(True Copy.)

(Signed) E. J. JOHNSON,
for Acting Commissioner.

(True Copy.)

(Signed) J. STURROCK,
Acting Sub-Secretary.

COIMBATORE DISTRICT.

Remarks on the Sorghum Saccharatum grown in the town of Coimbatore.

On the 10th February 1876, 2 lbs. of seed was sown broadcast in a plot of ground measuring 4 decimals in the Jungle Conservancy Garden at the Huzur Cutcherry, and watered once in every ten days. On the 7th June it was cut and the yield found to be 30 Madras measures of grain. The straw or stalk when dried weighed 575 lbs. The average height of the stalk was 7 feet.

On the 17th February 1876, 6 lbs. of seed was sown in the Municipal Garden in a plot of ground measuring 34 decimals. This was cut for fodder when just about to flower, *i.e.*, on the 15th April, and 2,159 lbs. of green fodder obtained.

This crop was also watered every ten days in the same quantity given to the ordinary country cholum sown in the district.

22nd April 1877.

(Signed) H. BARNETT,
Manager, C. M. C.

Date of Sowing.	Quantity of Seed sown.	Date of Harvest.	Yield.		Locality.
			Seed	Straw.	
	LBS.		LBS.	LBS.	
10th Feb. 1876...	2	7th June 1876...	90	575	Huzur Cutcherry Garden.
17th do. ...	6	15th April ,, ...	*Nil.	2,159	*Cut for fodder when green. Market Garden.

COIMBATORE.
22nd June 1877.

(Signed) H. BARNETT,
Manager, C. M. C.

(True Copy.)

(Signed) J. BASHIAKARLOO,
Vice-President.

No. 297.

FORWARDED to the Superintendent, Government Farms, Madras, with reference to his letter dated 21st May 1878, No. 476.

COIMBATORE,
6th June 1878.

(Signed) A. McC. WEBSTER,
Collector.

CHINGLEPUT DISTRICT.

Sorghum Culture on the Sydapet Experimental Farm.

FROM the season of 1875, we have complete records, and they are on the whole notices of most satisfactory results; the following table gives the chief particulars of each crop grown in a clear and succinct manner:—

Description of Crop.	Number of Field.	Area of Plot.	Sowing.		Details of Harvesting.					Duration of Growth.	Rainfall.	
			Date.	Amount of Seed.	Date.	Yield.					Inches.	Wet Days.
						Grain.	Straw.	Grain per Acre.	Straw per Acre.			
		ACRES.		POUNDS.		POUNDS.	POUNDS.	POUNDS.	POUNDS.			
1. Sorghum Saccharatum ...	21-I	1·3	7th October 1875 ...	14	20th January 1876...	1,468	11,648	1,128	8,960	105	29·20	29
2. Planters' Friend ...	21-II	·75	16th do. ,, ...	10	3rd February ,, ...	992	5,940	1,322	7,920	111	21·59	26
3. Sorghum saccharatum ...	4	1·75	17th do. 1876 ...	14	24th January 1877 ...	1,613	8,948	923	5,113	100	4·89	18
4. Planters' Friend ...	24	1·43	18th do. ,, ...	40	3rd do. ,, ...	650	5,600	454	3,911	106	4·35	13
5. Sorghum Saccharatum ...	10-I	1·09	11th September 1877.	10	16th December ,, ...	...	17,925	...	16,444	91	31·93	33
6. Do. do. ...	10-II	·74	20th November ,,	8	16th February 1878...	304	6,750	410	9,654	89	3·46	7
7. Do. do. ...	14	3·47	21st do. ,,	45	21st do. ,,	460	23,893	132	6,883	93	2·46	7
8. Planters' Friend ...	13	2·73	28th September ,,	60	11th January ,, ...	304	32,437	111	11,878	106	39·65	32
9. Do. do. ...	15-A	4·08	13th November ,,	105	8th March ,, ...	554	13,194	135	3,211	117	13·96	13
10. Do. do. ...	15-B	3·69	22nd do. ,,	70	15th do. ,, ...	715	21,383	194	5,795	113	3·45	7

1327
2

2. Nos. 1 and 2 were both grown in the same field, but in different parts of it and on soils of different quality, that of the former being much richer than that of the latter; reference is made to the Sorghum crop No. 2 in the annual report for 1875-76 as follows:—

"However, it is not for the production of grain that I recommend Chinese sugar-cane to the notice of farmers in this country, we allowed the crop to produce grain, simply because in flower, in order to secure the fodder in the best condition, only a few plants being allowed to produce seed in view to reproducing the crop.

"The Chinese sugar-cane will yield two or three successive cuttings of fodder under good cultivation when periodically watered, but it does not throw out so many fresh stems as do the oldhums of this country after each cutting."

And further on, the Planters' Friend crop is also noticed, thus:—

"Like the Chinese sugar-cane the Planters' Friend is a fodder-producer, and therefore to obtain from it the largest quantity of nutritious fodder, it should be cut down when in flower. In the experiment under notice the object was to obtain seed for distribution."

3. Nos. 4 and 5 are perhaps the most remarkable crops mentioned in the table, for they were grown without the aid of any sort of irrigation water during the season of 1876 when all the country was parched and scorched. I quote here from my last annual report with reference to these crops as follows:—

"These results show in a great measure what may be done even on light soils like that of this farm to produce crops with even as light a rainfall as there was during the past year. The results may be attributed to the depth of cultivation, the value of which in a droughty season has already been dwelt upon, and to the manuring, which all the fields received. In order to understand and appreciate the results shown in the statement, some remarks regarding each crop are given here.

"The sorghum crop was grown on a piece of light sandy loam which had lain fallow during the previous year and was heavily manured with box manure; the crop was also top-dressed with saltpetre, and to the thoroughly cultivated and high manurial state of the land the result obtained may be attributed. It will be seen that the seed sown was a little as could possibly be the result would have been had it [illegible] probable that had the crop been slightly thicker on the ground extremely well cultivated; it only received as manure a top-dressing of saltpetre.

The crop of Planters' Friend was grown on a light soil of average quality which had been land in every case being a sandy loam in several recently levelled, and therefore not in good conditions. No. 5 was cut green because it was attacked with rust, owing, I believe, to the unpropitious character of the season in October last when we experienced a long drought followed by a deluge of rain.

5. No. 8 was a field set aside for top-dressing experiments with various manures; a sort of the results of which I give here:—

Manure per Acre.			Yield per Plot.				Yield per Acre.				Increase or Decrease per Acre.				Value of Crop per Acre.		Percentage of loss on drying Straw for 17 days.
			A.		B.		A.		B.		A.		B.				
Weight.	Description.	Value.	Straw with Ears.	Grain.	Straw.	Grain.	Straw.	Grain.	Straw.	Grain.	Straw.	Grain.	Straw.	Grain.	A.	B.	
LBS.		RS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	RS. A. P.	RS. A. P.	
...	Nothing	..	1,414	10¼	506	5¾	16,968	201	6,072	69	...	...	...	...	64 9 7	23 0 0	377
180	Saltpetre	12	1,918	23½	784	9	23,016	279	9,408	108	6,048	78	3,336	39	87 14 0	35 10 10	28
90 372	Saltpetre ... ... White castor-oil cake.	12	1,524	23¾	980	8½	18,288	285	11,760	102	1,320	84	5,688	33	72 5 9	43 4 5	36
90 372	Saltpetre ... ... Bone charcoal	12	1,379	11⅞	1,092	12	16,548	141	13,104	144	— 420	— 60	7,032	75	60 12 10	49 7 0	36
60 252 252	Saltpetre ... ... Bone charcoal ... ... White castor-oil cake.	12	1,792	8	1,148	9¼	21,504	96	13,776	111	4,536	— 105	7,704	42	75 8 3	50 3 7	37
90 189	Saltpetre ... ... Common salt	12	1,729	10	1,090	9¾	20,748	120	13,080	117	3,780	— 81	7,008	48	73 15 4	48 4 5	21¼
378	Common salt	12	1,372	10½	1,008	11¼	16,464	123	12,096	135	— 504	— 78	6,024	66	59 12 9	45 11 6	29¼
744	Bone charcoal	12	1,470	12¼	1,090	11	17,640	147	13,080	132	672	— 54	7,008	63	64 10 10	48 14 0	30
372 426	Bone charcoal... ... Old oil-cake, fresh ..	12	1,295	10¾	1,456	14½	15,540	129	17,472	174	1,428	— 72	11,400	105	56 15 2	65 3 2	36¾
372 426	Bone charcoal ... ... Old oil cake decomposed	12	1,480	12¾	1,568	19½	17,760	153	18,816	126	792	— 48	12,744	57	65 5 1	67 12 4	37
744	White castor-oil cake.	12	1,634	10⅞	1,176	17	19,488	129	14,112	204	2,520	— 72	8,040	135	40 1 10	55 3 1	Nottaken
1,488	Oil seed husks	12	1,064	13¼	1,372	10¼	12,768	165	16,464	123	—4,200	— 36	10,392	54	49 2 6	59 12 9	37
...	Average value of produce of 11 Manured Plots...	...	...	...	...	...	...	...	...	...	...	...	...	...	64 3 8	51 12 3	...

6. In Nos. 9 and 10, the crop was sown in intermediate spaces with castor-oil; three lines of Planters' Friend being sown to one of the other crop; this arrangement has proved to be in a measure satisfactory, but castor-oil requires that the crop sown with it should not be so high as this one, for it shades and chokes it too much. The results given show abundantly that both crops "Sorghum" (Sorghum Saccharatum) "Planters' Friend" (Sorghum Kaffrarium) are most valuable fodder producers; the former gives a heavier yield of grain than the latter, but I may remark here that the grain of both varieties is unsaleable for use as food for man; that of the Sorghum because of the difficultly in removing the husk; that of the Planters' Friend because of a bitter taste which it possesses. The cost of producing the crops may be judged from the following figures referring to that incurred in the case of the Crops Nos. 8 and 25 respectively:—

	Number 5.		Number 8.	
	Total.	Per Acre.	Total.	Per Acre.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Cultivation before sowing	4 3 0	3 13 6	3 12 0	5 0 9
Seed	1 8 0	1 6 0	2 8 0	0 14 8
Manure (⅔rds of total)	9 5 4	8 9 0	16 0 0	5 13 3
Cultivation during growth	2 15 0	2 11 1	3 15 0	1 7 1
Harvesting	2 2 11	2 0 0	9 8 11	3 8 0
Total ...	20 2 3	18 7 7	35 11 11	16 11 9

7. The following tables show the amount and distribution of the seeds of these crops, distributed gratis by this farm, during the years referred to:—

Sorghum Saccharatum.

Districts.	1875-76.	1876-77.	1877-78.
Madras	...	70	100
Chingleput	...	5	95
Madura	...	25	30
Nellore	...	100	10
Coimbatore	35	...	10
Ganjam	...	50	40
Tanjore	10	1½	...
Salem	...	72	...
Vizagapatam	10	55	90
North Arcot	...	20	130
South Arcot	...	25	15
Bellary	...	100	5
Kistna	...	20	...
Tinnevelly	...	80	100
Malabar	...	50	...
Godavery	...	30	...
Trichinopoly	...	5	75
South Canara	...	10	40
Kurnool	...	...	55
Nilgiris	...	115	30
Travancore	...	20	10
North-West Provinces	...	10	...
Mysore	...	10	...
Bombay	...	...	20
Hyderabad	...	...	20
Unknown	...	10	20
Total ...	55	883½	895

Planters' Friend.

Districts.	1876-77.	1877-78.	Districts.	1876-77.	1877-78.
	lbs.	lbs.		lbs.	lbs.
Madras	45	65	South Canara	15	...
Chingleput	5	45	Kurnool	...	30
Madura	10	...	Travancore	35	10
Nellore	23	10	Salem	30	...
Ganjam	50	10	North Arcot	20	60
Vizagapatam	55	30	South Arcot	10	...
Tanjore	½	...	Bellary	100	...
Tinnevelly	70	100	Kistna	20	...
Malabar	50	...	Bombay	...	5
Godavery	20	...	Hyderabad	...	10
Trichinopoly	5	...	Unknown	...	10
			Total ...	563½	385

8. As a sugar crop the Sorghum has not been investigated on this farm, but there is every reason to believe that it would be a most valuable addition to the crops of the country in this respect; occupying the ground only about 100 days, it will without irrigation produce in that time about 8 or 10 tons of green Sorghum fit for crushing. From an experiment made here, with very imperfect means of extraction, I found that the crude juice showed specific gravity of 1·090 or 12° density on the Beaumé scale, which is higher than the average commonly found in America. A supply of the seed of some of the best sugar-yielding varieties has been indented for from the United States, but unless some adequate means of crushing the cane and purifying and evaporating the juice be also supplied, it will not be possible to do much in this direction.

(True Copy)
(Signed) W. R. ROBERTSON,
Superintendent, Government Farms.

From the Acting Collector of South Canara, to W. R. ROBERTSON, Esq., Superintendent of Government Farms, dated Mangalore, 23rd April 1878, No. 754.

I HAVE the honor to forward for your information copy of a letter addressed to me by Mr. E. B. Powell, reporting the result of the experimental cultivation of the Sorghum Saccharatum and the "Planters' Friend" made by him in Mangalore with a portion of the seed supplied by you in June last, and also to enclose a statement showing the outturn of other similar successful experiments which were made under the orders of Colonel R. S. Couchman by a few sepoys of the 34th Regiment C. L. I. in the Regimental garden.

2. The seed was also supplied to the taluqs, where, however, its cultivation has not from various causes been attended with success. The seed of the "Planters' Friend" did not germinate at all in many cases, while in some instances the plants of both this and the Sorghum Saccharatum are said to have been destroyed by cattle. Though the seed of the Sorghum Saccharatum sprouted up in all cases, the late sowing apparently prevented the development of the plants. The proper time for sowing on this coast seems to be at the commencement of the south-west monsoon.

3. The several experiments were made only on a limited scale and with a small quantity of seed in each case. But the results of the successful cases are sufficient to show that the climate of this coast is favorable to the cultivation of both plants, while the failure of experiments made in the taluqs appears to have arisen from want of care and proper supervision on the part of the cultivators. The experiments conducted in the sepoys' garden (where no doubt great care was bestowed) show that, as found in the case of the experimental cultivation at the Sydapet Farm in 1875, great results may with care be obtained. The maximum amount of produce from 1 tola weight of Sorghum Saccharatum being 29 lbs. and 8 oz. and from 1 tola weight of Planters' Friend 31 lbs. 8 oz. of seed, while the aggregate weight of straw yielded by the same quantity of seed (2 tolas) was no less than 638 lbs. In another case the Sorghum plants reached a height of twelve feet. A few seeds of both the Sorghum and Planters' Friend sown on poor soil in an enclosure near my office came up so well during the monsoon that I am inclined to think that the cultivation of these plants cannot but be attended with success, if conducted with at least the ordinary care bestowed on the cultivation of "Hakkal" or dry crops which is carried on in this district in waste lands bordering on the regular rice cultivation during the monsoon. There is no doubt of the partiality of cattle for the leaves and stalks of both plants,

and when their value as fodder producers becomes more fully known to the ryots there is every chance of the cultivation being esteemed.

4. I propose under these circumstances to give both the seeds a further trial on a more enlarged scale at the commencement of the approaching monsoon. Experiments will be made with some of the acclimatized seed saved from last year's crop, but I should be glad also to have a fresh supply of seed from Madras; and to enable me to make arrangements for its timely distribution, I request you will be so good as to forward to me carefully packed 50 lbs. of the seed of Sorghum Saccharatum and 30 lbs. of the "Planters' Friend" at your earliest convenience. The seed should be sent by rail to Beypore with instructions to forward it to Mangalore by the first available steamer.

5. As the failure of some of the experiments made has been attributed to want of knowledge of the subject, I shall be much obliged if you will furnish me with a simple memorandum of instructions as regards method of cultivation, soil, manure, &c., for the information of intending cultivators.

(Signed)
Deputy Collector, for Collector.

From E. B. POWELL, Esq., to the Collector of South Canara, dated Mangalore, 28th March 1878.

I HAVE the honor to state in reply to yours of the 10th ultimo the result of my experiments in the cultivation of the seed of the Sorghum Saccharatum and "Planters' Friend" received from your office in July last.

2. The amount of seed received, I regret to say, was not weighed by me, but I should think there was about a pound and a half of each kind. About half of this was distributed by me to others, and the remaining half used for my own experiments.

3. This seed was planted by me in various localities and situations, and the result was such as to warrant, in my humble opinion, its more extensive adoption in the districts subject to the south-west monsoon. In this district especially, where [illegible] of uncultivated high-land, I think the seed of the Sorghum might be grown with advantage.

4. My most successful experiment was with some of the seeds of both the "Sorghum" and "Planters' Friend" on a sloping piece of ground with a rise of 1 foot in 3 which had been [illegible] previously for the cultivation of "Dutt-seram" during the monsoon. The soil was very poor, and the previous crops raised on it could scarcely be said to have enriched it to any appreciable extent. A small quantity of stable manure was mixed with the soil and the seeds planted in rows. It was put down at the end of July and harvested in the beginning of November. I regret to say that I did not weigh the outturn, but I can state approximately what it amounted to. The plants of the Sorghum reached an average height of eleven feet and diameter of stem of two inches. The seed collected filled a box which holds about eighty pounds. The seed of the "Planters' Friend" did not produce equally good results. Many of the plants were stunted and the ears empty or only half filled with seed.

5. A portion of the seed of both kinds was put down at the end of August, and owing to the excessively dry weather that followed the monsoon, it became rather dried up, and the plants were in many cases covered with a species of black blight which was not observable in the plants put down earlier.

6. I have also grown the seed in another form which, I believe, most possessors of horses will find it advantageous to adopt. Scatter the seed widespread in a bed of fairly rich soil and cut it when it attains a height of two feet. It will be found to be a valuable substitute in the plains for the *Medicago Sativa* or Lucerne. If planted at the commencement of the monsoon, it will continue to throw out fresh shoots during the monsoon and even for some time after.

7. From my experiments I have made the following deductions which I think may be taken as fairly accurate:—

(1) That the Sorghum will grow well on this coast during the monsoon in any soil.

(2) That in proportion as the soil is poor, it will require a larger amount of manure.

(3) That being a surface grower, its roots require occasional earthing up owing to the liability of the soil to be washed away by the heavy rain more particularly when grown on a slope.

(4) That from the time it is planted to the time it is harvested, it requires little or no care beyond an occasional earthing up of the roots.

(5) That of the two kinds, the Sorghum is the hardier and better suited for this climate.

8. The plants of both kinds make very good fodder for horses and the seed is very acceptable to poultry.

MANGALORE,
23rd April 1878.

(True Copy.)
(Signed)
for Acting Collector.

MEMORANDUM showing Result of the Cultivation of "Sorghum Saccharatum" and "Planters' Friend" by a few men of the 34th Regiment in their gardens.

Company to which man belongs.	Rank and Names.	Sorghum Saccharatum. Lbs.	Sorghum Saccharatum. Oz.	Planters' Friend. Lbs.	Planters' Friend. Oz.	Pounds weight of straw. Both mixed.	Dates of Sowing.	Dates of Harvest.	Remarks.
F A A	Private. Ramasawmy	29	8	31	8	638	Between 14th and 18th July 1877.	Last fortnight of October 1877.	Each man had one tola weight only of each kind of seed given to him. Cultivated in good garden soil, fairly manured.
	Atchaiah	*12	..	25	..	500			
	Lynah	*12	12	21	8	333			
	Ten other men each had a similar quantity of seed given them, the results not being so satisfactory are given in gross.	85	12	74	8	1,700			
	Total ..	140	..	152	8	3,171			

* These plants were partly destroyed by straying cattle, which it is almost impossible to keep out of the gardens.

MANGALORE,
1st January 1878.

(Signed) R. S. COUCHMAN, Colonel,
Commandant, 34th Regt., C.L.I.

(True Copy.)
(Signed)
for Acting Collector.

THE Revd. Mr. Gundert of the German Mission, Mangalore, reported as follows on a small experiment he instituted and carried out at Mangalore with the seed of Sorghum Saccharatum and Planters' Friend:—

"I am truly sorry not to be in a position to give you such a complete statement as to the result of Sorghum [illegible] machine, and thus being unable to answer the more important questions. I omitted paying attention to such minor points as date of sowing, flowering, &c., which I might otherwise have recorded. Besides, I did not harvest the crop in one operation but little by little, according to want and circumstances. This much, however, I can say that the results have been *highly satisfactory*. There is especially one point which I want to bring to your notice, as I do not see it mentioned in your reports, viz., the fact that of each of the different seeds which you kindly sent me (Sorghum Saccharatum and Planters' Friend), I have obtained no less than three cuttings during these past 5½ months. The first grew to a height of fully 10-12 feet. After cutting these down, the plants produced a second crop 6-8 feet high. These, again, having been removed, new shoots came forth, which already have reached a height of more than two feet. It must, of course, be taken into account that this season with its prolonged rains has been an exceptionally favorable one for cultivation of this kind. The only drawback was, that the cattle after some time refused to eat the thick stems (cut in pieces of about six inches' length). With a good chaff-cutter, however, I hope to overcome this difficulty."

MANGALORE,
17th November 1877

SUBMITTED for the information of Government with the suggestion that the papers should be laid on the Editors' table in view to their attracting the attention of Coffee Planters who desire fodder for cattle.

2. The results obtained in South Canara are markedly satisfactory and the Collector's requests should be complied with. His report of further experiments will be looked for with interest.

3. It is to be regretted that the ryots should have neglected the cultivation, for all the cattle of the West Coast where the *Sorghum Saccharatum* seems to grow best stand specially in need of fodder. Renewed efforts should be made to induce them to cultivate it.

(True Copies and Extract.)

(Signed) C. A. GALTON,
Acting Secretary.

REVENUE DEPARTMENT, 17TH AUGUST 1878, No. 1,327.

No. 233.

ORDER THEREON, 17th August 1878, No. 1,327.

Miscellaneous.

Resolution, Government of India, No. 2-122—133, dated 18th June 1877, (G.O., 13th July 1877, No. 2,300), and Secretary of State's Despatch, Revenue No. 75, dated 31st October 1877 (G.O., 20th December 1877, No. 3,424.)

ORDERED to be forwarded to the Government of India with reference to the papers noted in the margin.

(True Extract.)

(Signed) C. G. MASTER,
Secretary to Government.

To the Board of Revenue.
" the Editors' Table.

Exd. E. R. Bantleman.

1327
b

1322/7

No. 1,973.

PROCEEDINGS OF THE BOARD OF REVENUE, dated 16th July 1878.

Read the following letter from W. R ROBERTSON, Esq., M.R.A.C., Superintendent of Government Farms, to C. A. GALTON, Esq., Acting Secretary to the Board of Revenue, dated Sydapet, 29th June 1878, No. 579 :—

WITH reference to paragraph 1 of G.O., No. 3,424, of the 20th of December last, I have the honor to enclose copies of reports affording information regarding the results of further attempts in cultivating "Sorghum Saccharatum" and "Planters' Friend" in this Presidency.

2. It will be observed that in South Canara the results obtained were highly encouraging. If the saccharine juice of the Sorghum Saccharatum is as well developed in the plants produced in that district as is the case with those raised at Sydapet, the manufacture of Sorghum sugar will merit attention there. In the United States, the production and manufacture of Sorghum sugar is a very important industry.

3. The Planters' Friend and Sorghum Saccharatum appear both to have failed when tried in the neighbourhood of Ootacamund. The first of these I thought would have succeeded there, as the crop is specially recommended in Australa as one not liable to be injured by a slight frost. The Sorghum Saccharatum is more suited for culture where the temperature is higher than at Ootacamund. It ought to succeed wherever coffee succeeds, and should have been tried at a much lower elevation than that of Lovedale.

4. The grains of "Planters' Friend" and of "Sorghum" are, as stated by Mr. Benson, at present unsaleable as human food; but this may, perhaps, be attributed to prejudice as much as to the objection pointed out; probably when the people are better acquainted with these grains, they will attach less importance to these drawbacks.

5. I expect to receive some further reports on experiments made in the districts with these crops which I will submit in due course.

ENCLOSURE No. 1.

NILGIRI DISTRICT.

From the Rev. O. DENE, B.A., Principal and Secretary, Lawrence Asylum, to W. H. COMYN, Esq., Officiating Commissioner of Nilgiris, dated 17th November 1876, No. 2,134.

I BEG to acknowledge receipt of your letter, No. 180, dated the 13th instant, and, in reply, to inform you that after receiving the seeds of the "Planters' Friend" and "Sorghum Saccharatum," I planted the following crops for comparative experiments :—

12th July 1876,—Planters' Friend, S. Saccharatum, Maize, country cholum.
20th " " —Planters' Friend, S. Saccharatum, Maize.
27th " " —Brome grass (Bronus Schraederii.)

On the receipt of your letter I cut a perch each of Maize, Planters' Friend, and Sorghum Saccharatum. The two latter yielded 7 lbs. of fodder per perch, the Maize 176 lbs. I had cut a heavy crop of fodder from the brome a week previously, but did not weigh it. The crop had a marked superiority over the S. Saccharatum and Planters' Friend.

The sowing on the 12th July were on a low-lying rich loamy soil. Those on the 20th and 27th of the same month were on a terraced slope of sandy loam. The plots adjoined each other and had undergone precisely the same previous cultivation, but from the beginning the Planters' Friend and S. Saccharatum had a sickly appearance, and had been outgrown by the Maize and B. Schraederii in a very marked manner.

The country cholum was a failure. A plot of Lucerne sown early in April of this year has already been cut four times.

Cattle eat the Planters' Friend and S. Saccharatum freely; but the area sown is too small to enable me to give any importation as to its effects on milk.

Considering the results obtained, I do not consider either of the plants (Planters' Friend and S. Saccharatum) suitable for forage at this elevation.

(True Copy.)

(Signed) E. J. JOHNSON,
for Acting Commissioner.

(True Copy.)

(Signed) J. STURROCK,
Acting Sub-Secretary.

COIMBATORE DISTRICT.

Remarks on the Sorghum Saccharatum grown in the town of Coimbatore.

On the 10th February 1876, 2 lbs. of seed was sown broadcast in a plot of ground measuring 4 decimals in the Jungle Conservancy Garden at the Huzur Cutcherry, and watered once in every ten days. On the 7th June it was cut and the yield found to be 30 Madras measures of grain. The straw or stalk when dried weighed 575 lbs. The average height of the stalk was 7 feet.

On the 17th February 1876, 6 lbs. of seed was sown in the Municipal Garden in a plot of ground measuring 34 decimals. This was cut for fodder when just about to flower, *i.e.*, on the 15th April, and 2,159 lbs. of green fodder obtained.

This crop was also watered every ten days in the same quantity given to the ordinary country cholum sown in the district.

22nd April 1877.

(Signed) H. BARNETT,
Manager, C. M. C.

Sorghum Saccharatum.

Date of Sowing.	Quantity of Seed sown.	Date of Harvest.	Yield. Seed.	Yield. Straw.	Locality.
	LBS.		LBS.	LBS.	
10th Feb. 1876...	2	7th June 1876...	90	575	Huzur Cutcherry Garden.
17th do. ...	6	15th April „ ...	* Nil.	2,159	* Cut for fodder when green. Market Garden.

COIMBATORE.
22nd June 1877.

(Signed) H. BARNETT,
Manager, C. M. C.

(True Copy.)

(Signed) J. BASHIAKARLOO,
Vice-President.

No. 297.

FORWARDED to the Superintendent, Government Farms, Madras, with reference to his letter dated 21st May 1878, No. 476.

COIMBATORE.
6th June 1878.

(Signed) A. McC. WEBSTER,
Collector.

CHINGLEPUT DISTRICT.

Sorghum Culture on the Sydapet Experimental Farm.

FROM the season of 1875, we have complete records, and they are on the whole notices of most satisfactory results; the following table gives the chief particulars of each crop grown in a clear and succinct manner:—

Description of Crop.	Number of Field.	Area of Plot.	Sowed. Date.	Amount of Seed.	Seed per Acre.	Details of Harvesting. Yield. Grain.	Straw.	Grain per Acre.	Straw per Acre.	Duration of Growth.	Rainfall. Inches.	Wet Days.
		ACRE.		POUNDS.	POUNDS.	POUNDS.	POUNDS.	POUNDS.	POUNDS.			
1. Sorghum Saccharatum	21-I	1·3	7th October 1875	16	12·30	1,468	11,048	1,128	8,959	105	22·30	29
2. Planters' Friend	21-II	·75	18th do.	16	21·33	993	5,940	1,318	7,675	111	21·29	26
3. Sorghum Saccharatum	4	1·75	17th do.	16	9·14	1,615	3,948	924	5,198	100	4·89	13
4. Planters' Friend	34	1·45	13th do.	8	5·51	660	5,600	454	3,911	106	4·35	12
5. Sorghum Saccharatum	10-I	1·09	11th September 1877.	16	14·67	...	17,934	...	16,444	91	31·93	33
6. Do. do.	10-II	·74	20th November „	2	2·70	304	6,700	410	9,054	89	3·46	7
7. Do. do.	14	·847	31st do.	6	7·08	460	23,083	132	6,552	93	3·46	7
8. Planters' Friend	13	·473	23rd September „	1	2·11	304	32,937	111	11,878	196	20·65	33
9. Do. do.	15-A	·468	12th November „	1	2·13	554	18,194	185	8,211	117	13·96	13
10. Do. do.	15-B	·369	22nd do.	1	2·71	715	21,383	194	5,795	118	3·46	7

2. Nos. 1 and 2 were both grown in the same field, but in different parts of it and on soils of different quality, that of the former being much richer than that of the latter; reference is made to the Sorghum crop No. 2 in the annual report for 1875-76 as follows:—

"However, it is not for the production of grain that I recommend Chinese sugar-cane to the notice of farmers in this country, we allowed the crop to produce grain, simply because seed was required for distribution, but in general cultivation the crop should be cut down when in flower, in order to secure the fodder in the best condition, only a few plants being allowed to produce seed in view to reproducing the crop.

"The Chinese sugar-cane will yield two or three successive cuttings of fodder under good cultivation when occasionally watered, but it does not throw out so many fresh stems as do the sholums of this country after each cutting."

And further on, the Planters' Friend crop is also noticed, thus:—

"Like the Chinese sugar-cane the Planters' Friend is a fodder-producer, and therefore to obtain from it the largest quantity of nutritious fodder, it should be cut down when in flower. In the experiment under notice the object was to obtain seed for distribution."

3. Nos. 4 and 5 are perhaps the most remarkable crops mentioned in the table, for they were grown without the aid of a drop of irrigation water during the season of 1876 when all the country was parched and scorched. I quote here from my last annual report with reference to these crops as follows:—

"These results show in a great measure what may be done even on light soils like that of this farm to produce crops with even as light a rainfall as there was during the past year. The results may be attributed to the depth of cultivation, the value of which in a droughty season has already been dwelt upon, and to the manuring, which all the fields received. In order to understand and appreciate the results shown in the statement, some remarks regarding each crop are given here.

"The sorghum crop was grown on a piece of light sandy loam which had lain fallow during the previous year and was heavily manured with box manure; the crop was also top-dressed with saltpetre, and to the thoroughly cultivated and high manural state of the land the result obtained may be attributed. It will be seen that the seed sown was as little as could possibly be used with any good results, but it is probable that had the crop been slightly thicker on the ground the results would have been better."

The crop of Planters' Friend was grown on a light soil of average quality which had been extremely well cultivated; it only received as manure a top-dressing of saltpetre.

4. The remaining crops in the table have all been grown during the season just past, the land in every case being a sandy loam in several recently levelled, and therefore not in good condition. No. 5 was cut green because it was attacked with rust, owing, I believe, to the unpropitious character of the season in October last when we experienced a long drought followed by a deluge of rain.

5. No. 8 was a field set aside for top-dressing experiments with various manures; a copy of the results of which I give here:—

Manure per Acre.			Yield per Plot.				Yield per Acre.				Increase or Decrease per Acre.				Value of Crop per Acre.		Percentage of loss on drying Straw for 17 days.
			A.		B.		A.		B.		A.		B.				
Weight.	Description.	Value.	Straw with Ears.	Grain.	Straw.	Grain.	Straw.	Grain.	Straw.	Grain.	Straw.	Grain.	Straw.	Grain.	A.	B.	
Lbs. ...	Nothing	Rs. ..	Lbs. 1,414	Lbs. 16¾	Lbs. 506	Lbs. 5½	Lbs. 16,968	Lbs. 201	Lbs. 6,072	Lbs. 69	Lbs. ...	Lbs. ...	Lbs. ...	Lbs. ...	Rs. A. P. 64 9 7	Rs. A. P. 23 0 0	377
180	Saltpetre	12	1,918	23¼	784	9	23,016	279	9,408	108	6,048	78	3,336	39	87 14 0	35 10 10	28
90 372	Saltpetre ... ... White castor-oil cake.	12	1,524	23¾	980	8½	18,288	285	11,760	102	1,320	84	5,688	33	72 5 9	43 4 5	36
90 372	Saltpetre ... ... Bone charcoal	12	1,379	11¾	1,092	12	16,548	141	13,104	144	— 420	— 69	7,032	75	60 12 10	49 7 0	36
60 252 252	Saltpetre ... ... Bone charcoal ... ... White castor-oil cake.	12	1,792	8	1,148	9¼	21,504	96	13,736	111	4,536	— 105	7,664	42	75 8 3	50 3 7	37
90 189	Saltpetre ... ... Common salt	12	1,729	10	1,090	9¾	20,748	120	13,080	117	3,780	— 81	7,008	48	73 15 4	48 4 5	21¼
378	Common salt	12	1,372	10½	1,008	11¼	16,464	123	12,096	135	— 504	— 78	6,024	66	59 12 9	45 11 6	29¼
744	Bone charcoal	12	1,470	12¼	1,090	11	17,640	147	13,080	132	672	— 54	7,008	63	64 10 10	48 14 0	30
372 426	Bone charcoal... ... Old oil-cake, fresh ..	12	1,295	10¾	1,456	14½	15,540	129	17,472	174	1,428	— 72	11,400	105	56 15 2	65 3 2	36¾
372 426	Bone charcoal ... ... Old oil cakedecomposed	12	1,480	12¾	1,568	10½	17,760	153	18,816	126	792	— 48	12,744	57	65 5 1	67 12 4	37
744	White castor-oil cake.	12	1,624	10¾	1,176	17	19,488	129	14,112	204	2,520	— 72	8,040	135	40 1 10	55 3 1	Nottaken
1,488	Oil seed husks	12	1,064	13¼	1,372	10½	12,768	165	16,464	123	—4,200	— 36	10,392	54	49 2 6	59 12 9	37
...	Average value of produce of 11 Manured Plots...	...	...	...	...	...	...	...	...	...	...	...	...	...	64 3 8	51 12 3	...

6. In Nos. 9 and 10, the crop was sown in intermediate spaces with castor-oil; three lines of Planters' Friend being sown to one of the other crop; this arrangement has proved to be in a measure satisfactory, but castor-oil requires that the crop sown with it should not be so high as this one, for it shades and chokes it too much. The results given show abundantly that both crops "Sorghum" (Sorghum Saccharatum) "Planters' Friend" (Sorghum Kaffrarium) are most valuable fodder producers; the former gives a heavier yield of grain than the latter, but I may remark here that the grain of both varieties is unsaleable for use as food for man; that of the Sorghum because of the difficultly in removing the husk; that of the Planters' Friend because of a bitter taste which it possesses. The cost of producing the crops may be judged from the following figures referring to that incurred in the case of the Crops Nos. 8 and 25 respectively:—

	Number 5.				Number 8.			
	Total.		Per Acre.		Total.		Per Acre.	
	Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.	
Cultivation before sowing	4	3 0	3	13 6	3	12 0	5	0 9
Seed	1	8 0	1	6 0	2	8 0	0	14 8
Manure (⅔rds of total)	9	5 4	8	9 0	16	0 0	5	13 3
Cultivation during growth	2	15 0	2	11 1	3	15 0	1	7 1
Harvesting	2	2 11	2	0 0	9	8 11	3	8 0
Total ...	20	2 3	18	7 7	35	11 11	16	11 9

7. The following tables show the amount and distribution of the seeds of these crops, distributed gratis by this farm, during the years referred to:—

Sorghum Saccharatum.

Districts.	1875-76.	1876-77.	1877-78.
Madras	...	70	100
Chingleput	...	5	95
Madura	...	25	30
Nellore	...	100	10
Coimbatore	35	...	10
Ganjam	...	50	40
Tanjore	10	1½	...
Salem	...	72	...
Vizagapatam	10	55	90
North Arcot	...	20	130
South Arcot	...	25	15
Bellary	...	100	5
Kistna	...	20	...
Tinnevelly	...	80	100
Malabar	...	50	...
Godavery	...	30	...
Trichinopoly	...	5	75
South Canara	..	10	40
Kurnool	...	...	55
Nilgiris	...	115	30
Travancore	...	20	10
North-West Provinces	...	10	...
Mysore	...	10	...
Bombay	...	...	20
Hyderabad	...	...	20
Unknown	...	10	20
Total ...	55	883½	895

Planters' Friend.

Districts.	1876-77.	1877-78.	Districts.	1876-77.	1877-78.
	Lbs.	Lbs.		Lbs.	Lbs.
Madras	45	65	South Canara	15	..
Chingleput	5	45	Kurnool	...	30
Madura	10	...	Travancore	35	10
Nellore	23	10	Salem	30	...
Ganjam	50	10	North Arcot	20	60
Vizagapatam	55	30	South Arcot	10	...
Tanjore	½	...	Bellary	100	...
Tinnevelly	70	100	Kistna	20	...
Malabar	50	...	Bombay	...	5
Godavery	20	...	Hyderabad	...	10
Trichinopoly	5	...	Unknown	...	10
			Total ...	563½	385

8. As a sugar crop the Sorghum has not been investigated on this farm, but there is every reason to believe that it would be a most valuable addition to the crops of the country in this respect; occupying the ground only about 100 days, it will without irrigation produce in that time about 8 or 10 tons of green Sorghum fit for crushing. From an experiment made here, with very imperfect means of extraction, I found that the crude juice showed specific gravity of 1·090 or 12° density on the Beaumé scale, which is higher than the average commonly found in America. A supply of the seed of some of the best sugar-yielding varieties has been indented for from the United States, but unless some adequate means of crushing the cane and purifying and evaporating the juice be also supplied, it will not be possible to do much in this direction.

(True Copy.)

(Signed) W. R. ROBERTSON,
Superintendent, Government Farms.

From the Acting Collector of South Canara, to W. R. ROBERTSON, Esq., Superintendent of Government Farms, dated Mangalore, 23rd April 1878, No. 754.

I have the honor to forward for your information copy of a letter addressed to me by Mr. E. B. Powell, reporting the result of the experimental cultivation of the Sorghum Saccharatum and the "Planters' Friend" made by him in Mangalore with a portion of the seed supplied by you in June last, and also to enclose a statement showing the outturn of other similar successful experiments which were made under the orders of Colonel R. S. Couchman by a few sepoys of the 34th Regiment C. L. I. in the Regimental garden.

2. The seed was also supplied to the taluqs, where, however, its cultivation has not from various causes been attended with success. The seed of the "Planters' Friend" did not germinate at all in many cases, while in some instances the plants of both this and the Sorghum Saccharatum are said to have been destroyed by cattle. Though the seed of the Sorghum Saccharatum sprouted up in all cases, the late sowing apparently prevented the development of the plants. The proper time for sowing on this coast seems to be at the commencement of the south-west monsoon.

3. The several experiments were made only on a limited scale and with a small quantity of seed in each case. But the results of the successful cases are sufficient to show that the climate of this coast is favorable to the cultivation of both plants, while the failure of experiments made in the taluqs appears to have arisen from want of care and proper supervision on the part of the cultivators. The experiments conducted in the sepoys' garden (where no doubt great care was bestowed) show that, as found in the case of the experimental cultivation at the Sydapet Farm in 1875, great results may with care be obtained. The maximum amount of produce from 1 tola weight of Sorghum Saccharatum being 29 lbs. and 8 oz. and from 1 tola weight of Planters' Friend 31 lbs. 8 oz. of seed, while the aggregate weight of straw yielded by the same quantity of seed (2 tolas) was no less than 638 lbs. In another case the Sorghum plants reached a height of twelve feet. A few seeds of both the Sorghum and Planters' Friend sown on poor soil in an enclosure near my office came up so well during the monsoon that I am inclined to think that the cultivation of these plants cannot but be attended with success, if conducted with at least the ordinary care bestowed on the cultivation of "Hakkal" or dry crops which is carried on in this district in waste lands bordering on the regular rice cultivation during the monsoon. There is no doubt of the partiality of cattle for the leaves and stalks of both plants.

and when their value as fodder producers becomes more fully known to the ryots there is every chance of the cultivation being esteemed.

4. I propose under these circumstances to give both the seeds a further trial on a more enlarged scale at the commencement of the approaching monsoon. Experiments will be made with some of the acclimatized seed saved from last year's crop, but I should be glad also to have a fresh supply of seed from Madras; and to enable me to make arrangements for its timely distribution, I request you will be so good as to forward to me carefully packed 50 lbs. of the seed of Sorghum Saccharatum and 30 lbs. of the "Planters' Friend" at your earliest convenience. The seed should be sent by rail to Beypore with instructions to forward it to Mangalore by the first available steamer.

5. As the failure of some of the experiments made has been attributed to want of knowledge of the subject, I shall be much obliged if you will furnish me with a simple memorandum of instructions as regards method of cultivation, soil, manure, &c., for the information of intending cultivators.

(Signed)
Deputy Collector, for Collector.

From E. B. POWELL, Esq., to the Collector of South Canara, dated Mangalore, 28th March 1878.

I HAVE the honor to state in reply to yours of the 10th ultimo the result of my experiments in the cultivation of the seed of the Sorghum Saccharatum and "Planters' Friend" received from your office in July last.

2. The amount of seed received, I regret to say, was not weighed by me, but I should think there was about a pound and a half of each kind. About half of this was distributed by me to others, and the remaining half used for my own experiments.

3. This seed was planted by me in various localities and situations, and the result was such as to warrant, in my humble opinion, its more extensive adoption in the districts subject to the south-west monsoon. In this district especially, where there is a large area of uncultivated high-land, I think the seed of the Sorghum might be grown with advantage

4. My most successful experiment was with some of the seeds of both the "Sorghum" and "Planters' Friend" on a sloping piece of ground with a rise of 1 foot in 3, which had been used once or twice previously for the cultivation of "Indian corn" during the monsoon. The soil was very poor, and the previous crops raised on it could scarcely be said to have enriched it to any appreciable extent. A small quantity of stable manure was mixed with the soil and the seeds planted in rows. It was put down at the end of July and harvested in the beginning of November. I regret to say that I did not weigh the outturn, but I can state approximately what it amounted to. The plants of the Sorghum reached an average height of eleven feet and diameter of stem of two inches. The seed collected filled a box which holds about eighty pounds. The seed of the "Planters' Friend" did not produce equally good results. Many of the plants were stunted and the ears empty or only half filled with seed.

5. A portion of the seed of both kinds was put down at the end of August, and owing to the excessively dry weather that followed the monsoon, it became rather dried up, and the plants were in many cases covered with a species of black blight which was not observable in the plants put down earlier.

6. I have also grown the seed in another form which, I believe, most possessors of horses will find it advantageous to adopt. Scatter the seed widespread in a bed of fairly rich soil and cut it when it attains a height of two feet. It will be found to be a valuable substitute in the plains for the *Medicago Sativa* or Lucerne. If planted at the commencement of the monsoon, it will continue to throw out fresh shoots during the monsoon and even for some time after.

7. From my experiments I have made the following deductions which I think may be taken as fairly accurate:—

(1) That the Sorghum will grow well on this coast during the monsoon in any soil.

(2) That in proportion as the soil is poor, it will require a larger amount of manure.

(3) That being a surface grower, its roots require occasional earthing up owing to the liability of the soil to be washed away by the heavy rain more particularly when grown on a slope.

(4) That from the time it is planted to the time it is harvested, it requires little or no care beyond an occasional earthing up of the roots.

(5) That of the two kinds, the Sorghum is the hardier and better suited for this climate.

8. The plants of both kinds make very good fodder for horses and the seed is very acceptable to poultry.

MANGALORE,
23rd April 1878.

(True Copy.)
(Signed)
for Acting Collector.

1322/11

MEMORANDUM showing Result of the Cultivation of "Sorghum Saccharatum" and "Planters' Friend" by a few men of the 34th Regiment in their gardens.

Company to which man belongs.	Rank and Names.	Sorghum Saccharatum. Lbs.	Sorghum Saccharatum. Oz.	Planters' Friend. Lbs.	Planters' Friend. Oz.	Pounds weight of straw. Both mixed.	Dates of Sowing.	Dates of Harvest.	Remarks.
F	Private. Ramasawmy	29	8	31	8	638	Between 14th and 16th July 1877.	Last fortnight of October 1877.	Each man had one tola weight only of each kind of seed given to him. Cultivated in good garden soil, fairly manured.
A	Atchanah	*12	..	25	..	500			
A	Iynah	*12	12	21	8	333			
	Ten other men each had a similar quantity of seed given them, the results not being so satisfactory are given in gross.	85	12	74	8	1,700			
	Total ..	140	..	152	8	3,171			

* These plants were partly destroyed by straying cattle, which it is almost impossible to keep out of the gardens.

MANGALORE,
1st January 1878.

(Signed) R. S. COUCHMAN, Colonel,
Commandant, 34th Regt., C.L.I.

(True Copy.)
(Signed)
for Acting Collector.

THE Revd. Mr. Gundert of the German Mission, Mangalore, reported as follows on a small experiment he instituted and carried out at Mangalore with the seed of Sorghum Saccharatum and Planters' Friend:—

"I am truly sorry not to be in a position to give you such a complete statement as to the result of Sorghum crops as is needed for the forms you sent me. Not having a weighing machine, and thus being unable to answer the more important questions, I omitted paying attention to such minor points as date of sowing, flowering, &c., which I might otherwise have recorded. Besides, I did not harvest the crop in one operation but little by little, according to want and circumstances. This much, however, I can say that the results have been *highly satisfactory*. There is especially one point which I want to bring to your notice, as I do not see it mentioned in your reports, viz., the fact that of each of the different seeds which you kindly sent me (Sorghum Saccharatum and Planters' Friend), I have obtained no less than three cuttings during these past 5½ months. The first grew to a height of fully 10-12 feet. After cutting these down, the plants produced a second crop 6-8 feet high. These, again, having been removed, new shoots came forth, which already have reached a height of more than two feet. It must, of course, be taken into account that this season with its prolonged rains has been an exceptionally favorable one for cultivation of this kind. The only drawback was, that the cattle after some time refused to eat the thick stems (cut in pieces of about six inches' length). With a good chaff-cutter, however, I hope to overcome this difficulty."

MANGALORE,
17th November 1877

SUBMITTED for the information of Government with the suggestion that the papers should be laid on the Editors' table in view to their attracting the attention of Coffee Planters who desire fodder for cattle.

2. The results obtained in South Canara are markedly satisfactory and the Collector's requests should be complied with. His report of further experiments will be looked for with interest.

3. It is to be regretted that the ryots should have neglected the cultivation, for all the cattle of the West Coast where the *Sorghum Saccharatum* seems to grow best stand specially in need of fodder. Renewed efforts should be made to induce them to cultivate it.

(True Copies and Extract.)

Acting Secretary.

To the Secretary to Government, Revenue Department.
" Superintendent, Government Farms.
" Collector of South Canara.

Exd. W. H. French.

Revenue Deptt
No 3415

1878.

Board of Revenue, MADRAS.

PROCEEDINGS, 16TH JULY 1878, No. 1,973.

Dept. 3/8/78

Encl.

Received 6 August 1878

JULY.

No. 1,973.

Sorghum Saccharatum and Planters' Friend. — Submitting to Government letter from Superintendent of Government Farms forwarding reports regarding results of further attempts in cultivating — in the Madras Presidency; and suggesting that the papers should be laid on the Editors' table in view to their attracting the attention of Coffee Planters.

R 1927. 17 August 1878