

1906.

QUEENSLAND.

ANNUAL REPORT OF THE BUREAU OF SUGAR EXPERIMENT STATIONS.

Presented to both Houses of Parliament by Command.

TO THE HONOURABLE THE MINISTER FOR AGRICULTURE.

Brisbane, 5th January, 1906.

Sir,—I have the honour to submit the Fifth Annual Report upon the Sugar Experiment Stations, and the Administration of the Sugar Fund, as required by "The Sugar Experiment Stations Act of 1900."

I have, &c.,

WALTER MAXWELL, Director.

It has, in the first place, to be explained that the reasons why this report was not prepared and presented to Parliament before its adjournment were, first, that the experimental data were not all available previous to the Director's departure for Melbourne; and, second, that the Director was required to return to Melbourne, in connection with the Federal Sugar Bonus legislation, he not returning in time to prepare this and other reports before the sessional adjournment. An interim report was rendered to the Minister on 15th November, for the information of Parliament, containing a statement of receipts and expenditures of the past year, and an account of the present state of the Sugar Fund, which statement will be found in the latter part of this report.

The report of this year (1905) is being confined to a brief statement of the work of the laboratories, to a presentation of the results of the Sugar Experimental Station, Mackay, and of the sub-stations, located in the several sugar districts, and, finally, to the economic and financial statements. The presentation of further data resulting from soil investigations will be reserved for incorporation in a *Soil Bulletin*, concerning which it has already been stated that such a bulletin will be issued, but in connection therewith all the necessary data are not yet to hand.

FIRST ASSISTANT CHEMIST'S REPORT.

Material.	Method of Analysis.	No. of Samples Analysed.	No. of Analyses.
Soils	Agricultural Method	971	1,942
Ditto	Maxwell's Aspartic Acid Method	862	862
Ditto	Soluble Silica (Special)	108	216
Ditto	Humus (Special)	861	1,722
Ditto	Nitrogen (Special)	987	1,974
Ditto	Insoluble Residue (Special)	88	176
Ditto	Mechanical Analyses	995	995
Waters	Irrigation Waters	220	440
Manures	For Fertilisation Uses	88	176
Limes	ditto	35	70
Cane	Polarisation Tests	161	322
Sugar	ditto	5	10
Molasses	Complete Analyses	14	28
Sugar	ditto	27	54
Miscellaneous Analyses	...	181	362
		5,603	9,849

The analyses by the agricultural method comprise 11 constituents; by the aspartic acid method 3 constituents are determined. In analyses of the insoluble residues (complex silicates) 9 constituents are determined.

Credit is due to Messrs. Littlemore, McCreedy, and Foster, who have done good work.

GEORGE R. PATTEN, First Assistant Chemist.

ANALYSES OF SUGAR-CANES GROWN BY FARMERS FROM THE BUNDABERG, ISIS, GIN GIN, AND OTHER LOCALITIES.

A notice was issued to canegrowers in the localities of the Southern sugar district that the laboratories were prepared to analyse all canes sent in, providing that the samples were taken as described in the notice, and were representative of the areas or fields of cane sampled, and concerning which the growers wished to know the sugar content and commercial value. The laboratory provided itself with an excellent small three-roller hand mill, with which to express the samples of juice, and instructions were given to the First Assistant by the Director that, during the sugar season, "cane analyses were to have priority of other work."

The following table of analyses gives the names of canegrowers who sent in samples of cane, with the analyses attached:—

ANALYSES OF SUGAR-CANES GROWN BY FARMERS.

Name of Sender.	Address.	Variety of Cane.	Analysis of Juice.		
			Brix.	Sucrose.	Purity.
McReady, H.	Palmyra, Mackay...	...	Per Cent. 20·85	Per Cent. 15·40	Per Cent. 74·04
Rowe, S.	Waterloo Plantation, Yandaran	...	...	17·15	Sugar in cane
Ditto	ditto	...	...	15·57	ditto
Buss, Chas.	Ashfield, near Bundaberg	...	14·50	8·04	59·58
Smith, A.	Kalkie, near Bundaberg	Striped Singapore	18·00	15·44	85·77
Ditto	ditto	Rappoe	18·00	15·41	85·61
Buss, Fredk.	Bonna Plantation	Rappoe (stand-over ratoons)	19·22	17·77	92·45
Ditto	ditto	Rappoe (plant-cane)	15·80	12·18	77·08
Buss, Chas.	Ashfield	Battoe	14·10	10·03	71·10
Morris, T.	Burnett Heads	Rappoe	17·65	16·45	93·20
Clark, Jas.	Kalkie	ditto	18·99	17·54	92·36
Ditto	ditto	ditto	19·01	17·87	94·00
Storrie, J.	Gooburrum	Seedling, B. 1134	20·81	18·83	90·50
Ditto	ditto	Rappoe	16·84	14·90	88·50
St. Ledger, J.	Arranmore	...	20·26	18·79	92·73
Noakes, E. J.	Springfield	Rappoe	18·96	17·22	91·36
Rowe, —	Woondooma	...	21·41	20·05	93·60
Campbell, A.	Horton	...	21·98	19·00	86·44
Taylor, —	Gin Gin	Rappoe	12·35	9·31	74·21
Ditto	ditto	ditto	17·67	12·15	69·17
Christisen, A. H.	Bulyard	...	19·71	18·81	95·45
Buss, Chas.	Ashfield	...	18·17	16·03	88·20
Ditto	ditto	...	19·17	17·65	92·05
Ditto	ditto	...	20·17	18·59	92·17
Ditto	ditto	...	20·84	19·47	93·41
Ditto	ditto	...	20·44	18·18	88·94
Poulsen, H. G.	Childers	...	17·70	15·94	90·10
Aitken, R. S.	Gooburrum	New Guinea Seedling No. 1135 (1st ratoon)	17·00	15·14	89·06
Ditto	ditto	New Guinea Seedling No. 1135 (stand-over plant-cane)	16·70	14·86	88·98

ANALYSES OF SUGAR-CANES GROWN BY FARMERS—*continued.*

Name of Sender.	Address.	Variety of Cane.	Analysis of Juice.		
			Brix.	Sucrose.	Purity.
Smith, A.	Kalkie	Rappoe	Per Cent. 15.67	Per Cent. 14.33	Per Cent. 91.44
Ditto	ditto	ditto	14.77	13.10	88.69
Ditto	ditto	ditto	15.17	13.80	90.96
Ditto	ditto	ditto	16.80	15.60	92.85
Clark, Jas.	ditto	ditto	16.29	14.93	91.65
Ditto	ditto		16.29	15.06	92.44
Ditto	ditto		15.39	14.13	91.81
Ditto	ditto		15.57	14.36	92.22
Ditto	ditto		16.99	16.23	95.52
Ditto	ditto		16.29	14.83	91.03
Buss, Chas.	Ashfield	Rappoe	12.55	9.30	74.10
Zahn, E.	Gooburrum	Plant Cane	17.90	16.81	93.90
Ditto	ditto	Rattoon	20.50	19.71	96.10
Hood, G.	ditto		17.09	15.16	88.76
Rickards, Mrs.	Burnett Heads	Rappoe	17.20	16.20	94.17
Ditto	ditto	ditto	18.70	18.00	96.25
Ditto	ditto	Battoe	16.40	14.13	86.15
Ditto	ditto	ditto	14.80	11.73	79.59
Morris, T.	ditto	Rappoe	18.70	17.66	94.40
Ditto	ditto	ditto	19.30	18.23	94.40
Toft, J.	Yandaran	White Bamboo	21.30	20.48	96.10
Aiken, Geo.	Gooburrum	Striped Singapore	15.20	13.30	87.50
Ditto	ditto	Seedling N. 1115	16.70	14.86	89.00
Larsen, Oscar	N. Kolan		16.16	13.66	84.52
Ditto	ditto		13.17	10.23	77.67
Ditto	ditto		13.07	9.80	74.98
Jappi, John	Goondoon	Rappoe	16.29	12.66	77.71
Tchorzowski	Burnett Heads	ditto	20.46	19.50	95.30
Ditto	ditto	Battoe	20.74	20.00	96.43
Buss, Chas.	Ashfield		19.91	17.33	87.04
Maguire, John	Tirroan	Rappoe	20.74	19.45	93.78

NOTE.—Some canegrowers sent in, at the Director's request, successive samples from the same fields in order to note the advance of the crop towards maturity. Farmers are hereby advised that this is a very necessary mode of ascertaining when a variety or crop is at its best. The laboratories are ready to analyse all such samples sent in successively at, say, one month intervals.

WORK OF THE EXPERIMENT STATIONS.

In the work conducted at the Central Experiment Station, Mackay, the Director is aided by Assistant Director Easterby, who has charge of the field and laboratory work, he being assisted in the analytical work by Mr. A. E. Anderssen. The Director could not speak too highly of the careful, responsible, and loyal manner in which Mr. Easterby has executed the plans and methods of the system of experimentation determined upon. In addition to the station work, Mr. Easterby has visited the more northerly sugar districts during the year, representing the Director in the inspection of the Sub-experiment Stations, and in some matters connected with manufacture at certain mills. Due to the addition of work imposed upon the Director by the absolute control of six of the central mills, he has not been able to make the annual visits of inspection to all the sugar districts, and the Assistant Director has been instructed to carry out the inspections for him. Also, due to the Director's absence in Melbourne during parts of the latter months of the year, Mr. Easterby was requested to generally formulate the data of results of the Mackay

Station for publication. Therefore, the following account of the details of the experimental work being carried on at the Central Station, Mackay, and the tables of analytical results attached, are presented as prepared by Mr. Easterby, with but few additions or alterations by the Director. Mr. Easterby has already expressed to the Director the ready and intelligent service rendered to him by Mr. Andersen, Assistant Chemist at the Mackay Station.

WORK OF THE MACKAY EXPERIMENTAL STATION.

The experimental work of the Central Station at Mackay has been continued during the past twelve months along the lines laid down in last year's and preceding reports. This includes cultivation, fertilising and irrigating experiments; the further testing of the varieties of cane, from a commercial standpoint; and experiments with subsidiary crops likely to be useful to cane farmers and others.

(A) NEW WORK WITH VARIETIES.

As foreshadowed in last year's report of the Director, ten of the best varieties growing on the station have been selected for a further series of experiments. These were planted out at the end of March of this year. Owing to deterioration, it was found necessary to reject Louisiana Tiboo Merd, and No. 4 New Guinea was substituted in its place. The following table shows the ten varieties chosen, together with their analyses and weights per acre, as plant cane harvested in 1904, and as first ratoons harvested in 1905. Owing to shortness of seed, the analysis of Settlers, as first ratoons, cannot be given, as it was cut in March and distributed amongst farmers on account of its richness.

ANALYSES AND CROP RESULTS OF THE TEN FINALLY SELECTED VARIETIES—SEASONS 1904 AND 1905.

Serial No.	Country.	No. or Name of Variety	Plant, 1904.					First Ratoons, 1905.						
			Density of Juice (Brix).	Sucrose in Juice.	Glucose in Juice.	Purity of Juice.	Yield of Cane per Acre in English Tons.	Yield of Sugar per Acre in English Tons.	Density of Juice (Brix).	Sucrose in Juice.	Glucose in Juice.	Purity of Juice.	Yield of Cane per Acre in English Tons.	Yield of Sugar per Acre in English Tons.
22	Trinidad	Trinidad S. 60	18.3	16.96	0.71	92.7	55.7	8.4	20.3	19.28	.27	94.0	56.4	9.4
28	New Guinea	No. 4	18.8	16.47	1.07	87.5	54.1	8.0	18.5	16.65	.68	90.0	50.7	7.5
32	Ditto	8A	19.8	17.74	1.20	89.6	58.9	9.7	19.7	17.99	.73	91.3	49.5	8.0
35	Ditto	15	20.8	19.71	0.55	94.7	59.8	10.8	22.0	20.86	.26	94.8	53.8	10.1
40	Ditto	24	20.5	19.60	0.27	95.6	63.5	11.1	19.8	18.50	.32	93.4	51.8	8.6
41	Ditto	24A	19.8	17.86	1.43	90.2	58.9	9.6	21.2	19.76	.37	93.2	51.3	8.9
42	Ditto	24B	18.6	16.29	1.42	87.6	60.4	8.9	20.6	19.03	.59	92.3	49.0	8.4
59	Ditto	64	19.0	16.95	1.31	89.9	56.7	8.6	18.9	16.95	.96	89.6	43.2	6.4
64	Mauritius	Bois Rouge	22.7	20.69	0.31	91.1	51.3	9.4	21.4	19.63	.15	91.7	38.1	6.5
68	Ditto	Settlers	21.7	20.88	0.84	96.2	52.3	9.8	...	...	...	...	...	...

These experiments with the ten finally selected varieties are being carried out in quadruplicate, as per the Director's scheme—that is, four plats of each variety are being grown side by side. Of these, one will be unirrigated and manured, one unirrigated and unmanured, one irrigated and manured, and one irrigated and unmanured. In every other respect the treatment of each plat will be exactly the same. The land selected is as uniform as it was possible to get it, and received four deep cross-ploughings and one subsoiling to twenty inches, and was in a splendid tilth when planting took place. These four experiments, showing what the ten best varieties will do in competition against one another, are expected to be of great value from an economic standpoint.

Adverse weather set in immediately after the planting, rain falling every day in April, and this, together with cooler weather, undoubtedly checked the growth of the cane for a time. Varieties N.G. 24, N.G. 24A, N.G. 24B, N.G. 4, Mauritius Bois Rouge, N.G. 15, and N.G. 64 came up vigorously, and are maintaining the lead. N.G. 8A, Trinidad S. 60, and Mauritius Settlers were backward, and a comparatively large number of plants failed to appear. Fall planting and ratooning, it is indicated, are unsuitable for these varieties, as cane from 8A and Settlers cut for plants about the same time have proved almost a total failure as ratoons. Moreover, the experience with 8A has been borne out in another part of the district of Mackay.

It was stated in the 1902-3 report that "a ridge running through the main experimental area is covered with the same earth chemically, but to a depth of only some 8 or 9 inches of true soil." In order that this ridge should not prove a disturbing factor in the current experiments, none of the above varieties have been planted on it, but ten plats of N.G. No. 40 have been laid out thereon, five fertilised and five unfertilised, these being a fertilisers experiment in themselves. These plats are looking very promising, and are intended to be the subject of further experimentation on other lines, according to the Director's scheme.

(b) EXPERIMENTS IN DIFFERENT METHODS OF PLANTING.

(To determine, in Queensland conditions, the distance between the rows and between the plants in the rows most favourable to weight and quality of crop.)

A piece of land on which cane has not been grown for some time has been broken up, four times cross-ploughed, and once sub-soiled. This has been set aside for a series of planting tests. These comprise ten plats, and include experiments in planting in rows of different widths and distances between plants. The plan of the trials is set out in the following table. The results will be to hand next year:—

Date of Planting.	No. of Plat.	Variety used.	Width between the Rows.	Width between the Plants in the Row. (Three eyes to each plant.)
3 April 1905.	1	N.G. 24A ...	4 feet	6 inches
3 "	2	Ditto	5 "	6 "
3 "	3	Ditto	6 "	6 "
3 "	4	Ditto	7 "	6 "
7 "	5	N.G. 40	5 "	Continuous cane
7 "	6	Ditto	5 "	6 inches
7 "	7	Ditto	5 "	12 "
7 "	8	Ditto	5 "	18 "
7 "	9	Ditto	5 "	24 "
7 "	10	Ditto	5 "	36 "

CONTINUATION OF EXPERIMENTS WITH VARIETIES OF CANE FROM DIFFERENT COUNTRIES.

The history of the cane varieties now growing at the Mackay Station was given in last year's report, and up to the taking off of the plant crop in 1904. The first ratoons of this crop have been the subject of further experimentation. A portion of these were irrigated, but, owing to the large rainfall the crop received—viz., 88 inches—the few inches of irrigation water added made no essential difference in the results, the superior cultivation given to the non-irrigated portion fully compensating for any advantage derived from irrigation.

During the latter course of the growth of the ratoon varieties, four monthly preliminary analyses were made by Mr. Anderssen, the Assistant Chemist, at Mackay, with the view of following their progress towards maturity. The following tables set forth the results of these preliminary examinations:—

FIRST PRELIMINARY EXAMINATION OF FIRST RATOON CROP OF THE VARIETIES, JUNE, 1905.

Serial No.	Country.	No. or Name of Variety.	Date of Analysis.	Age of Cane.	Density of Juice (brx.)	Sucrose in Juice.	Glucose in Juice.	Purity of Juice.
1	New Guinea	Mavoe	12-6-05	8 months ...	13.8	9.55	2.50	69.2
2	Ditto	Chenoma	12-6-05	ditto ...	18.4	14.91	1.36	81.0
3	Ditto	Oiva	12-6-05	ditto ...	10.3	5.53	3.47	53.7
4	Ditto	Batoo	12-6-05	ditto ...	12.1	8.32	2.23	68.7
5	Ditto	Kikarea	12-6-05	ditto ...	13.3	9.39	2.45	70.6
6	Ditto	Mabuan	12-6-05	ditto ...	12.8	8.26	3.05	64.5
7	Ditto	Mave	13-6-05	ditto ...	15.5	11.94	2.40	77.0
8	Ditto	Moo Moo	13-6-05	ditto ...	11.6	7.52	2.84	64.8
9	Ditto	Oraya	13-6-05	ditto ...	12.4	7.95	3.05	64.1
10	Queensland	Meerah	13-6-05	ditto ...	16.8	14.65	.88	87.2
11	New Guinea	Iduari	13-6-05	ditto ...	13.4	8.82	2.98	65.8
12	Ditto	Akewa	13-6-05	ditto ...	13.9	9.53	2.91	68.5
13	Ditto	Oiboku	13-6-05	ditto ...	9.6	4.41	3.57	45.8
14	Queensland	White Bamboo	13-6-05	ditto ...	14.4	10.45	2.36	72.5
15	Ditto	Striped Singapore	16-6-05	ditto ...	15.5	12.13	1.56	78.2

FIRST PRELIMINARY EXAMINATION OF FIRST RATOON CROP OF THE VARIETIES, JUNE, 1905—
continued.

Serial No.	Country.	No. or Name of Variety.	Date of Analysis.	Age of Cane.	Density of Juice (Brix.)	Sucrose in Juice.	Glucose in Juice.	Purity of Juice.
16	Queensland	Rose Bamboo	16-6-05	8 months ...	14.6	12.42	1.13	85.0
18	Louisiana	Louisiana Striped	16-6-05	ditto ...	10.6	7.05	2.60	66.5
19	Ditto	Louisiana Tiboo Merd	16-6-05	ditto ...	13.7	11.04	1.42	80.6
20	Demerara	Demerara 74	16-6-05	ditto ...	14.1	10.55	1.47	74.8
21	Ditto	Demerara 95	16-6-05	ditto ...	16.6	13.24	1.86	79.7
22	Trinidad	Trinidad S. 60	19-6-05	ditto ...	16.6	13.77	1.49	82.9
23	Ditto	Trinidad S. 83	19-6-05	ditto ...	9.7	6.23	1.95	64.2
24	Ditto	Trinidad S. 202	19-6-05	ditto ...	13.5	10.65	1.47	78.9
26	South Africa	Yuban	19-6-05	ditto ...	12.6	8.10	2.40	64.3
27	New Guinea	No. 3	19-6-05	ditto ...	16.7	13.51	1.86	80.9
28	Ditto	4	19-6-05	ditto ...	15.1	11.67	1.95	77.3
29	Ditto	5	22-6-05	ditto ...	19.5	17.98	.26	92.2
30	Ditto	6B	22-6-05	ditto ...	17.8	15.31	1.20	86.0
31	Ditto	7	20-6-05	ditto ...	16.3	11.78	1.62	78.4
32	Ditto	8A	20-6-05	ditto ...	19.2	16.64	1.30	86.6
33	Ditto	11	22-6-05	ditto ...	15.5	9.00	4.17	58.0
34	Ditto	14A	22-6-05	ditto ...	16.6	12.67	2.40	76.3
35	Ditto	15	20-6-05	ditto ...	18.7	16.82	.74	89.9
36	Ditto	17	22-6-05	ditto ...	14.7	10.66	2.36	72.5
37	Ditto	18	23-6-05	ditto ...	16.0	12.35	2.23	77.2
38	Ditto	19	23-6-05	ditto ...	18.0	13.98	2.45	77.6
39	Ditto	22	20-6-05	ditto ...	19.0	16.90	.67	89.0
40	Ditto	24	27-6-05	ditto ...	18.7	16.78	.61	89.7
41	Ditto	24A	20-6-05	ditto ...	17.9	15.48	.93	86.5
42	Ditto	24B	20-6-05	ditto ...	16.5	12.64	1.84	76.6
43	Ditto	26	21-6-05	ditto ...	14.9	11.48	1.98	77.0
44	Ditto	32	23-6-05	ditto ...	17.9	15.21	1.29	84.9
45	Ditto	35	23-6-05	ditto ...	19.0	16.42	1.25	86.4
46	Ditto	37	21-6-05	ditto ...	15.7	11.48	2.08	73.1
47	Ditto	38	21-6-05	ditto ...	16.9	13.64	1.84	80.1
48	Ditto	39	23-6-05	ditto ...	19.3	16.79	1.22	87.0
49	Ditto	40	21-6-05	ditto ...	15.4	12.26	1.74	79.6
50	Ditto	41	23-6-05	ditto ...	16.1	13.12	1.60	81.4
51	Ditto	47	23-6-05	ditto ...	15.6	11.64	2.36	74.6
52	Ditto	48	26-6-05	ditto ...	16.2	12.48	2.40	77.0
53	Ditto	49	26-6-05	ditto ...	16.0	12.08	2.36	75.5
54	Ditto	52	26-6-05	ditto ...	16.5	13.34	1.60	80.8
55	Ditto	54	26-6-05	ditto ...	18.0	15.39	1.49	85.5
56	Ditto	55	21-6-05	ditto ...	15.4	11.32	2.50	73.5
57	Ditto	56	26-6-05	ditto ...	15.6	11.34	2.72	72.7
58	Ditto	60	26-6-05	ditto ...	16.8	12.77	2.40	76.0
59	Ditto	64	21-6-05	ditto ...	14.5	10.53	2.50	72.6

FIRST PRELIMINARY EXAMINATION OF FIRST RATOON CROP OF THE VARIETIES, 1905—
continued.

Serial No.	Country.	No. or Name of Variety.	Date of Analysis.	Age of Cane.	Density of Juice (Brix.)	Sucrose in Juice.	Glucose in Juice.	Purity of Juice.
60	New Guinea	No. 65	26-6-05	8 months ...	18.2	15.56	1.21	85.5
61	Ditto	66	22-6-05	ditto ...	17.1	12.08	2.84	70.6
62	Mauritius	Borneo	27-6-05	ditto ...	16.5	13.53	1.37	82.0
63	Ditto	Galogo C.	27-6-05	ditto ...	18.2	16.09	1.02	88.4
64	Ditto	Bois Rouge	27-6-05	ditto ...	19.0	17.03	.88	89.6
65	Ditto	Bamboo Rouge	27-6-05	ditto ...	19.6	18.24	.24	93.0
66	Ditto	Louzier Rouge	27-6-05	ditto ...	19.7	17.71	.64	89.9
67	Ditto	Tamarin	27-6-05	ditto ...	19.9	18.50	.34	92.9

SECOND PRELIMINARY EXAMINATION OF FIRST RATOON CROP OF THE VARIETIES, JULY, 1905.

Serial No.	Country.	No. or Name of Variety.	Date of Analysis.	Age of Cane.	Density of Juice (Brix.)	Sucrose in Juice.	Glucose in Juice.	Purity of Juice.
1	New Guinea	Maveo	12-7-05	9 months ...	15.4	11.08	2.35	71.5
2	Ditto	Chenoma	12-7-05	ditto ...	17.9	15.69	.91	87.6
3	Ditto	Oiva	12-7-05	ditto ...	10.6	5.93	2.99	55.9
4	Ditto	Batoe	12-7-05	ditto ...	10.5	6.50	2.23	61.9
5	Ditto	Kikarea	12-7-05	ditto ...	13.9	9.85	2.11	70.8
6	Ditto	Mabuan	12-7-05	ditto ...	12.2	7.74	2.45	63.4
7	Ditto	Mave	13-7-05	ditto ...	18.4	16.40	.81	89.1
8	Ditto	Moo Moo	13-7-05	ditto ...	12.8	8.77	2.11	68.5
9	Ditto	Oraya	13-7-05	ditto ...	13.4	9.10	2.45	67.9
10	Queensland	Meerah	13-7-05	ditto ...	17.3	15.13	.79	87.4
11	New Guinea	Iduari	13-7-05	ditto ...	14.0	9.50	2.15	67.8
12	Ditto	Akewa	13-7-05	ditto ...	11.3	6.62	2.78	58.5
13	Ditto	Oiboku	13-7-05	ditto ...	11.5	6.97	3.14	60.6
14	Queensland	White Bamboo	14-7-05	ditto ...	16.5	13.51	1.19	81.8
15	Ditto	Striped Singapore	14-7-05	ditto ...	17.8	16.03	.65	90.0
16	Ditto	Rose Bamboo	14-7-05	ditto ...	16.5	13.43	.76	81.4
18	Louisiana	Louisiana Striped	14-7-05	ditto ...	10.1	7.15	2.66	70.8
19	Ditto	Louisiana Tiboo Merd	14-7-05	ditto ...	11.1	8.29	1.53	74.6
20	Demerara	Demerara 74	17-7-05	ditto ...	13.8	10.66	1.10	77.2
21	Ditto	Demerara 95	17-7-05	ditto ...	16.0	13.80	1.02	86.2
22	Trinidad	Trinidad S. 60	17-7-05	ditto ...	17.1	15.00	.90	87.7
23	Ditto	Trinidad S. 83	17-7-05	ditto ...	9.1	5.22	1.97	57.3
24	Ditto	Trinidad S. 202	17-7-05	ditto ...	14.5	11.61	1.21	80.0
26	South Africa	Yuban	17-7-05	ditto ...	15.6	11.77	1.46	75.4
27	New Guinea	No. 3	17-7-05	ditto ...	16.7	13.61	1.68	81.5
28	Ditto	4	18-7-05	ditto ...	17.0	14.36	1.02	84.4

SECOND PRELIMINARY EXAMINATION OF FIRST RATOON CROP OF THE VARIETIES, JULY,
1905—continued.

Serial No.	Country.	No. or Name of Variety.	Date of Analysis.	Age of Cane.	Density of Juice (Brix).	Sucrose in Juice.	Glucose in Juice.	Purity of Juice.
29	New Guinea	No. 5	20-7-05	9 months	19.8	18.28	.23	92.3
30	Ditto	6B	20-7-05	ditto	18.4	16.03	.93	87.1
31	Ditto	7	18-7-05	ditto	17.2	14.17	1.39	82.3
32	Ditto	8A	18-7-05	ditto	19.1	16.95	.75	88.7
33	Ditto	11	20-7-05	ditto	18.8	14.51	2.19	77.1
34	Ditto	14A	21-7-05	ditto	15.9	12.35	2.08	77.6
35	Ditto	15	18-7-05	ditto	20.0	18.67	.31	93.3
36	Ditto	17	21-7-05	ditto	16.8	14.22	1.19	84.6
37	Ditto	18	21-7-05	ditto	15.8	12.35	1.80	78.1
38	Ditto	19	21-7-05	ditto	18.2	15.10	1.75	82.9
39	Ditto	22	18-7-05	ditto	18.8	17.19	.71	91.4
40	Ditto	24	18-7-05	ditto	19.6	17.95	.48	91.5
41	Ditto	24A	19-7-05	ditto	18.3	16.19	.80	88.4
42	Ditto	24B	19-7-05	ditto	18.0	15.29	1.20	84.9
43	Ditto	26	19-7-05	ditto	16.7	14.12	1.06	84.5
44	Ditto	32	21-7-05	ditto	19.5	17.34	.90	88.9
45	Ditto	35	21-7-05	ditto	19.5	17.71	.83	90.8
46	Ditto	37	19-7-05	ditto	17.1	13.83	1.49	80.8
47	Ditto	38	19-7-05	ditto	17.4	14.41	1.44	82.8
48	Ditto	39	24-7-05	ditto	20.0	17.97	.74	89.8
49	Ditto	40	19-7-05	ditto	16.6	14.06	1.14	84.7
50	Ditto	41	24-7-05	ditto	17.5	15.67	.82	89.5
51	Ditto	47	24-7-05	ditto	17.5	14.65	1.49	83.7
52	Ditto	48	24-7-05	ditto	18.0	15.34	1.36	85.2
53	Ditto	49	24-7-05	ditto	15.6	11.86	2.23	76.0
54	Ditto	52	24-7-05	ditto	16.7	14.44	1.09	86.4
55	Ditto	54	25-7-05	ditto	17.9	15.12	1.32	84.4
56	Ditto	55	20-7-05	ditto	17.5	13.64	2.04	77.9
57	Ditto	56	25-7-05	ditto	18.0	15.71	1.08	87.2
58	Ditto	60	25-7-05	ditto	15.8	12.32	1.94	77.9
59	Ditto	64	20-7-05	ditto	16.1	12.82	1.88	79.6
60	Ditto	65	25-7-05	ditto	20.1	17.75	.79	88.3
61	Ditto	66	20-7-05	ditto	18.8	15.26	1.41	81.1
62	Mauritius	Borneo	25-7-05	ditto	16.3	13.59	.79	83.3
63	Ditto	Galogo C.	25-7-05	ditto	19.0	16.21	.71	85.3
64	Ditto	Bois Rouge	25-7-05	ditto	20.0	18.13	.35	90.0
65	Ditto	Bamboo Rouge	26-7-05	ditto	17.5	15.18	.50	86.7
66	Ditto	Louzier Rouge	26-7-05	ditto	20.6	19.20	.34	93.2
67	Ditto	Tamarin	26-7-05	ditto	19.6	18.72	.18	95.5

THIRD PRELIMINARY EXAMINATION OF FIRST RATOON CROP OF THE VARIETIES, AUGUST, 1905.

Serial No.	Country.	No. or Name of Variety.	Date of Analysis.	Age of Cane.	Percent of Juice (Brix.)	Sucrose in Juice.	Glucose in Juice.	Purity of Juice.
1	New Guinea	Mavoë	15-8-05	10 months	16.5	13.24	1.56	80.2
2	Ditto	Chenoma	15-8-05	ditto	18.6	16.48	0.61	88.6
3	Ditto	Oiva	15-8-05	ditto	13.6	9.97	1.95	73.3
4	Ditto	Batoë	15-8-05	ditto	11.9	8.08	1.86	67.9
5	Ditto	Kikarea	15-8-05	ditto	14.4	11.12	1.86	77.2
6	Ditto	Mabuan	15-8-05	ditto	14.3	10.29	2.12	71.9
7	Ditto	Mave	15-8-05	ditto	19.8	17.97	.54	90.7
8	Ditto	Moo Moo	16-8-05	ditto	11.9	7.91	2.60	66.4
9	Ditto	Oraya	16-8-05	ditto	13.7	10.11	2.23	73.8
10	Queensland	Meerah	16-8-05	ditto	18.6	17.28	.28	92.9
11	New Guinea	Iduari	16-8-05	ditto	11.3	6.78	2.08	60.0
12	Ditto	Akewa	16-8-05	ditto	14.0	10.20	2.27	72.8
13	Ditto	Oiboku	16-8-05	ditto	11.8	8.18	2.31	69.3
14	Queensland	White Bamboo	17-8-05	ditto	16.8	14.44	.83	85.9
15	Ditto	Striped Singapore	17-8-05	ditto	17.2	15.56	.69	90.4
16	Ditto	Rose Bamboo	17-8-05	ditto	16.8	15.29	.60	91.0
18	Louisiana	Louisiana Striped	17-8-05	ditto	18.8	17.94	.13	95.4
19	Ditto	Louisiana Tiboo Merd	17-8-05	ditto	13.7	11.17	1.11	81.5
20	Demerara	Demerara 74	17-8-05	ditto	13.2	10.21	1.00	77.3
21	Ditto	Demerara 95	17-8-05	ditto	18.1	16.28	.60	86.9
22	Trinidad	Trinidad S. 60	18-8-05	ditto	18.1	16.44	.47	90.8
23	Ditto	Trinidad S. 83	18-8-05	ditto	11.7	9.02	1.25	77.0
24	Ditto	Trinidad S. 202	18-8-05	ditto	17.2	16.10	.29	93.0
26	South Africa	Yuban	18-8-05	ditto	17.4	14.84	.79	85.2
27	New Guinea	No. 3	18-8-05	ditto	17.8	15.50	1.00	87.0
28	Ditto	4	18-8-05	ditto	19.3	17.95	.29	93.0
29	Ditto	5	23-8-05	ditto	20.0	18.58	.27	92.9
30	Ditto	6B	23-8-05	ditto	19.6	18.40	.34	93.8
31	Ditto	7	18-8-05	ditto	18.3	16.56	.37	90.4
32	Ditto	8A	18-8-05	ditto	20.6	18.99	.36	92.1
33	Ditto	11	23-8-05	ditto	17.8	11.04	4.17	62.0
34	Ditto	14A	23-8-05	ditto	18.7	15.79	1.47	84.4
35	Ditto	15	21-8-05	ditto	20.9	19.72	.22	94.3
36	Ditto	17	23-8-05	ditto	18.8	17.06	.55	90.7
37	Ditto	18	23-8-05	ditto	18.9	16.95	.69	89.6
38	Ditto	19	24-8-05	ditto	19.0	16.86	1.89	88.7
39	Ditto	22	21-8-05	ditto	18.8	17.19	.41	91.4
40	Ditto	24	21-8-05	ditto	20.6	19.38	.21	94.0
41	Ditto	24A	21-8-05	ditto	18.4	15.68	.93	85.2
42	Ditto	24B	21-8-05	ditto	19.2	16.98	.78	88.4
43	Ditto	26	21-8-05	ditto	17.7	15.15	.82	85.5
44	Ditto	32	24-8-05	ditto	20.0	18.79	.39	93.9
45	Ditto	35	24-8-05	ditto	21.4	19.36	.68	90.4
46	Ditto	37	22-8-05	ditto	18.8	16.87	.76	89.7
47	Ditto	38	22-8-05	ditto	19.4	17.79	.75	91.7

THIRD PRELIMINARY EXAMINATION OF FIRST RATOON CROP OF THE VARIETIES,
AUGUST, 1905—continued.

Serial No.	Country.	No. or Name of Variety.	Date of Analysis.	Age of Cane.	Density of Juice (Brix.)	Sucrose in Juice.	Glucose in Juice.	Purity of Juice.
48	New Guinea	No. 39	24-8-05	10 months	21.6	20.22	.39	93.6
49	Ditto	40	22-8-05	ditto ...	18.6	17.39	.36	93.5
50	Ditto	41	24-8-05	ditto ...	18.3	16.16	.38	88.3
51	Ditto	47	24-8-05	ditto ...	18.2	15.58	1.23	85.6
52	Ditto	48	24-8-05	ditto ...	19.7	17.50	.87	88.8
53	Ditto	49	24-8-05	ditto ...	19.4	16.99	1.14	87.5
54	Ditto	52	25-8-05	ditto ...	16.7	14.66	.64	87.7
55	Ditto	54	25-8-05	ditto ...	19.6	17.47	1.04	89.1
56	Ditto	55	22-8-05	ditto ...	15.4	11.59	1.84	75.2
57	Ditto	56	25-8-05	ditto ...	14.7	10.10	2.78	68.7
58	Ditto	60	25-8-05	ditto ...	17.3	14.97	1.21	86.5
59	Ditto	64	22-8-05	ditto ...	17.4	14.79	1.39	85.0
60	Ditto	65	25-8-05	ditto ...	22.4	20.96	.30	93.6
61	Ditto	66	23-8-05	ditto ...	21.0	18.76	.60	89.3
62	Mauritius	Borneo	25-8-05	ditto ...	18.6	17.55	.11	94.3
63	Ditto	Galago C.	25-8-05	ditto ...	21.2	19.87	.23	93.7
64	Ditto	Bois Rouge	25-8-05	ditto ...	20.5	18.83	.34	91.8
65	Ditto	Bamboo Rouge	28-8-05	ditto ...	18.9	17.17	.28	90.8
66	Ditto	Louzier Rouge	28-8-05	ditto ...	21.8	20.64	.08	94.6
67	Ditto	Tamarin	28-8-05	ditto ...	21.3	20.49	.09	96.2

FOURTH PRELIMINARY EXAMINATION OF FIRST RATOON CROP OF THE VARIETIES, SEPTEMBER, 1905.

Serial No.	Country.	No. or Name of Variety.	Date of Analysis.	Age of Cane.	Density of Juice (Brix.)	Sucrose in Juice.	Glucose in Juice.	Purity of Juice.
1	New Guinea	Mavee	14-9-05	11 months	17.4	14.73	1.14	83.7
2	Ditto	Chenoma	14-9-05	ditto ...	19.3	17.34	.60	89.8
3	Ditto	Oiva	14-9-05	ditto ...	10.1	5.54	3.12	54.8
4	Ditto	Batoe	14-9-05	ditto ...	11.4	7.38	2.05	64.7
5	Ditto	Kikarea	14-9-05	ditto ...	13.8	10.52	2.50	76.2
6	Ditto	Mabuan	14-9-05	ditto ...	16.0	12.99	1.76	81.1
7	Ditto	Mave	15-9-05	ditto ...	20.1	18.87	.28	93.8
8	Ditto	Moo Moo	15-9-05	ditto ...	12.8	9.09	2.31	71.0
9	Ditto	Oraya	15-9-05	ditto ...	15.8	12.88	1.62	81.5
10	Queensland	Meernh	15-9-05	ditto ...	19.4	18.13	.25	93.4
11	New Guinea	Iduari	15-9-05	ditto ...	16.3	13.02	1.47	79.8
12	Ditto	Akewa	15-9-04	ditto ...	16.1	12.82	1.92	79.6
13	Ditto	Oiboku	15-9-05	ditto ...	12.9	9.34	2.50	72.4
14	Queensland	White Bamboo	18-9-05	ditto ...	18.8	17.11	.51	91.0
15	Ditto	Striped Singapore	18-9-05	ditto ...	16.4	14.33	.58	87.3
16	Ditto	Rose Bamboo	19-9-05	ditto ...	19.9	18.89	.20	95.4
18	Louisiana	Louisiana Striped	19-9-05	ditto ...	18.4	17.20	.23	93.4
19	Ditto	Louisiana Tiboo Merd	19-9-05	ditto ...	11.0	8.63	1.17	78.9
20	Demerara	Demerara 74	19-9-05	ditto ...	13.0	10.51	1.16	80.8
21	Ditto	Demerara 95	19-9-05	ditto ...	18.4	16.53	.75	89.8

FOURTH PRELIMINARY EXAMINATION OF FIRST RATOON CROP OF THE VARIETIES,
SEPTEMBER, 1905—continued.

Serial No.	Country.	No. or Name of Variety.	Date of Analysis.	Age of Cane.	Density of Juice (Brix.)	Sucrose in Juice.	Glucose in Juice.	Purity of Juice.
22	Trinidad	Trinidad S. 60	19-9-05	11 months	19.2	17.70	.34	92.1
23	Ditto	Trinidad S. 83	20-9-05	ditto	10.8	7.94	1.60	73.5
24	Ditto	Trinidad S. 202	20-9-05	ditto	15.6	13.56	.74	86.9
26	South Africa	Yuban	20-9-05	ditto	18.5	15.50	1.13	81.9
27	New Guinea	No. 3	20-9-05	ditto	16.9	14.22	1.08	84.1
28	Ditto	4	20-9-05	ditto	19.5	17.34	.55	88.9
29	Ditto	5	25-9-05	ditto	21.3	20.17	.13	94.7
30	Ditto	6B	25-9-05	ditto	20.7	19.52	.28	94.3
31	Ditto	7	20-9-05	ditto	20.3	18.57	.42	91.4
32	Ditto	8A	20-9-05	ditto	21.8	20.45	.33	93.8
33	Ditto	11	25-9-05	ditto	20.6	13.65	4.19	66.2
34	Ditto	14A	25-9-05	ditto	16.5	13.85	1.53	83.9
35	Ditto	15	21-9-05	ditto	21.9	20.76	.21	94.7
36	Ditto	17	25-9-05	ditto	19.3	17.87	.51	92.6
37	Ditto	18	25-9-05	ditto	21.1	19.34	.70	91.6
38	Ditto	19	25-9-05	ditto	19.1	15.92	1.55	83.3
39	Ditto	22	21-9-05	ditto	21.3	20.22	.20	94.9
40	Ditto	24	21-9-05	ditto	18.7	16.88	.60	90.2
41	Ditto	24A	21-9-05	ditto	20.1	18.76	.34	93.3
42	Ditto	24B	21-9-05	ditto	21.3	20.07	.25	94.2
43	Ditto	26	21-9-05	ditto	17.4	15.15	.78	87.0
44	Ditto	32	25-9-05	ditto	21.7	20.41	.31	94.0
45	Ditto	35	25-9-05	ditto	22.4	21.01	.29	93.8
46	Ditto	37	22-9-05	ditto	20.6	18.57	.54	90.1
47	Ditto	38	22-9-05	ditto	20.7	19.18	.48	92.6
48	Ditto	39	25-9-05	ditto	22.0	20.74	.30	94.2
49	Ditto	40	22-9-05	ditto	18.3	16.06	.69	87.7
50	Ditto	41	25-9-05	ditto	19.6	17.90	.70	91.3
51	Ditto	47	26-9-05	ditto	19.4	17.79	.76	91.7
52	Ditto	48	26-9-05	ditto	19.8	17.70	.93	89.4
53	Ditto	49	26-9-05	ditto	19.9	18.16	.87	91.2
54	Ditto	52	26-9-05	ditto	18.1	16.09	.71	88.9
55	Ditto	54	26-9-05	ditto	21.3	19.44	.74	91.2
56	Ditto	55	22-9-05	ditto	17.7	15.21	1.25	85.9
57	Ditto	56	26-9-05	ditto	20.6	19.15	.34	92.9
58	Ditto	60	20-9-05	ditto	17.6	15.26	1.02	86.7
59	Ditto	64	22-9-05	ditto	20.3	18.24	.75	89.8
60	Ditto	65	26-9-05	ditto	22.9	21.04	.30	91.8
61	Ditto	66	22-9-05	ditto	19.9	16.69	1.14	83.8
62	Mauritius	Borneo	26-9-05	ditto	19.7	18.40	.18	93.4
63	Ditto	Galogo C.	26-9-05	ditto	21.6	18.68	.24	86.4
64	Ditto	Bois Rouge	26-9-05	ditto	21.7	20.54	.13	94.6
65	Ditto	Bamboo Rouge	26-9-05	ditto	12.6	9.17	1.04	72.7
66	Ditto	Louzier Rouge	26-9-05	ditto	22.0	19.87	.18	90.3
67	Ditto	Tamarin	26-9-05	ditto	22.4	21.60	.09	96.4

In October, the final polariscopic analyses and the fibre determinations were carried out immediately prior to the cutting of the crop. Attention was drawn last year to the early maturing of Trinidad 83, and the subsequent dying away of the cane from the top. This year, at harvest time, so great a proportion was dead that a fibre and juice analyses would only have been misleading.

Serial No. 17, country West Indies, variety Bourbon, completely died out, as did Serial No. 25, country Trinidad, variety Trinidad 205. Owing to shortness of seed, the ratoons of Mauritius Settlers had to be cut for planting, and is absent from the tables.

In last year's report, the Director states that certain of the varieties were not free from disease. These are under supervision, and none of these suspected varieties are allowed to leave the station. The following are the varieties principally affected:—Mavoe, Chenoma, Oiva, Batoe, Kikarea, Mabuan, Moo Moo, Oraya, Meerah, Iduari, Oiboku, White Bamboo, Striped Singapore, Rose Bamboo, Louisiana Striped, Louisiana Tiboo Merd, Demerara 95, Trinidad 202, New Guinea 3, and New Guinea 7. The foliage of these canes commences to rust badly in April, and gradually dies away, while the canes also rot off at the tops. These facts account for the poor analyses and light weights of most of these varieties.

FINAL ANALYSES OF FIRST RATOON CROP OF THE VARIETIES, OCTOBER, 1905.

Serial No.	Country.	No. or Name of Variety.	Date of Analysis.	Age of Cane.	Density of Juice (Brix.)	Sucrose in Juice.	Glucose in Juice.	Purity of Juice.	Fibre in Cane.	Sugar in Cane.	Date of Arrowing.
1	New Guinea	Mavoe	12-10-05	12mths.	12.5	9.62	2.10	76.9	11.53	8.51	24th May
2	Ditto	Chenoma	12-10-05	ditto	19.1	17.49	.40	91.5	12.83	15.24	
3	Ditto	Oiva	12-10-05	ditto	11.7	8.18	2.26	69.9	8.50	7.48	
4	Ditto	Batoe	12-10-05	ditto	9.3	5.73	2.21	61.6	10.25	5.14	
5	Ditto	Kikarea	12-10-05	ditto	10.8	7.25	2.55	67.1	7.88	6.67	
6	Ditto	Mabuan	12-10-05	ditto	13.9	10.36	2.17	74.5	10.28	9.29	
7	Ditto	Mave	12-10-05	ditto	20.9	19.23	.58	92.0	10.58	17.19	
8	Ditto	Moo Moo	12-10-05	ditto	10.8	7.00	2.75	61.8	7.60	6.46	
9	Ditto	Oraya	12-10-05	ditto	13.2	9.97	2.25	75.5	9.96	8.97	
10	Queensland	Meerah	12-10-05	ditto	18.2	17.04	.42	93.6	11.80	15.02	
11	New Guinea	Iduari	12-10-05	ditto	13.0	9.45	2.05	72.6	11.26	8.38	
12	Ditto	Akewa	12-10-05	ditto	13.8	10.31	2.45	74.7	9.53	9.82	
13	Ditto	Oiboku	12-10-05	ditto	11.6	7.98	2.76	68.7	7.73	7.36	2nd June
14	Queensland	White Bamboo	13-10-05	ditto	15.0	12.94	.96	86.2	13.08	11.24	
15	Ditto	Striped Singapore	13-10-05	ditto	15.9	14.03	.78	88.2	11.78	12.37	
16	Ditto	Rose Bamboo	13-10-05	ditto	17.0	14.73	.62	86.6	11.58	13.02	
18	Louisiana	Louisiana Striped	13-10-05	ditto	17.1	15.37	.71	89.8	11.16	13.65	15th May
19	Ditto	Louisiana Tiboo Merd	13-10-05	ditto	14.9	13.01	.88	87.3	9.43	11.78	30th May
20	Demerara	Demerara 74	13-10-05	ditto	13.9	11.56	.81	83.1	8.82	10.54	16th May
21	Ditto	Demerara 95	13-10-05	ditto	17.0	15.02	.82	88.3	12.73	13.10	30th May
22	Trinidad	Trinidad S. 60	13-10-05	ditto	20.5	19.28	.27	94.0	11.40	17.08	
24	Ditto	Trinidad S. 202	13-10-05	ditto	15.2	13.08	.96	86.0	9.89	11.78	1st June
26	South Africa	Yuban	13-10-05	ditto	18.7	15.88	.95	84.9	14.17	13.62	
27	New Guinea	No. 3	13-10-05	ditto	14.8	12.07	1.46	81.5	12.13	10.60	
28	Ditto	4	13-10-05	ditto	18.5	16.65	.68	90.0	10.25	11.94	
29	Ditto	5	16-10-05	ditto	22.0	20.50	.43	93.1	10.52	18.34	
30	Ditto	6B	16-10-05	ditto	21.4	20.17	.16	94.2	12.72	17.60	
31	Ditto	7	13-10-05	ditto	19.1	17.13	.49	89.6	12.35	14.92	
32	Ditto	8A	13-10-05	ditto	19.7	17.99	.73	91.3	9.26	16.32	
33	Ditto	11	16-10-05	ditto	20.6	15.79	2.98	76.6	13.86	13.60	18th May
34	Ditto	14A	16-10-05	ditto	18.2	15.98	.93	87.8	9.08	14.52	
35	Ditto	15	14-10-05	ditto	22.0	20.86	.26	94.8	10.04	18.76	
36	Ditto	17	16-10-05	ditto	19.7	17.95	.47	91.1	13.49	15.52	
37	Ditto	18	16-10-05	ditto	22.2	19.48	.56	87.7	11.50	17.23	30th May
38	Ditto	19	16-10-05	ditto	22.0	20.08	.88	91.2	10.11	18.04	
39	Ditto	22	14-10-05	ditto	21.2	19.91	.40	93.9	11.17	17.68	
40	Ditto	24	16-10-05	ditto	19.8	18.50	.32	93.4	11.22	16.42	
41	Ditto	24A	14-10-05	ditto	21.2	19.76	.37	93.2	11.67	17.45	

FINAL ANALYSES OF FIRST RATOON CROP OF THE VARIETIES, OCTOBER, 1905—continued.

Serial No.	Country.	No. or Name of Variety.	Date of Analysis.	Age of Cane.	Density of Juice (Brix).	Sucrose in Juice.	Glucose in Juice.	Purity of Juice.	Fibre in Cane.	Sugar in Cane.	Date of Arrowing.
42	New Guinea	No. 24B	14-10-05	12mths.	20.6	19.03	.59	92.3	9.83	17.15	
43	Ditto	26	14-10-05	ditto	19.0	17.25	.73	90.7	12.01	15.17	
44	Ditto	32	16-10-05	ditto	22.5	21.14	.30	93.9	11.37	18.73	
45	Ditto	35	16-10-05	ditto	22.6	21.06	.41	93.1	11.34	18.67	
46	Ditto	37	14-10-05	ditto	19.7	17.50	.97	88.8	11.61	15.46	
47	Ditto	38	16-10-05	ditto	21.0	19.33	.50	92.0	10.10	17.37	30th May
48	Ditto	39	16-10-05	ditto	22.9	21.45	.35	93.6	11.29	19.02	
49	Ditto	40	16-10-05	ditto	18.8	17.26	.55	91.8	11.06	15.35	
50	Ditto	41	16-10-05	ditto	20.8	19.42	.34	93.3	11.31	17.22	
51	Ditto	47	16-10-05	ditto	22.1	20.23	.48	91.5	13.56	17.48	
52	Ditto	48	16-10-05	ditto	21.6	19.86	.50	91.9	13.37	17.20	
53	Ditto	49	16-10-05	ditto	20.8	19.03	.74	91.4	12.99	16.55	
54	Ditto	52	16-10-05	ditto	20.8	19.03	.38	91.4	15.45	16.08	17th May
55	Ditto	54	16-10-05	ditto	19.7	18.16	.57	92.1	11.46	16.07	
56	Ditto	55	16-10-05	ditto	18.7	16.05	1.44	85.8	9.64	14.50	
57	Ditto	56	16-10-05	ditto	21.4	19.96	.43	93.2	13.03	17.35	
58	Ditto	60	16-10-05	ditto	18.3	15.95	.93	87.1	9.91	14.36	
59	Ditto	64	16-10-05	ditto	18.9	16.95	.96	89.6	11.78	14.95	30th May (very slightly)
60	Ditto	65	16-10-05	ditto	22.2	19.97	.57	89.9	11.13	17.74	
61	Ditto	66	16-10-05	ditto	19.1	16.26	.85	85.1	8.84	14.82	15th May (com- pletely)
62	Mauritius	Borneo	17-10-05	ditto	17.0	14.47	.67	85.1	11.97	12.73	17th May
63	Ditto	Galago C.	17-10-05	ditto	19.2	16.53	.81	86.0	11.56	11.61	16th May
64	Ditto	Bois Rouge	17-10-05	ditto	21.4	19.63	.15	91.7	12.20	17.23	16th May
65	Ditto	Bamboo Rouge	17-10-05	ditto	17.3	14.41	1.18	83.2	11.89	12.69	16th May
66	Ditto	Louzier Rouge	17-10-05	ditto	22.0	20.39	.14	92.6	11.03	18.14	
67	Ditto	Tianarin	17-10-05	ditto	21.9	20.79	.13	94.9	11.60	18.37	

MESSRS. Andersen and McCready, Assistant Chemists, carried out the whole of the analytical work represented in the foregoing table with great thoroughness and care. Forty running feet of cane were used for each sample, including all canes, big and small, in that space.

As soon as the analyses were completed the crop was cut, the surplus cane being sent to Meadowlands Mill. As in previous years, each plat was carefully weighed over the station weighbridge, and again at the mill weighbridge, as a check on the station weighings. The mill weights, the analytical data, and a count of the canes have been used in preparing the following table:—

FIRST RATOON CROP: RESULTS OF THE VARIETIES, 1905

Serial No.	Country.	No. or Name of Variety.	Age of Cane.	No. of Canes per Acre.	Average Weight of the Sticks in Pounds.	Weight of Cane per Acre in English Tons.	Yield of Sugar per Acre in Pounds.	Yield of Sugar per Acre in English Tons.
1	New Guinea	Mavoe	12 months	21,235	3.3	86.3	6,927	3.0
2	Ditto	Chenoma	ditto	15,590	3.4	24.0	8,215	3.6
3	Ditto	Oiva	ditto	19,602	1.5	17.4	2,255	1.0
4	Ditto	Batoo	ditto	21,054	3.1	29.4	8,395	1.6
5	Ditto	Kikarea	ditto	19,783	3.0	26.8	4,604	1.7
6	Ditto	Mabuan	ditto	17,242	2.2	17.2	3,595	1.6
7	New Guinea	Mave	ditto	26,862	4.0	48.5	18,813	8.3
8	Ditto	Moo Moo	ditto	26,680	2.8	33.9	4,915	2.1
9	Ditto	Oraya	ditto	34,308	2.8	43.7	8,791	3.9

FIRST RAFTON CROP: RESULTS OF THE VARIETIES, 1905—*continued.*

Serial No.	Country.	No. or Name of Variety.	Age of Cano.	No. of Canes per Acre.	Average Weight of the Sticks in Pounds.	Weight of Cane per Acre in English Tons.	Yield of Sugar per Acre in Pounds.	Yield of Sugar per Acre in English Tons.
10	Queensland ...	Meerah ...	12 months	24,139	2.7	29.6	9,969	4.4
11	New Guinea ...	Iduari ...	ditto ...	22,143	1.8	18.6	3,498	1.5
12	Ditto ...	Akewa ...	ditto ...	38,659	2.4	41.7	8,707	3.8
13	Ditto ...	Oiboku ...	ditto ...	24,684	2.8	31.2	5,145	2.2
14	Queensland ...	White Bamboo ...	ditto ...	15,790	2.1	15.2	3,835	1.7
15	Ditto ...	Striped Singapore ...	ditto ...	9,982	3.2	14.4	4,007	1.7
16	Ditto ...	Roso Bamboo ...	ditto ...	18,331	1.9	15.9	4,655	2.0
18	Louisiana ...	Louisiana Striped ...	ditto ...	17,242	2.6	20.3	6,224	2.7
19	Ditto ...	Louisiana Tiboo Merd ...	ditto ...	30,855	2.6	37.1	9,808	4.3
20	Demerara ...	Demerara 74 ...	ditto ...	25,591	2.3	27.0	6,384	2.8
21	Ditto ...	Demerara 95 ...	ditto ...	21,054	2.5	23.8	6,990	3.1
22	Trinidad ...	Trinidad S. 60 ...	ditto ...	32,670	3.8	55.4	21,211	9.4
23	Ditto ...	Trinidad S. 83 ...	ditto ...	...	...	13.2	...	...
24	Ditto ...	Trinidad S. 202 ...	ditto ...	19,239	3.7	32.1	8,482	3.7
26	South Africa ...	Yuban ...	ditto ...	82,945	1.8	66.8	20,388	9.1
27	New Guinea ...	No. 3 ...	ditto ...	23,858	2.9	33.1	9,047	4.0
28	Ditto ...	4 ...	ditto ...	51,246	2.2	50.7	16,988	7.5
29	Ditto ...	5 ...	ditto ...	28,072	1.6	20.3	8,374	3.7
30	Ditto ...	6A ...	ditto ...	29,524	1.5	19.8	7,845	3.5
31	Ditto ...	7 ...	ditto ...	18,150	3.9	31.6	10,581	4.7
32	Ditto ...	8A ...	ditto ...	33,572	3.3	49.5	18,120	8.0
33	Ditto ...	11 ...	ditto ...	42,108	2.6	49.6	15,116	6.7
34	Ditto ...	14A ...	ditto ...	12,584	3.9	22.2	7,230	3.2
35	Ditto ...	15 ...	ditto ...	27,043	4.4	53.8	22,642	10.1
36	Ditto ...	17 ...	ditto ...	27,104	1.1	13.8	4,803	2.1
37	Ditto ...	18 ...	ditto ...	33,396	2.1	31.9	12,344	5.6
38	Ditto ...	19 ...	ditto ...	30,973	1.9	26.8	10,868	4.8
39	Ditto ...	22 ...	ditto ...	24,865	3.7	41.2	16,349	7.2
40	Ditto ...	24 ...	ditto ...	32,670	3.5	51.8	19,073	8.5
41	Ditto ...	24A ...	ditto ...	27,043	4.2	51.3	20,087	8.9
42	Ditto ...	24B ...	ditto ...	28,495	3.8	40.0	18,831	8.4
43	Ditto ...	26 ...	ditto ...	36,844	2.5	41.7	14,193	6.3
44	Ditto ...	32 ...	ditto ...	20,812	3.0	28.6	12,035	5.3
45	Ditto ...	35 ...	ditto ...	29,040	1.8	23.6	9,903	4.4
46	Ditto ...	37 ...	ditto ...	32,307	2.3	33.7	11,693	5.2
47	Ditto ...	38 ...	ditto ...	25,047	3.6	41.2	16,039	7.1
48	Ditto ...	39 ...	ditto ...	29,524	2.4	31.7	13,529	6.0
49	Ditto ...	40 ...	ditto ...	31,944	3.1	44.9	15,441	6.8
50	Ditto ...	41 ...	ditto ...	17,424	3.7	29.3	11,316	5.0
51	Ditto ...	47 ...	ditto ...	22,748	2.4	24.4	9,588	4.2
52	Ditto ...	48 ...	ditto ...	24,200	2.0	21.9	8,445	3.7
53	Ditto ...	49 Green ...	ditto ...	20,812	2.4	22.6	8,378	3.7
54	Ditto ...	52 ...	ditto ...	48,884	1.4	31.0	11,172	4.9
55	Ditto ...	54 ...	ditto ...	33,880	2.2	34.6	12,474	5.6

FIRST RATOON CROP: RESULTS OF THE VARIETIES, 1905—continued.

Serial No.	Country.	No. or Name of Variety.	Age of Cane.	No. of Canes per Acre.	Average Weight of the Sticks in Pounds.	Weight of Cane per Acre in English Tons.	Yield of Sugar per Acre in Pounds.	Yield of Sugar per Acre in English Tons.
56	New Guinea...	No. 55	12 months	39,748	2.1	37.7	12,250	5.4
57	Ditto	56	ditto	22,748	2.1	21.8	8,474	3.7
58	Ditto	60	ditto	30,008	2.4	32.1	10,351	4.6
59	Ditto	64	ditto	23,776	4.0	43.2	14,489	6.4
60	Ditto	65	ditto	31,944	1.3	18.9	7,512	3.3
61	Ditto	66	ditto	55,539	2.0	49.7	16,502	7.3
62	Mauritius	Borneo	ditto	15,972	1.5	11.2	3,209	1.4
63	Ditto	Galogo C.	ditto	30,492	3.1	43.0	14,092	6.2
64	Ditto	Bois Rouge	ditto	27,588	3.0	38.1	14,710	6.5
65	Ditto	Bamboo Rouge	ditto	17,424	1.8	14.3	4,071	1.8
66	Ditto	Louzier Rouge	ditto	34,848	1.9	30.8	12,542	5.5
67	Ditto	Tamarin	ditto	46,464	1.7	36.2	14,930	6.6

As explained by the Director in a previous report, the yield of sugar per acre means the total sugar produced by the soil, which is the form of expression used in stating experimental results. The amount of the total sugar produced by the soil that would be obtained by a mill depends upon the modern character and crushing power of the mill.

The following table of climatics is an abstract of the meteorological conditions during the growth of the crop—namely, from the beginning of October, 1904, to the end of September, 1905.

During the latter part of July and early part of August, 1905, severe frosts were experienced at the Experiment Station—7 degrees of frost on the 31st July, 10 degrees on the 1st and 2nd August, and 4 degrees on the 3rd. Heaps or smudges of trash, grass, and tar had been previously laid around the cane in readiness, and several of these were lit and damped on the mornings in question, before sunrise. A good blanket of smoke was thus produced over the foliage, and proved most efficacious, scarcely any damage being done to the cane.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS AT THE SUGAR EXPERIMENT STATION, MACKAY.

Month.	Rainfall.	AIR TEMPERATURE.							SOIL TEMPERATURE AT 6 INCHES DEEP.			Lowest Grass Temperature.	
		Highest Maximum.	Lowest Maximum.	Average Maximum.	Highest Minimum.	Lowest Minimum.	Average Minimum.	Mean Temperature.	Highest.	Lowest.	Mean.		
1904.													
October	21.530	82	70	78.2	72	57	65.5	71.8	76	70	73.5	...	
November	0.030	92	79	82.2	74	61	66.0	74.1	78	75	76.6	...	
December	1.680	86	82	83.9	76	60	72.7	78.3	82	79	80.5	...	
1905.													
January	36.860	92	75	82.9	78	63	68.8	75.8	79	75	77	...	
February	3.680	84	78	81.0	77	66	70.9	76.4	77	73	75	...	
March	3.470	86	79	82.3	72	64	67.8	75.0	76	74	75	...	
April	11.835	84	70	78.8	73	64	68.3	73.5	76	71	73	...	
May	1.760	83	70	75.0	67	47	60.6	67.8	70	61	66	...	
June	2.075	77	63	70.3	69	40	55.6	62.9	66	60	63	30°, 16 June	
July	0.780	77	62	68.9	62	37.5	49.7	59.3	63	56	59	25°, 31 July	
August	0.550	78	64	71.3	62	37	52.7	62.0	64	56	61	22°, 1 and 2 August	
September	1.140	87	66	77.3	69	38.5	55.6	66.4	69	61	66	28°, 1 Sept.	
Total	88.390												

NOTE.—The Director has previously stated to farmers that they can take the average of the maximum and minimum air temperatures as being the soil temperature, at a depth of 6 inches, early morning, which is the lowest temperature of the soil. The above data confirm the Director's statement, which shows that if a farmer follows the morning and evening air temperatures he knows how cold his soil is, which may guide him in planting.

PROPORTIONS OF NITROGEN, DRY CANE LEAVES (TRASH), AND GREEN CANE LEAVES.

Variety.	% MOISTURE.		% NITROGEN.			
	Trash (Dry Leaves).	Green Leaves.	Trash (Dry Leaves), including Water.	Trash (Dry Leaves), Water Free.	Green Leaves (Fresh Substance), including Water.	Green Leaves (Dry Substance), Water Free.
Budila	11.60	69.80	0.3563	0.4030	0.8143	1.0407
Trinidad 60	10.80	68.00	0.4163	0.4667	0.3839	1.1997
New Guinea 4	8.80	68.00	0.4583	0.5025	0.3953	1.2356
„ 84	8.80	67.60	0.3463	0.3707	0.3603	1.1120
„ 24	9.60	64.80	0.5843	0.6468	0.4303	1.2224
„ 24A	11.40	67.40	0.3603	0.4066	0.3883	1.1911
„ 24B	10.60	69.20	0.3393	0.3795	0.3603	1.1698
„ 64	9.40	68.00	0.4933	0.5445	0.5003	1.5634
Bois Rouge	9.60	66.40	0.5493	0.6076	0.3743	1.1140

In previous reports, the Director has called attention to the loss of nitrogen that takes place when cane trash lies upon the surface of the ground and not ploughed in. As soon as the dead leaves begin to rot, the nitrogen is converted into ammonia, and escapes back into the air in its gaseous form. The data contained in the above table make this loss of nitrogen still more clear, and accentuate the advices of the Director given in previous reports and in addresses to farmers, to the effect that to get the full value from dead cane trash it must be ploughed in and covered by the soil, and the sooner the better.

DISTRIBUTION OF CANE PLANTS.

Until the varieties had been thoroughly tested, and were known to be free from disease, no canes for plants were allowed to leave the Experiment Station. This work having been accomplished with the ten best varieties set out in the first table, they were reserved for distribution to growers in September, 1904. During that month seventy-one farmers and planters resident in the Mackay, Mossman, Herbert River, and Proserpine districts received plants.

In the month of April, 1905, a much larger distribution was carried out, and, notwithstanding the very wet weather of that month, a great number of farmers from every part of the Mackay district put in an appearance and received plants. Besides Mackay, cane was forwarded to applicants in the Geraldton, Herbert River, and Mossman, in all 146 growers receiving cane. At the same time, or a little later, parcels of cane plants were sent to the Presidents of the Planters' Clubs at Halifax, Ingham, and Johnstone River, also to growers at Bundaberg, the Isis, Nambour, Mount Baupie, Nerang, and the Logan. These distributions have been highly appreciated by farmers already, and they will form a special feature of the work of the Experiment Station in the immediate future. New varieties are still being introduced, and they have to be severely tested as heretofore. Consignments of seed plants are sent to all districts excepting Mackay. The freight is paid by the Experiment Station by special instruction of the Director, who said that the farmers in outlying districts could not come for the cane plants, but the Mackay farmers could do so.

Referring to the purpose of the Director, stated in last year's report, that it was proposed to reintroduce the Rose Bamboo cane from the Sandwich Islands, it has to be said that an attempt to do this has been made, but, unfortunately, owing to the length of time that had elapsed before the canes were received, they were not in a fit condition for planting, and the consignment was destroyed.

RAISING CANE FROM SEED.

Attention is being given to this question, and attempts are being made in order to try and force the best varieties growing on the station to produce fertile seed. If this proves successful, further details will be given next year. The Director has already expressed his acknowledgements to Dr. Reid, Hambleton Plantation, for his ready and courteous aid rendered in connection with this branch of the station work.

SUBSIDIARY CROPS.

In accordance with the statement made by the Director last year, subsidiary crops likely to be useful to farmers are being gradually introduced. One acre of land has been planted with sisal hemp, and a small nursery established, whose plants may be procured.

SORGHUMS.

With reference to the distribution of sorghum seed, it is to be regretted that, owing to the wet weather in April, followed by such severely cold nights, the usual planting season was missed, and the stored sorghum seed refused to germinate in August. Fresh stocks of seed will be planted out in favourable weather, in order that seed may be available as quickly as possible for the station, and for distribution amongst farmers.

PASPALUM DILATATUM.

Owing to the large demand for this grass, fresh areas have been planted to furnish plants for distribution.

GENERAL.

Mangoes, vines, and other fruits have received the usual care and treatment during the past year, and are at present clean and free from scale. The young Indian seedling mangoes (with the exception of two which died) are coming on well. Distributions of vine cuttings and seedling mangoes have been made during the year.

The following table represents the amount of analytical work carried out at the Mackay Laboratory during the fiscal year:—

ANALYSES MADE AT MACKAY SUGAR EXPERIMENT STATION LABORATORY FROM 30TH JUNE, 1904, TO 30TH JUNE, 1905.

Materials.	Number of Samples Analysed.	Number of Analyses.
Sugar-cane for Experiment Station	292	684
Sugar-cane fibres for Experiment Station	78	106
Sugar-cane for outside growers	43	86
Burnt lime	1	2
Megasses	12	24
Syrups and juices (mill products)	7	14
Sugars	3	6
Soils Experiment Station by agricultural method	4	8
Soils Experiment Station by Maxwell's aspartic acid method	1	4
Fertilisers	4	8
	448	842

H. T. EASTERBY, Assistant Director.

SUB-STATIONS: EXPERIMENTAL WORK.

In the report of 1902-03, it was fully explained why these sub-stations were established, the object being, briefly repeated, to carry the work of the Central Station, Mackay, out into the other districts. To this end, such sub-stations were begun, the work to be carried on by a farmer selected in each locality, but under instructions from the Director of Experiment Stations.

As stated in last year's report, there were thirteen sub-stations established, but only nine of these had brought the experiments to maturity, and furnished results that could be of public value.

During the past year the number of sub-stations continuing experimental work came down to five, the others, for various reasons, having given the work up. At this place it has to be said that, while the greatest praise and acknowledgment are due to those experimenting farmers who appear determined to carry out their contract, and to carry the experiments on to the end of the period embracing the plant crop and first and second ratoon crops, the Director is of opinion that the Sugar Bureau will not be justified in using the funds in commencing further sub-stations, most of which may be given up before actual results are obtained. It has to be understood that the Sugar Bureau has provided each of the sub-stations begun, with necessary sub-soiling implements, with lime where lime was advised, and in all cases with the expensive fertilisers that analyses of the soils had indicated were required. As already stated, in nine out of the fourteen sub-stations begun the experiments are not being brought to maturity, the work having been given up, and the expenditures thrown away. The sub-stations still in operation will be supported by the Bureau until the experiments now in course are completed. After such time, the Director is of opinion that the funds at the disposal of the Sugar Bureau can be used with more certainty of results if the work upon which the expenditures are made is exclusively under the control of the Bureau. The Director, upon page 54 in last year's report, remarked upon the noteworthy results that had been achieved by those farmers who had carried on faithfully the experiments planned by the Sugar Bureau up to that date. It was said: "If these farmers have done these things, then other farmers can do them if they will follow the same advices and adopt the same methods that these farmers have done with such signal success and satisfaction. These farmers have understood that, while they are advised and instructed by the Sugar Bureau in modern scientific methods, it rests with them to put those methods into operation. The scientist cannot go into the fields and do every man's work for him. The farmer himself has to do that."

SUB-STATION, HALIFAX.

The Halifax Sub-station, conducted by Messrs. Anderssen Bros., has already furnished results from the plant and first ratoon crops. The results now to be recorded are from the second ratoon crop, and these complete the experiment which Anderssen Bros. undertook to carry out.

The weights of cane were furnished by the Victoria Mill, by courtesy of the manager, Mr. Forest:—

Crops.	Weight of Cane per Acre—Second Ratoon Crop (1905).	Total Yield per Acre—Plant Crop, 1903; First Ratoons, 1904; Second Ratoons, 1905 (Experiment Completed).
Experiment Plat	Tons. 31·2	Tons. 99·6
Farmers' Plat	16·0	58·0

VALUE AND COST OF SECOND RATOON CROP.

Crops.	Weight of Cane per Acre (English Tons).	Value of Crop per Acre (Price and Bonus).	Cost of Crop per Acre.	Profit on Crop per Acre.
Experimental Plat	Tons. 31·2	£ s. d. 31 4 0	£ s. d. 15 16 5	£ s. d. 15 7 7
Farmers' Plat	16·0	16 0 0	9 9 6	6 10 6

ANDERSSSEN BROS.

The final results of the experiment carried out at the Halifax Sub-station show that, while the yield upon what is called the farmers' plat of the plant, first ratoon, and second ratoon crops, amounted to 58 tons, the experimental crops, covering the same length of time, totalled 99·6 tons, or an increase of 41·6 tons, equal to 71·5 per cent.

The land upon which the Halifax experiment has been carried out was selected by the Halifax Farmers' Association, and was chosen as representing about the average quality of the soils of the district. The soil analyses confirmed the opinion of the Farmers' Association. It is seen that the farmers' plat produced 58 tons of cane per acre, or an average of 19·3 tons per acre per crop during the three crops. The average yield of the crops of the district, however, during the same time did not exceed 14 tons per acre, which indicates beyond a doubt that Anderssen Bros. put more care and cultivation into the farmers' plat, which was exactly alongside the experimental plat, than is the custom of the district. That was natural, and almost a necessity, and the Director of the Sugar Bureau has found that each farmer in charge of the experimental plats in each district has done the same thing, and without being conscious of it as a rule. Mr. Reid, of the Mundoo Sub-station, admits, however, that "the farmers' plat was also kept quite free of weeds," a condition which is known not to apply to the general cultivation in any district.

In the letter accompanying the statement of results, Anderssen Bros. say, "The experimental plat was cultivated, trashed, cut, and delivered by white labour this year, as in former years." The farmers' plat was worked by coloured labour. They also state, "We are not continuing the experiment, as we are ploughing out the block along with the adjoining land. . . . We have much pleasure in reporting that the experiment has again turned out well."

The Director repeats his acknowledgements to Anderssen Bros. for their loyal co-operation in completing the experiment for the benefit of the Herbert River district.

SUB-STATION, MUNDOO.

This sub-station is conducted by Mr. Ralph Reid. It consists of 2½ acres. Two acres, composing plats Nos. 1, 2, 3, 4, were ploughed, for the plant crop, to a depth of 12 inches, and subsoiled to a further depth of 6 to 7 inches, giving 18 to 19 inches of loose earth, which was cross-ploughed and worked into a perfect state of tilth. After the plant crop was taken off the ground, for the ratoon crop just harvested, was ploughed deeply and subsoiled between the rows, and a manure composed of nitrate of soda, sulphate of ammonia, and sulphate of potash was applied, at a total cost of £2 12s. per acre. No phosphoric acid was applied to this ratoon crop.

The weights of cane per plat and per acre were furnished by courtesy of Mr. Foster, manager of the Colonial Sugar Refining Company's mill, Goondi.

RESULTS OF FIRST-RATOONS CROP.

Plats and Areas.	Manures.	Weight of Cane per Half-acre.	Weight of Cane per Acre.	Total Yield per Acre of Plant Crop and First Ratoons.
No. 1—half-acre	Lime and manure	Tons. 9·414	Tons. 18·828	Tons. 43·99
„ 2 „	Manure	10·633	21·266	46·05
„ 3 „	Ditto	11·227	22·454	47·43
„ 4 „	Lime and manure	11·584	23·168	49·93
Farmers' Plat (ordinary cultivation) ... ..	...	2·253	4·506	16·67

The land upon which this experiment is being carried out was approved by the Director on account of its very special and certain fitness to illustrate the effects of deep and thorough cultivation and of special manures, which the soil analyses had shown were absolutely necessary. The results more than justify the experiment. They show that, while *ordinary cultivation without manure* in the two crops—plant and ratoons—have yielded 16.67 tons of cane per acre, the deep and subsoil cultivation, supplemented by specially selected manures, have given in the plant and first ratoon crops together a yield of no less than 47 tons per acre.

COST OF PRODUCTION PER ACRE—FIRST RATOONS.

Cultivation.	Plats 1, 2, 3, and 4.	Ordinary Plat.
	£ s. d.	£ s. d.
Ploughing and subsoiling	0 17 6	0 8 0
Relieving trash	0 8 0	0 8 0
Picking stools	0 8 0	...
Horse cultivation	0 6 0	0 7 0
Hand cultivation	0 3 0	0 8 0
Trashing	0 18 0	0 12 0
Mixing and applying manures	0 5 9	...
Harvesting, 2s. per ton	2 3 0	0 12 0
Manures	2 12 0	...
Total	8 1 3	2 15 0

VALUE AND COST OF THE FIRST RATOON CROP.

Plats and Areas.	Yield of Cane per Acre.	Value of Crop per Acre.	*Cost of Crop per Acre.	Profit of Crop per Acre.
	Tons.	£ s. d.	£ s. d.	£ s. d.
No. 1—Experiment Plat	18.828	14 2 5	8 1 3	6 1 2
„ 2 „ „	21.266	15 19 0	8 1 3	7 17 9
„ 3 „ „	22.454	16 16 10	8 1 3	8 15 7
„ 4 „ „	23.168	17 7 6	8 1 3	9 6 3
„ 5—Farmers' Plat	4.506	3 7 8	2 15 0	0 12 8

* Coloured labour was used.

RALPH REID.

It is thus shown by Mr. Reid that the 2 acres of land treated according to the instructions of the Sugar Bureau yielded a clear profit of £8 0s. 2d. per acre, while the farmers' plat, with ordinary cultivation, left 12s. 8d. per acre.

In the letter accompanying his statement of results, Mr. Reid says: "Considering everything in way of the dry time during the end of last year, combined with grasshoppers and grubs that attacked No. 1 experiment plat, I am greatly satisfied with the results. The contrast between the experiment plats and the check (farmers') plat is most extraordinary and striking, and speaks for itself. The check plat was well looked after and kept clean. The young cane planted on another 17 acres which I have deep ploughed and subsoiled is also looking remarkably well, despite the dry weather. I am sorry (owing to uncertainties about the industry looming ahead) that conditions would not warrant me manuring this year (the Director had advised Mr. Reid and others that imported manures were extremely high in price at the time), or I should certainly have done it."

The results that Mr. Reid has achieved, with his clear and practical remarks, make it unnecessary for more to be said.

SUB-STATION, SUNDOWN.

The land selected by the Farmers' Association, Geraldton, for the experiments at Sundown, is alluvial, and although it is not better than an average of the locality, yet it is decidedly better than the Mundoo soil with which Mr. Reid is experimenting. These plats furnished results of plant cane last year.

The actual yields of the first ratoon of the several plats, as stated by Mr. Hart, are as follow:—

Area.	Cultivation for Plant Crop.	Manures—Ratoon Crop.	Tons of Cane per Half-acre.	Total Yield of Plant and First Ratoon Crops per Acre.
No 1—Half-acre	Deep—subsoiled	Manure ...	9 931	Tons. 43 24
" 2 "	ditto ...	ditto ...	11 552	48 80
" 3 "	ditto ...	ditto ...	12 210	52 04
" 4 "	ditto ...	ditto ...	10 622	44 67
" 5 "	Farmers' Plat ...	Ordinary ...	5 286	31 43

The weights were furnished by courtesy of Mr. Foster, manager of the Colonial Sugar Refining Company's mill, Goondi.

COST OF PRODUCTION PER ACRE.

Cultivation.	No. 1 Plat.	No. 2 Plat.	No. 3 Plat.	No. 4 Plat.	Farmers' Plat.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Making deep furrows for trash	0 8 0	0 8 0	0 8 0	0 8 0	
Putting trash in furrows	1 0 0	1 0 0	1 0 0	1 0 0	0 14 0
Covering trash	0 6 0	0 6 0	0 6 0	0 6 0	
Subsoiling	0 10 0	0 10 0	0 10 0	0 10 0	
Applying and covering manure	0 18 0	0 18 0	0 18 0	0 18 0	
Two horse hoeings	0 5 0	0 5 0	0 5 0	0 5 0	0 6 0
Two hand weedings	1 4 0	1 4 0	1 4 0	1 4 0	1 4 0
Trashing	0 11 0	0 11 0	0 11 0	0 11 0	0 11 0
Cutting and hauling off	2 10 0	2 17 6	3 1 2	2 13 0	1 6 1
Manures	2 12 0	2 12 0	2 12 0	2 12 0	
Total	10 4 0	10 11 6	10 15 2	10 7 0	4 1 4

VALUE AND COST OF FIRST RATOON CROP.

Plats and Areas.	Weight of Cane per Acre.	Value of Crop per Acre.	*Cost of Crop per Acre.	Profit on Crop per Acre.
	Tons.	£ s. d.	£ s. d.	£ s. d.
No. 1—Experiment	12 862	14 17 11	10 4 0	4 13 11
" 2 "	23 104	17 6 7	10 11 6	6 15 1
" 3 "	24 438	18 6 7	10 15 2	7 11 5
" 4 "	21 244	15 18 8	10 7 0	5 11 8
" 5—Farmers' Plat	10 572	7 18 7	4 1 4	3 17 3

* Grown by coloured labour.

J. HART.

A first result of the experiment conducted by Mr. Hart for the Sugar Bureau, as shown by the furnished statements, is that, while by *ordinary cultivation*, without manure, Mr. Hart obtained 31 4 tons of cane from the plant and first ratoon crops, the average yield of the experimental plats, including the plant and ratoon crops, was 47 6 tons per acre, or an increase of 16 2 tons per acre, equal to 51 5 per cent.

The financial table of Mr. Hart's results shows that, while ordinary cultivation gave a profit per acre of £3 17s. 3d., the profit from the experimental plats was £6 3s. 0½d. per acre.

It is worthy of note that the average cost of cultivation, including manures, of the experimental plats by Mr. Hart is £10 9s. 5d. per acre, the corresponding cost of production by Mr. Ralph Reid, upon red land in the same district, is £8 1s. 3d., or £2 8s. 2d. per acre less. This explains the smaller profit per acre made by Mr. Hart, notwithstanding that his yield per acre was greater. Mr. Hart's results are a further striking evidence of the value of deep and thorough cultivation, supplemented by such manures as the soil requires.

SUB-STATION, WOONGARRA.

The land used by this sub-station was selected by the Woongarra Farmers' Association, it being decided that it was a fair average of the district. The plant crop of the experiment was harvested last year, the results being recorded in last year's report, page 48.

The following statement of results applies to the first ratoon crop, which was cut the last week in August, or, as Mr. Pringle says, "just forty-one weeks after burning off the trash from the plant crop." The trash was not intended to be burnt off, but a visitation of moths, which were hiding under the trash during the day and eating off the shooting ratoons in the night, forced us to destroy the trash.

WEIGHT PER ACRE OF THE FIRST RATOON CROP.

Areas.		All the Plats were Ploughed and Subsoiled after Plant Crop.	Yield per Acre.
			Tons.
(A) IRRIGATED CANE.			
No. 1		No manure	11.55
„ 2		Nitrogen and potash	19.00
„ 3		ditto	20.00
(B) NON-IRRIGATED.			
No. 4		Nitrogen and potash	14.00
„ 5		No manure	10.35
„ 6		Nitrogen and potash	17.55
		<i>Irrigated Cane.</i>	<i>Non-irrigated Cane.</i>
Manured		Tons per Acre. 19.50	Tons per Acre. 15.77
No manure		11.55	10.35

It has to be explained again that the No. 1 irrigated plat was *furrowed wet* when planting the crop. Mr. Pringle dwells upon this in his report of last year to the Director, who informed the owner of the land that the bad effect of going upon the land with the horses in the wet condition it was in would not be overcome until the land was ploughed up again. The first ratoon crop is confirming the statement to the owner.

It is noted that irrigation, with manure, gave only 3.8 tons of cane per acre more than the non-irrigated, manured land, the deep ploughing and subsoiling having given very notable results, which is still more emphasised when compared with results obtained by the owner in the same field, upon the same nature of soil, but with ordinary cultivation:—

Areas.	Cultivation.	Water Supply.	Manures.	Yield per Acre.
(1) Experiment Plats	Deep—subsoiled	Irrigated	Nitrogen-potash	Tons. 19.50
(2) „ „	ditto	ditto	None	11.55
(3) „ „	ditto	Only rainfall	Nitrogen-potash	15.77
(4) „ „	ditto	ditto	None	10.35
Owner's Block	Ordinary	Irrigated	ditto	8.50

The rainfall during the whole season of growth of the ratoon crop was as follows:—

1904.		1905.	
	Inches.		Inches.
November	0.43	January	13.67
December	6.44	February	2.62
		March	2.59
		April	8.60
		May	4.52
		June	1.30
		July	Nil
			Inches.
Total rainfall			40.17

This rainfall, although about double the amount falling annually during the severe drought years, is somewhat below the average of the district covering the past twenty years.

VALUE AND COST OF THE FIRST RATOON CROP.

Areas.	Treatment of Land.		Value per Acre.	Cost per Acre.	Profit or Loss per Acre.				
	£	s. d.	£	s. d.	£	s. d.			
(1) Experiment	Irrigation ...	Manure ...	16	8 2	13	18 8	2	7 6	Profit
(2) "	ditto ...	None ...	9	14 6	10	0 2	0	5 10	Loss
(3) "	Only rainfall	Manure ...	13	5 7	6	18 1	6	7 6	Profit
(4) "	ditto ...	None ...	8	13 4	3	6 8	5	6 8	"
Owners' Block in same field	Ordinary cultivation; irrigation	No manure	7	2 0	...	...	...	...	Loss

The cost per acre of owner's block was not kept, but a loss was made.

The Director requested Mr. Pringle, who was in charge of the experimental blocks, to keep a most exact record of all expenditures and receipts, and also to note any matters of interest or importance, and to express such to him in the form of a letter or report, in which he could include any observations or suggestions which he, as manager, saw well to make. Mr. Pringle's letter is hereby attached:—
To the Director of Experiment Stations, Sugar Bureau, Bundaberg.

SIR,—I have the honour to submit herewith a second annual report of the Woongarra experimental work.

The plant crop was cut in September of last year, but, on account of the visitation of the caterpillar pest, your first instructions concerning trash could not be completed, as it was necessary to burn it off, so that, although the labour of working the trash is charged, the benefit was lost to the crop. In several instances after the water had been applied to the irrigated plats, heavy rains fell, and, due to the poor drainage, decidedly damaged the crop.

You requested me to watch carefully, as you said that the first year there would not be much difference between the manured and unmanured plats in the point of yield of cane, but that the next year you said the difference in results would be more noticeable. This has exactly been the case. The poor results of No. 1 plat are due firstly to insufficient drainage, and, secondly, to the land being wet when planted, and bears out your words then, "That the bad effects would remain until the crop is ploughed out." In my opinion, which you suggested I was at liberty at any time to state, the experiments have proved that—

1. Irrigation will not pay on exhausted land, even with a system of intense cultivation.
2. Irrigation will pay on land only when in good heart, and this can only be reached by a rational system of manuring and cultivation, such as is being carried out in these experiments.
3. There is a good margin of profit without irrigation on land that is manured and cultivated according to your methods.
4. It is much safer to follow these methods without irrigation than to irrigate land cultivated in the usual farmer's way.
5. Before it is at all safe to irrigate on land that is not naturally drained, a good system of artificial drainage is essential.

The results are very interesting and instructive, and highly satisfactory. It is to be regretted that these experiments cannot be carried on another year, as you intended.

I am, Sir,

GEORGE PRINGLE, Manager.

It is necessary to explain that the soil of the Woongarra Sub-station is not, in more than a moderate degree, suitable for irrigation. The uniformly deep, rich, red soils, which exist in other parts of the district, would render notably higher returns from irrigation than such soil as composes the experimental plat. On the other hand there are also soils in the Woongarra district that are less adapted to irrigation than the plat soil. It has also to be mentioned again that the owner of the Woongarra experimental land rendered it impossible to apply the Hawaiian method of irrigation, which probably lowered the results.

Mr. Pringle watched and carried out the Woongarra experiments with great intelligence and care. He noted most carefully in his note-book not only all instructions, but it appears, also, any remarks or predictions that the Director made during the course of his monthly visits to the experimental sub-stations. His observations relating to the results of deep and subsoil cultivation, with and without manures, and with and without irrigation, are merely a reflex of the actual results and facts told by the experiments themselves. The Director has repeatedly said to farmers that—

First.—Without deep and thorough cultivation, irrigation would not pay.

Second.—That irrigation would very soon make a system of the most scientific manuring absolutely indispensable.

Third.—That deep, thorough, and subsoil cultivation, with moderate manuring, and without irrigation, would be safer, and more likely to pay, than ordinary bad cultivation with irrigation, and with or without manures.

Fourth.—Upon land adapted to irrigation, irrigation scientifically applied, and combined with an equally scientific system of cultivation and of manuring, will give by far the largest and best-paying results; but irrigation carried out without the special knowledge required, and upon the ordinary bad cultivation that is practised, and without manures, will certainly ruin the land and its owner.

These statements are being fully verified, and there is nothing more to do than to repeat, and to urge farmers to understand and realise that, if they propose to adopt a system of costly irrigation, they must also prepare to adopt the modern systems of deep cultivation, and also that they must be prepared to make good, by a rational system of cultivation and manuring, the waste and removal of the plant food which, at first, irrigation and larger crops cause. Bad cultivation and irrigation without manuring will soon beggar the "soil bank."

SUB-STATION, BEENLEIGH.

The work at this small sub-station has been continued by Mr. Lubach, who has furnished results of the first ratoon crop. Mr. Lubach failed to harvest and weigh separately the acre of cane grown by ordinary cultivation, and has given instead the yield of the first ratoon crop of the whole field, of which the experimental plot is a part. The greater part of the field, however, is deeper, richer alluvial land than the experimental plot, so that the comparison is against the experimental results. The results are given as follow:—

- (1) Experimental block : 42·5 tons per acre.
- (2) Farmers' block : 26 tons per acre.

The experimental block gives an increased yield of 16·5 tons per acre, or 64 per cent.

Mr. Lubach has given the greatest care and attention to the experiment, and the results have amply rewarded the experiment.

GENERAL RESULTS OF THE SCIENTIFIC AND ORDINARY SYSTEMS OF CULTIVATION, 1905.

Locality of Sub-stations.	Character of the Crop.	Results of	Results of
		Sub-station (Experiment Trials).	Ordinary Cultivation (Farmers' Blocks).
		Tons per Acre.	Tons per Acre.
Halifax	Second ratoons	31·20	16·00
Mundoo	First ratoons	21·40	4·50
Sundown	ditto	22·16	10·57
(a) Woongarra	ditto	14·30	8·50
(b) Beenleigh	ditto	42·50	26·00
	Means	26·31	13·11

It is thus shown that the modern, scientific methods of cultivation and manuring in operation at the sub-experimental stations, and which are largely the common field practice in other countries, have produced 26·31 tons per acre, as against 13·11 tons per acre yielded by the ordinary farmer's methods of cultivation. The increase is 100 per cent. The yield is just doubled. The Director stated in the report last year that the yield per acre of the State could be doubled in the same way. Even then the yield would be notably lower than that of Louisiana, Java, and Hawaii.

In commenting finally upon the results set forth in the preceding tables, it is repeated in the words of the report of last year: That these results have been achieved by the farmers in charge of the sub-stations. The Sugar Bureau instructed and laid down the lines of the experiments, but the farmers carried out the work, and reaped the results.

The results of the year of 1905 are not exceptional, they confirm more amply the results of the previous year:—

	1904.	1905.	Means.
Sub-stations results	23·9 tons	26·3 tons	25·1 tons
Ordinary cultivation results	14·7 "	13·1 "	13·9 "

The results speak for themselves. More pronounced comparative results in favour of scientific or rational methods of cane-production have not been attained in other cane-sugar countries. No words can add further to their significance. Cane-growers must decide for themselves whether they will adopt modern methods of production or not.

ECONOMIC.

ESTIMATED VALUE OF THE SUGAR CROP, 1904.

Volume of crop, 147,688 tons of 94 per cent. N.T.

	£
Value of the total sugar, upon the basis of the value of 94 per cent. N.T. ...	1,841,023
Molasses sold	904
Value of uncrushed cane	300,000
Feed value of molasses, cane, and other products	135,000
	£2,276,927

EXPORT VALUE OF THE SUGAR CROP IN RELATION TO THE NET EXPORTS OF MEATS, EXTRACTS, CATTLE, SHEEP, PIGS, CROPS, AND ALL EDIBLE PRODUCE.

	£
Meats and extracts	657,000
Cattle, sheep, pigs	914,599
Crop and other edible produce	566,594
Sugar and molasses	1,258,516
	£3,396,709

The exports of sugar, as part of the net exports of meats and extracts, live stock, crops, and all other edible products, amounted, in 1904, to 37 per cent.

PROPORTIONAL VALUE OF SUGAR EXPORTS TO THE TOTAL NET EXPORTS OF LIVE STOCK, CROPS, AND ALL OTHER EDIBLE PRODUCE.

Year 1901-2	32.0 per cent.
„ 1902-3	35.5 „
„ 1903-4	34.7 „
„ 1904-5	37.0 „

It is thus shown that, while notable and gratifying increases have taken place in the net exports of other sections of edible products, an increase has transpired in the export values of the sugar crop relative to the total net exports.

FINANCIAL.

CANE CRUSHED AND ASSESSMENTS PAYABLE THEREON, AT THE RATE OF 1D. PER TON, FOR THE YEAR 1904.

Name of Mill.	Weight. Tons.	Total.		Total.		Short Paid.		Overpaid.	
		Dr.		Cr.					
		£	s. d.	£	s. d.	£	s. d.	£	s. d.
Alberton	1,847	7	13 11	7	13 11	...	...	...	...
Annesley	2,685	11	3 9	11	3 8	0	0 1	...	...
Ashfield	9,397	39	3 1	39	3 0	0	0 1	...	...
Ashgrove	2,518	10	9 10	10	9 10	...	...	...	...
Beenleigh	2,530	10	10 10	10	10 10	...	...	...	...
Bingera	69,697	290	8 1	290	8 1	...	...	...	...
Bonna	5,166	21	10 6	21	10 6	...	...	...	...
Childers	79,256	330	4 8	330	4 6	0	0 2	...	...
Deolbi	11,559	48	3 3	48	3 3	...	...	...	...
Eagleby	1,492	6	4 4	6	4 4	...	...	...	...
Fairymead	80,760	336	10 0	336	10 0	...	...	...	...
Farleigh	17,010	70	17 6	70	17 6	...	...	...	...
Gin Gin Central	23,974	99	17 10	99	17 10	...	...	...	...
Goodwood	9,681	40	6 9	40	6 8	0	0 1	...	...
Goondi	67,837	282	13 1	282	13 2	...	0 0 1	...	...
Hambledon	80,050	333	10 10	333	10 10	...	...	...	...
Ilomebush	42,386	176	12 2	176	11 10	0	0 4	...	...
Invicta	22,677	94	9 9	94	9 9	...	...	...	...

FINANCIAL—continued.

CANE CRUSHED AND ASSESSMENTS PAYABLE THEREON, AT THE RATE OF 1D. PER TON,
FOR THE YEAR 1904—continued.

Name of Mill.	Weight.	Total.		Short Paid.	Overpaid.
		Dr.	Cr.		
	Tons.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Isis Central	40,000	166 13 4	166 13 3	0 0 1	...
Junction	1,198	4 19 10	...	4 19 10	...
Kalamia	28,908	120 9 0	120 9 0	...	...
Macnade	56,996	237 9 8	237 9 8	...	...
Marian Central	32,230	134 5 10	134 5 10	...	...
Miara	4,386	18 5 6	18 5 6	...	...
Maryborough	5,689	23 14 1	23 14 2	...	0 0 1
Meadowlands	10,706	44 12 2	44 12 2	...	...
Mossman Central	87,315	363 16 3	363 16 3	...	...
Moreton Central	23,509	97 19 1	97 19 1	...	...
Mourilyan	19,966	83 3 10	83 3 10	...	...
Mulgrave Central	61,601	256 13 5	256 13 4	0 0 1	...
Mount Bauple Central	13,840	57 13 4	57 13 3	0 0 1	...
Nerang Central	5,390	22 9 2	22 9 2	...	...
North Eton Central	26,391	109 19 3	109 19 3	...	...
Oakwood	6,132	25 11 0	25 11 0	...	...
Palms	32,724	136 7 0	136 7 0	...	...
Palmyra	3,474	14 9 6	14 9 6	...	...
Pemberton	4,395	18 6 3	18 12 11	...	0 6 8
Pioneer	66,102	275 8 6	275 8 6	...	...
Plane Creek Central	38,831	161 15 11	161 15 10	0 0 1	...
Pleystowe Central	22,823	95 1 11	95 1 11	...	...
Proserpine Central	35,710	148 15 10	148 15 10	...	...
Qunaba	19,253	80 4 5	80 4 5	...	...
Racecourse Central	36,678	152 16 6	152 16 6	...	...
Ripple Creek	15,500	64 11 8	64 11 8	...	...
Rocky Point	3,491	14 10 11	14 10 11	...	...
Rosevale	616	2 11 4	2 11 4	...	...
Spring Hill	10,517	43 16 5	43 16 5	...	...
Stegelitz	1,522	6 6 10	6 6 10	...	...
Sunnyside	1,790	7 9 2	7 9 2	...	...
Tegege	693	2 17 9	2 17 8	0 0 1	...
Victoria	52,729	219 14 1	219 14 1	...	...
Waterloo	3,931	16 17 7	16 17 6	0 0 1	...
Waterview	15,809	65 17 5	65 17 5	...	...
Windermere	19,475	81 2 11	81 2 11	...	...
Woodlands	1,817	7 11 5	7 11 6	...	0 0 1
	1,342,659	5,594 8 3	5,589 14 1	5 1 1	0 6 11

MILLS WHICH DID NOT CRUSH.—Woondooma, Sharon, Yeppoon, Sea View, Kalbar, Albionville, Mount Cotton, Rockholme, Belle Vue.

STATEMENT OF EXPENDITURES FOR THE YEAR ENDING 30TH JUNE, 1905.

	£	s.	d.
Salaries	1,094	11	2
Wages	544	9	10
Freights, passages, railway travel, &c.	146	17	6
Chemicals and apparatus	143	16	11
Stamps, petty cash, &c.	124	7	2
Travelling expenses—Dr. Maxwell	115	10	0
" A. E. Anderssen	32	5	0
" L. C. McCready	25	4	9
" Other officers	28	2	6
Horse and buggy hire—Dr. Maxwell	11	12	2
" Others	55	6	2
Printing and advertising	92	8	6
Gas	59	4	6
Manures	60	14	6
Sundries	50	9	6
Tools, implements, &c.	42	13	1
Repairs (blacksmith, carpenter, &c.)	31	17	4
Stationery	29	1	4
Furniture	26	6	11
Rents	21	10	11
Telephones, &c.	16	10	0
Insurance, &c.	15	9	3
Library	14	8	4
Purchase stock	10	10	0
Exchanges	10	2	8
Entertaining allowance	10	0	0
Timber	6	3	4
Fencing	5	11	4
Fuel	2	7	6
Fodder	1	19	0
Rates	8	4	6
Refund to Consolidated Revenue	3,557	0	0
	£6,394	15	8

STATEMENT OF RECEIPTS FOR THE YEAR ENDING 30TH JUNE, 1905.

	£	s.	d.	£	s.	d.
Assessments (gross)	5,589	14	1			
Endowment Assessment	5,589	0	0			
Sale of cane	90	18	10			
Rebate on white-grown cane	31	19	8			
Other collections	44	10	5			
				11,346	3	0
Total collections for year				11,346	3	0
Total expenditures for year				6,394	15	8
Balance				£4,951	7	4

The receipts and expenditure of the Treasury Trust Fund from date of inception to 30th June, 1905, as per statement of Audit Inspector, have been:—

	RECEIPTS.			£	s.	d.
	£	s.	d.	£	s.	d.
Advanced by Treasury—						
1900-1	4,000	0	0			
1901-2	4,057	0	0			
Endowment—						
18th November, 1902	4,900	0	0			
27th October, 1903	2,670	19	5			
15th November, 1904	3,439	0	3			
				19,066	19	8
Assessments paid				16,623	8	0
Other receipts				502	3	11
				£36,192	11	7

						EXPENDITURE.		
1900-1	...	...	...	...	...	3,292	11	2
1901-2	...	...	...	...	...	6,722	6	4
1902-3	...	...	...	...	...	6,541	12	4
1903-4	...	...	...	...	...	6,462	0	2
1904-5	...	...	...	...	...	6,359	4	0*
						<hr/>		
						29,377	14	0
Balance, 30th June, 1905						...	...	£6,814 17 7

* This amount includes the sum of £3,557 refunded to Consolidated Revenue in part payment of advance of £8,057.

Of the amount advanced by the Treasury (£8,057), the sum of £3,557 was refunded during the year 1904-5; and during the present year (1905-6), the balance (£4,500) will be refunded.

As shown in the statement of the Audit Inspector, the balance in hand on 30th June, 1905, was £6,814 17s. 7d.; to this amount is added the endowment due from the Consolidated Revenue, being £1 per £1 of assessments collected upon the crop, which is shown as follows:—

						£ s. d.		
Balance in hand...	...	...	...	...	...	6,814	17	7
Endowment due ...	...	...	...	...	...	5,589	0	0
						<hr/>		
						£12,403	17	7

But the sum of £4,500 is still due to the Consolidated Revenue on account of loan, thus the financial state of the fund is—

						£ s. d.			£ s. d.		
Balance on hand ...	...	...	...	...	...	6,814	17	7			
Endowment due ...	...	...	...	...	...	5,589	0	0			
						<hr/>			12,403	17	7
Less amount still owing to Consolidated Revenue						4,500	0	0
						<hr/>			7,903	17	7
Available balance								

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