1917-1918
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BARBADOS.

DEPARTMENT OF AGRICULTURE.

REPORT

ON THE

SUGAR-CANE EXPERIMENTS

FOR THE SEASON

1917—1919.

SB
229
.B35
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1917/19

PARTS I & II.

MANURIAL EXPERIMENTS WITH SUGAR-CANE.

PART III.

EXPERIMENTS WITH VARIETIES OF SUGAR-CANE.

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REPORT ON

THE SUGAR-CANE EXPERIMENTS

CONDUCTED IN BARBADOS DURING THE SEASON 1917—1919

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The experiments are described in three parts, viz :—

PART I—Composition of Barbados rainfall.

PART II—Manurial and other experiments with sugar-canes.

PART III—Experiments with varieties of sugar-cane.

EXPLANATION OF TERMS USED IN THIS REPORT.

Per cent. by number of rotten canes is the number of rotten canes in 100 canes (good and rotten).

Sp. Gr. $\frac{30^\circ\ C.}{16{\cdot}6^\circ C.}$ is the weight of a given volume of juice at a temperature of 30° Centigrade divided by the weight of an equal volume of water at a temperature of 16·6° Centigrade. A gallon of water at 16·6° Centigrade (i.e. 62° Fahrenheit) weighs 10 lb.; the Sp. Gr. $\frac{30^\circ\ C.}{16{\cdot}6^\circ\ C.}$ therefore serves to ascertain the volume of the juice from its weight or *vice versa*.

Per cent. of juice by mill is the number of pounds of juice expressed from 100 lb. of canes.

Quotient of purity is the number of pounds saccharose (cane sugar) in 100 lb. of the total solids in the cane juice.

Saccharose is the chemical name for pure cane sugar. It is the same as sucrose. Refined cane sugar is almost pure saccharose, containing, when deprived of traces of water, nearly 100 per cent. of saccharose.

Muscovado yield is the amount of muscovado sugar theoretically obtainable from the total saccharose in the juice estimated in tons. It is assumed that the juice has a high quotient of purity and will yield 80 per cent. of its saccharose.

The quotient of purity and the glucose ratio of a sample of juice influence greatly the recovery of marketable sugar. With a high quotient of purity and low glucose, a ratio common in the juice of the best varieties of West Indian sugar-cane, it is possible on a well worked muscovado estate with a steam pan and filter press, to recover 80 per cent. of the weight of saccharose as marketable muscovado sugar, and in certain of the tables the muscovado yield is calculated on this basis. The recovery is less if the purity is lower and the glucose ratio higher, as is the case in immature canes, or in mature canes of some varieties, or in canes over-matured.

PART I.

COMPOSITION OF BARBADOS RAINFALL.

The rainfall at Dodds was measured in the usual manner and fortnightly samples were analysed at the Government Laboratory. The amount, distribution and composition of the rainfall from December 1917 to May 1919 are given below. The total amount was 68·54 inches, and supplied approximately 157 pounds of chlorine and 19·96 pounds of nitrogen per acre.

RAINFALL.

Amount, Distribution and Composition of the Rainfall at Dodds Botanic Station.

	Fall.		Parts per million of			
	Days.	Inches.	Chlorine	Nitrogen as Ammonia.	Nitrogen as Nitrates.	Nitrogen Total.
December 1917 ...	21	6·94	3·5	·021	·572	·593
January 1918 ...	16	2·51	10·5	·127	·647	·774
February ,, ...	14	2·04	14·0	·018	1·002	1·020
March ,, ...	14	1·24	18·0	·046	1·854	1·900
April ,, ...	11	1·54	13·0	·012	1·488	1·500
May ,, ...	18	4·50	7·0	·007	2·093	2·100
June ,, ...	22	6·55	8·0	·016	·972	·988
July ,, ...	24	3·92	7·5	·046	1·683	1·729
August ,, ...	23	7·82	5·0	·016	·709	·725
September ,, ...	18	7·25	7·0	·038	2·186	2·224
October ,, ...	24	6·07	8·5	·024	·740	·764
November ,, ...	15	3·79	6·5	·020	·990	1·010
December ,, ...	13	2·61	14·0	·110	1·208	1·318
January 1919 ...	13	2·08	7·0	·077	·697	·774
February ,, ...	13	1·56	10·0	·091	1·227	1·318
March ,, ...	10	·98	21·0	·208	2·301	2·509
April ,, ...	4	·33	...	...	...	...
May ,, ...	18	1·81	24·0	·148	2·191	2·339
	291	68·54				

Table I. RAINFALL AT MANURIAL AND VARIETY EXPERIMENT STATIONS FROM DECEMBER 1917 TO MAY, ~~1918~~ 1919.

Estates.	Height above sea level.	December 1917.		January 1918.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		January 1919.		February.		March.		April.		May.		Total.	
		Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.
Dodds ...	210	21	6·94	16	2·51	14	2·04	14	1·24	11	1·54	18	4·50	22	6·55	24	3·02	23	7·82	18	7·25	24	6·07	15	3·79	13	2·61	13	2·08	13	1·56	10	0·98	4	0·33	18	1·81	291	63·54
Hampton ...	103	11	4·65	12	2·29	10	3·51	10	1·36	7	1·27	15	4·01	14	4·80	17	4·20	13	8·33	17	8·05	17	7·10	7	4·11	12	3·31	12	2·32	8	2·64	5	0·47	3	0·37	12	2·41	202	65·20
Sunbury ...	160	9	4·48	9	2·12	7	2·45	10	0·88	8	1·29	15	4·15	13	4·92	15	3·20	12	8·27	15	6·91	18	5·77	10	4·06	12	2·31	9	2·16	8	1·64	8	0·71	2	0·16	12	1·92	192	57·40
Carrington ...	110	13	5·16	11	2·58	10	3·49	10	1·19	10	1·65	12	3·21	16	5·13	18	4·83	14	8·87	16	8·58	17	6·88	12	4·02	12	3·53	10	2·40	8	2·91	8	1·16	2	0·33	15	2·59	214	68·53
Brighton ...	271	8	4·27	8	2·05	8	0·89	12	1·65	5	1·12	9	2·47	12	3·41	14	4·74	10	7·48	13	10·50	15	7·19	10	6·17	10	3·22	12	2·41	6	2·17	5	0·54	2	0·15	11	1·35	170	61·78
Hannays ...	188	9	4·60	10	2·15	10	4·20	5	0·72	10	1·28	10	2·97	15	4·46	15	3·86	13	6·53	15	9·32	16	6·64	14	5·09	9	2·93	10	1·94	7	3·15	5	0·60	2	0·45	10	1·74	185	62·63
Coverley ...	254	9	3·47	8	1·96	5	1·15	6	0·73	5	0·82	12	3·82	9	3·54	9	3·48	11	6·79	11	7·98	11	7·45	7	4·46	6	3·13	8	1·62	4	1·70	3	0·47	2	0·68	7	1·14	188	54·34
Waterford ...	186	9	4·03	11	1·53	9	1·34	11	0·88	8	1·62	13	3·42	17	4·41	19	3·62	13	6·21	15	9·20	18	7·28	14	6·58	7	1·23	12	2·10	7	1·43	4	0·39	4	0·18	12	1·85	204	57·36
Pickerings ...	71	9	5·43	6	1·09	12	1·61	15	2·28	8	1·92	14	3·80	12	5·45	16	3·74	12	4·61	17	8·36	15	3·95	8	4·84	12	3·06	13	2·61	7	0·72	3	0·49	6	0·76	12	2·20	193	59·95
Walkers ...	55	11	13·53	10	5·38	9	1·82	10	1·83	10	3·66	14	5·24	13	5·51	12	2·85	13	4·15	16	10·69	16	5·45	13	6·30	8	3·61	11	2·20	8	1·42	7	0·85	7	1·11	9	1·29	194	77·20
Clifton Hall ...	702	14	11·44	9	2·79	11	2·55	7	1·81	8	3·16	9	4·31	17	6·67	15	5·11	13	5·87	12	10·42	20	7·34	14	4·94	14	3·19	9	1·90	8	1·91	3	0·79	7	0·96	12	1·95	202	77·20
Henley ...	553	2	8·11	15	2·62	17	2·83	17	2·25	11	1·70	14	3·81	18	5·41	20	5·14	18	7·50	16	10·61	23	10·44	15	4·60	17	3·85	16	2·78	9	1·76	8	0·98	5	0·49	17	2·56	276	77·44
Clifton ...	756	18	12·35	14	2·97	14	2·98	17	2·82	9	2·38	16	5·72	21	6·31	17	5·61	12	8·37	15	12·42	23	12·16	15	6·54	11	5·02	7	2·18	8	2·52	3	1·07	3	0·30	10	2·62	233	94·67
Lemon Arbor	720	20	12·22	11	3·11	14	2·72	10	2·27	7	2·51	12	4·27	16	6·53	14	5·19	14	8·00	14	11·70	19	10·30	14	6·01	11	5·51	9	2·26	7	1·90	3	0·92	4	1·23	9	2·37	208	89·17
Vaucluse ...	781	12	11·60	13	2·76	14	3·86	14	3·14	5	3·18	12	6·04	24	6·78	16	4·59	19	8·68	14	13·12	18	11·73	9	6·58	10	3·97	16	2·28	7	2·10	5	1·58	4	0·76	8	1·76	220	94·51

PART II.

MANURIAL AND OTHER EXPERIMENTS WITH THE SUGAR-CANE.

The manurial experiments were carried out in Summervale field at Dodds, which is situated in the parish of St. Philip, ten miles from Bridgetown, at an elevation of 210 feet above sea level. They consist of twenty-six plots of one-twentieth of an acre each. The rows of canes are six feet apart and the clumps of canes six feet apart in the rows. Each plot, therefore, consists of sixty clumps of canes and the experiments cover an area of approximately 1¼ acres.

The chemical analysis of the soil, which is what is called in Barbados a "Black Soil" has been given repeatedly in previous reports so that it is omitted this year. It may, however, be stated that this soil when first analysed many years ago contained a comparatively moderate proportion of calcium carbonate and was poor in nitrogen, phosphoric acid and potash, in which respect it was distinctly below the average of Barbados soils.

Soon after the canes were cut in 1917, the old stools were dug out, the cane holes dug two feet square, and where possible, one foot deep, and all larvae, pupae and imagoes of the root borer (*Diaprepes abbreviatus*, Linn.) and the brown hard-back (*Phytalus smithi*, Arrow.) found, were killed. The plots were then planted with woolly pyrol, which was pulled up on September 19, and placed in manure holes dug on the south side of the cane holes. On the top of the woolly pyrol, after it had withered, farmyard manure was applied at the rate of twenty tons per acre, and the whole covered with the soil which had been taken from the manure holes. At the same time an additional twenty tons of farmyard manure were applied per acre to Plot B. 1, making a total of forty tons to that plot. The whole field was then subsoiled in each bank in a northerly and southerly direction, and planted on November 15, 1917, with top cuttings of the Ba. 6032, after they had been soaked in Bordeaux mixture for ten minutes.

WEATHER.

Although the rainfall for November 1917 was below the average, that for December was good, consequently the sugar cane cuttings planted in the various experiment plots during the latter half of the former and the first half of the latter month, grew very regularly. The rainfall from January to November being about the average, the sugar canes at the end of November were in very satisfactory condition, and gave promise to a more than average crop. The rainfall however, from the beginning of December 1918 on to the end of the reaping season in 1919, being below the average, the sugar canes were checked in their growth and did not ripen satisfactorily, causing a considerable shortage in the crop which was at the beginning of 1919 estimated to be about 75,000 tons.

ANALYSIS OF MANURE.

The following is the analysis of a sample of the farmyard manure applied to Summervale field in September 1917 while that field was in the course of preparation :—

Moisture	35·29
*Organic matter, &c	41·14
Insoluble siliceous matter	13·50
†Phosphoric anhydride	1·03
‡Alkaline salts, lime, magnesia., &c ...	9·04
	100·00
*Containing nitrogen	0·70
Equal to ammonia	0·95
†Equal to tricalcic phosphate ...	2·24
‡Containing potash	0·76
Equal to sulphate of potash	1·41

Twenty tons of this manure supplied per acre 314 lb. of nitrogen, 461 lb. of phosphoric anhydride (equal to 1004 lb. tricalcium phosphate) and 340 lb. of potash.

APPLICATION OF MANURES.

The experiments were directed as in former years with a view of ascertaining the effect of the application of farmyard manure in ordinary quantity, and in double the ordinary quantity, also of nitrogen, of phosphate, and of potash, upon the industrial yield of the sugar cane.

The chemical fertilizers were applied as follows :—

Phosphates and potash on January 24th and nitrogen on February 5, 1918. The second application of phosphates, potash and nitrogen was made on June 10, 1918.

The following table gives the composition per cent. of the chemical manure employed in the manurial experiments, 1917–1919.

	Nitrogen.	Phosphates.			Potash.
		Soluble.	Reverted.	Insoluble.	
Sulphate of ammonia ...	20·71	...	...	...	...
Nitrate of soda	16·12	...	...	...	...
Dried blood	12·98	...	...	...	...
Superphosphate of lime	...	30·47	8·20	...	...
Basic slag	...	...	...	37·56	...
Sulphate of potash ...	...	...	...	...	48·54

Wherever in this report quantities of canes or sugar, or of manure applied are mentioned, per acre is understood unless stated to the contrary.

The experiments may be divided as follows :—

Farmyard manure only, 20 tons.
Farmyard manure, 20 tons extra.

Nitrogen series
- Minerals only.
- Minerals and nitrogen as sulphate of ammonia.
- Minerals and nitrogen as nitrate of soda.
- Minerals and nitrogen as dried blood.

Phosphate series
- Nitrogen and potash only.
- Nitrogen, potash and superphosphate.
- Nitrogen, potash and basic slag.

Potash series
- Nitrogen and phosphate only.
- Nitrogen, phosphate and potash.

Owing to the low fertility of Summervale field which obtained in 1885 when the manurial experiments were first started, the whole of the plots have received annually farmyard manure at the rate of twenty tons (approximately 800 cubic feet) per acre every other year for the past twenty-five years. In addition one plot received an extra twenty tons of farmyard manure, equal to forty tons per acre, every other year. In the nitrogen series in addition to the twenty tons of farmyard manure, each plot received eighty pounds of assimilable phosphate as superphosphate of lime and sixty pounds of potash as sulphate of potash. One plot received nothing further, and the remaining plots varying quantities of nitrogen as sulphate of ammonia, nitrate of soda and dried blood. In the phosphate series in addition to the twenty tons of farmyard manure, each plot received sixty pounds of nitrogen as sulphate of ammonia and sixty pounds of potash as sulphate of potash. One plot received nothing further. Four plots received varying quantities of phosphate as superphosphate of lime, and two plots received basic slag, one at the rate of eighty pounds and the other at the rate of 100 pounds of phosphate per acre. In the potash series, in addition to the twenty tons of farmyard manure, each plot received eighty pounds of assimilable phosphates as superphosphate of lime and sixty pounds of nitrogen as sulphate of ammonia. One plot received nothing further. The remaining plots received varying quantities of potash as sulphate of potash.

The results are given in Tables II to V. As will be seen therefrom, the results from a number of the plots are so different from those of previous years before the advent of the root borer (*Diaprepes abbreviatus*, Linn.) and the brown hard-back (*Phytalus smithi*, Arrow.) which are now doing much injury to the sugar canes not only in the district where the experiments were carried out but in other districts of the Island, and so conflicting that it is impossible to draw any conclusions from them. To give a few instances in this connection it may be mentioned that in the nitrogen series there were applied to Plots A. 2 and A. 3 eighty pounds of phosphate as superphosphate of lime and sixty pounds of potash as sulphate of potash. Plot A. 3 received in addition forty pounds of nitrogen as sulphate of ammonia, yet this plot gave a yield of forty-nine pounds of saccharose per acre less than Plot A. 2. Plots A. 3. and B. 3 received the same quantities of phosphate, potash, and nitrogen as sulphate of ammonia. Plot A. 3 received all of the nitrogen, forty pounds, in one application in June, while Plot B. 3 received fifteen pounds of nitrogen in January and twenty-five pounds in June. In this case the latter plot yielded 1,606 pounds saccharose more than the former. In the case of Plot A. 5, this plot received twenty pounds of nitrogen more in June than Plot B. 3 and the yield was 2,048 pounds saccharose less per acre. As it may be of interest we are attaching to the table giving the results of this year's sugar cane manurial experiments, columns containing the number of the root borer and the brown hard-back per acre together with the number of *Tiphia* cocoons per acre found when the old cane holes were being dug out two feet square by a foot deep. From these columns it will be seen how impossible it is to draw any conclusions this year from the results of the manurial experiments.

The monetary loss sustained from the attacks of these pests at present although the injury is not as great as in some other countries where the same and similar beetle larvae have been attacking the sugar canes for a longer period, is still considerable. To give some idea of what this loss is, it may be mentioned that this year before the sugar canes on the manurial plots at Dodds were fully matured 165 clumps attacked by 1,239 larvae of these two pests had to be reaped as the tops had commenced to wither. The average weight of each cane in the withered clumps was 5·03 lb., and in spite of the fact that 6,390 larvae were found in the remaining plots, the average weight of each cane was 5·58 lb. In other words, although a large number of canes in the remaining plots had also been attacked by the two pests, still as a smaller percentage was attacked they weighed on the average 55 lb. per cane more than those in the 165 clumps cut first. The loss, therefore, at this rate was 4.36 tons of canes per acre. As the average price received per ton of sugar canes for those sold from the lands of the Government Industrial Schools for 1919 was $8.94, the minimum loss sustained from the attacks of these pests was $38.98 per acre. If there had been unattacked plots to compare these results with, it would be seen that the loss from the attacks of these pests was very much greater.

TABLE II.

DODDS :—SUMMERVALE FIELD.

PLANT CANES.

Nitrogen Series.

Farmyard manure, 20 tons.
Nitrogen.
Phosphate as superphosphate, 80 lb. in January.
Potash as sulphate, 60 lb. in January.

Number of Plot.		Applied in 1918. January.	Applied in 1918. June.	No. of canes per acre.	Weight in tons per acre. Produce.	Weight in tons per acre. Cane tops.	Weight in tons per acre. Canes.	Per cent. by number of rotten canes.	Per cent. of juice by mill.	Normal Juice. Sp. Gr. 30° C./16·6° C.	Normal Juice. Lb. per gallon of Saccharose.	Normal Juice. Lb. per gallon of Glucose.	Normal Juice. Lb. per gallon of Solids not sugar.	Normal Juice. Quotient of purity.	Normal Juice. Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Difference by manuring in. Produce, tons per acre.	Difference by manuring in. Canes, tons per acre.	Difference by manuring in. Saccharose, lb. per acre.	Diaprepes abbreviatus per acre.	Phytalus smithi per acre.	Total Diaprepes abbreviatus and Phytalus smithi per acre.	Tiphia paralleta cocoons per acre.
		lb.	lb.																					
A 1	No chemical manure ...			17,401	44·50	4·89	39·61	1·63	62·50	1·0807	2·10	·057	·193	89·75	2·60	5,089	11,115	...	...	...	3,342	1,441	4,783	40
B 1	Farmyard manure 20 tons extra ...			19,816	54·01	4·33	49·68	3·88	58·50	1·0866	2·07	·061	·229	87·71	2·95	5,992	12,403	+ 9·51	+ 10·07	+ 1,258	2,899	1,233	4,132	61
A 2	No nitrogen ...			16,518	45·58	4·93	40·62	1·47	59·75	1·0870	2·11	·066	·194	89·03	3·13	5,001	10,552	+ 1·08	+ 1·01	- 593	1,210	741	1,951	...
A 3	40 lb. nitrogen as sulphate of ammonia...		40	16,570	46·06	4·09	41·97	1·48	61·00	1·0866	1·99	·053	·317	84·32	2·66	5,278	10,503	+ 1·56	+ 2·36	- 642	4,158	1,055	5,213	20
A 4	60 " " " ...		60	18,068	45·90	4·34	41·56	0·43	62·50	1·0879	2·12	·064	·206	88·70	3·02	5,319	11,346	+ 1·40	+ 1·95	+ 195	4,508	894	5,402	40
A 6	80 " " " ...		80	17,034	44·64	3·59	41·05	3·05	61·50	1·0888	2·11	·068	·242	87·19	3·22	5,159	10,885	+ ·11	+ 1·44	- 260	5,421	1,233	6,651	40
B 3	40 " " " ...	15	25	18,824	50·87	3·55	47·32	4·44	60·75	1·0848	2·04	·066	·204	88·31	3·24	5,936	12,109	+ 6·37	+ 7·71	+ 964	4,975	1,434	6,409	40
A 5	60 " " " ...	15	45	16,779	42·57	4·11	38·46	1·09	60·75	1·0870	2·09	·066	·214	88·19	3·16	4,814	10,861	- 1·93	- 1·15	- 1,084	3,524	1,262	4,786	61
B 4	60 " nitrate of soda	...	60	18,731	49·07	3·43	45·64	3·38	58·75	1·0861	2·05	·069	·231	87·23	3·37	5,530	11,337	+ 4·57	+ 6·03	+ 192	4,008	1,008	5,016	61
B 7	40 " dried blood ...	15	25	17,621	49·47	4·12	45·35	2·01	60·00	1·0853	2·09	·061	·269	90·09	2·92	5,616	11,737	+ 4·97	+ 5·74	+ 592	4,097	1,486	5,583	61
B 5	60 " " " ...	15	45	17,625	48·81	3·72	45·09	7·88	59·50	1·0857	2·08	·058	·192	89·27	2·79	5,537	11,517	+ 4·31	+ 5·48	+ 372	3,333	1,142	4,475	101
B 2	40 " " " ...	40	..	18,294	52·01	4·14	47·87	5·39	59·25	1·0875	2·14	·056	·184	89·02	2·62	5,812	12,502	+ 7·51	+ 8·26	+ 1,357	3,567	1,085	4,652	81
B 6	60 " " " ...	60	...	17,482	48·47	3·86	44·61	2·06	59·75	1·0879	2·14	·054	·196	89·51	2·52	5,439	11,746	+ 3·97	+ 5·00	+ 60	3,933	1,707	5,640	101

TABLE III.

DODDS :— SUMMERVALE FIELD.

PLANT CANES.

Phosphate Series.

Farmyard manure, 20 tons.
Phosphate.
Nitrogen as sulphate of ammonia, 15 lb. in January, 15 lb. in June.
Potash as sulphate, 60 lb. in January.

Number of Plot.		Applied in 1918. January.	Applied in 1918. June.	Number of canes per acre.	Weight in tons per acre. Produce.	Weight in tons per acre. Cane tops.	Weight in tons per acre. Canes.	Per cent. by number of rotten canes.	Per cent. of juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6° C.	Normal Juice. Lb. per gallon of Saccharose.	Normal Juice. Lb. per gallon of Glucose.	Normal Juice. Lb. per gallon of Solids not sugar.	Normal Juice. Quotient of purity.	Normal Juice. Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Difference by manuring in. Produce, tons per acre.	Difference by manuring in. Canes, tons per acre.	Difference by manuring in. Saccharose, lb. per acre	Diapepes abbreviatus per acre.	Phytalus smithi per acre.	Total Diapepes abbreviatus and Phytalus smithi per acre.	Tiphia parallela cocoons per acre.
		lb.	lb.																					
A 1	No chemical manure ...	...	...	17,401	44·50	4·89	39·61	1·63	62·50	1·0897	2·19	·057	·193	80·75	2·60	5,089	11,145	...	...	...	3,342	1,441	4,783	40
B 1	Farmyard manure 20 tons extra	...	...	19,816	54·01	4·33	49·68	3·88	58·50	1·0866	2·07	·061	·229	87·71	2·95	5,992	12,403	+ 9·51	+10·07	+1,258	2,899	1,283	4,182	61
A 7	No phosphate	...	...	18,040	45·81	3·73	42·08	1·20	61·00	1·0888	2·16	·048	·212	89·26	2·22	5,281	11,407	+ 1·31	+ 2·47	+ 262	3,432	990	4,422	61
B 8	40lb phosphate as superphosphate ...	40	...	19,017	50·55	3·86	46·69	3·83	58·75	1·0857	2·00	·071	·259	85·84	3·55	5,600	11,320	+ 6·05	+ 7·08	+ 175	4,452	1,145	5,597	61
A 5	80lb „ „ ...	80	...	16,779	42·57	4·11	38·46	1·09	60·75	1·0870	2·09	·066	·214	88·19	3·16	4,814	10,061	− 1·98	− 1·15	−1,084	3,524	1,262	4,786	61
B 9	120lb „ „ ...	120	...	18,876	47·88	3·44	44·44	2·39	59·75	1·0875	2·07	·069	·241	86·97	3·33	5,470	11,323	+ 3·38	+ 4·83	+ 178	7,832	1,628	9,460	101
A 8	80lb „ „ ...	40	40	17,502	47·17	4·00	43·17	1·88	61·00	1·0875	2·11	·049	·221	88·66	2·32	5,424	11,445	+ 2·67	+ 3·56	+ 300	2,013	1,053	3,066	81
A 9	120lb „ „ ...	60	60	16,984	45·91	3·48	42·43	0·99	60·50	1·0835	1·97	·078	·232	86·40	3·96	5,307	10,455	+ 1·41	+ 2·82	− 690	5,605	1,316	6,921	40
B 13	80 lb basic slag ...	80	...	19,095	54·52	4·12	50·40	2·41	60·96	1·0875	2·11	·063	·207	88·66	2·99	6,329	13,354	+10·02	+10·79	+2,209	4,164	779	4,943	...
A 13	100lb „ „ ...	100	...	16,563	44·05	3·68	40·37	1·24	60·25	1·0888	2·15	·060	·210	88·84	2·79	5,004	10,759	− ·45	+ ·76	− 386	3,484	1,210	4,694	101

TABLE IV.

DODDS:—SUMMERVALE FIELD.

PLANT CANES.

Potash Series.

Farmyard manure 20 tons.
Potash.
Nitrogen as sulphate of ammonia, 15 lb. in January
45 lb. in June.
Phosphate as superphosphate, 80 lb. in January.

Number of Plot.		Applied 1918. January.	Applied 1918. June.	No. of canes per acre.	Weight in tons per acre. Produce.	Weight in tons per acre. Cane tops.	Weight in tons per acre. Canes.	Per cent. by number of rotten canes.	Per cent. of juice by mill.	Normal juice. Sp. Gr. 30° C./16·6° C.	Normal juice. Lb. per gallon of Saccharose.	Normal juice. Lb. per gallon of Glucose.	Normal juice. Lb. per gallon of Solids not sugar.	Normal juice. Quotient of purity.	Normal juice. Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Difference by manuring in Produce, tons per acre.	Difference by manuring in Canes, tons per acre.	Difference by manuring in Saccharose, lb. per acre.	Diaprepes abbreviatus per acre.	Phytalus smithi per acre.	Total Diaprepes abbreviatus and Phytalus smithi per acre.	Tiphia parallela cocoons per acre.
		lb.	lb.																					
A 1	No chemical manure ..	...	...	17,401	44·50	4·89	39·61	1·63	62·50	1·0897	2·19	·057	·193	89·75	2·60	5,089	11,115	...	...	...	3,312	1,441	4,783	40
B 1	Farmyard manure 20 tons extra ..	...	...	19,816	54·01	4·33	49·68	3·88	58·50	1·0866	2·07	·061	·229	87·71	2·95	5,992	12,403	+ 9·51	+ 10·07	+ 1,258	2,899	1,233	4,132	61
B 10	No potash	...	...	18,273	49·82	3·91	45·91	3·52	60·25	1·0861	2·12	·052	·178	90·21	2·45	5,705	12,095	+ 5·32	+ 6·30	+ 950	5,799	1,064	6,863	40
A 10	40 lb. potash as sulphate	40	...	17,778	45·48	2·96	42·52	2·07	60·50	1·0826	1·98	·052	·218	88·00	2·63	5,323	10,540	+ 0·98	+ 2·91	− 605	4,425	1,648	6,073	182
A 5	60 lb. potash as " ...	60	...	16,779	42·57	4·11	38·46	1·09	60·75	1·0870	2·09	·066	·214	88·19	3·16	4,814	10,061	− 1·93	− 1·15	− 1,084	3,524	1,262	4,786	61
A 11	80 " " " ...	80	...	18,172	50·40	4·06	46·40	0·84	62·50	1·0853	2·06	·050	·210	88·79	2·48	5,986	12,331	+ 5·96	+ 6·79	+ 1,186	6,093	1,606	7,699	121
A 12	100 lb. " " " ...	100	...	17,548	51·63	4·45	47·18	1·69	62·25	1·0853	2·05	·056	·214	88·36	2·73	6,062	12,427	+ 7·13	+ 7·57	+ 1,282	5,083	1,412	6,495	202
B 12	60 lb. " " " ...	30	30	17,668	46·97	3·40	46·57	5·26	60·00	1·0866	2·07	·068	·222	87·71	3·29	5,759	11,921	+ 5·47	+ 6·96	+ 776	3,838	1,001	4,839	20
B 11	80 lb. " " " ...	40	40	18,461	49·83	3·17	46·66	3·07	60·25	1·0853	2·00	·076	·244	86·21	3·80	5,802	11,604	+ 5·33	+ 7·05	+ 459	4,673	1,398	6,071	...

TABLE V. SUMMARY OF RESULTS OBTAINED IN SUMMERVALE FIELD AT LODGE FOR THE SEASON ENDED 1919.

Manures. Name.	When applied.	Quantity applied.	Muscovado sugar per acre.	Increase or decrease on no-manure.	Molasses from increase of muscovado sugar.	Loss or gain.	Value of manure applied.	Cost of manufacture of incremental sugar or amount deducted where there was a loss as compared with the control plot.	Gain or loss by manuring.
		Tons.	lb.	lb.	gals.	$ c.	$ c.	$ c.	$ c.
Farmyard manure (control plot)	...	20	8,016	...	...	...	...	...	...
" " (20 tons extra)	...	40	9,022	+1,006	+ 45	+63·12	12·10	2·72	+48·30
NITROGEN SERIES.									
Farmyard manure, minerals and		lb.							
No-nitrogen	...	...	8,442	− 474	− 21	−29·66	5·96	1·28	−34·34
40 lb. nitrogen as sulphate of ammonia	June ...	40	8,402	− 514	− 23	−32·25	12·44	1·39	−43·30
60 " " " " " "	" ...	60	9,072	+ 156	+ 7	+ 9·80	15·68	0·42	− 6·30
80 " " " " " "	" ..	80	8,708	− 208	− 9	−12·93	18·92	0·56	−31·29
40 " " " " " "	January 15 / June 25	40	9,087	+ 771	+ 34	+48·19	12·44	2·08	+33·67
60 " " " " " "	January 15 / June 45	60	8,040	− 867	− 39	−54·49	15·68	2·34	−67·83
60 " " " nitrate of soda	June ..	60	9,070	+ 154	+ 7	+ 9·71	15·68	0·41	− 6·38
40 " " " dried blood	January 15 / June 25	40	9,390	+ 474	+ 21	+29·66	12·44	1·28	+15·94
60 " " " " " "	January 15 / June 45	60	9,214	+ 298	+ 13	+18·57	15·68	0·80	+ 2·09
40 " " " " " "	January ..	40	10,002	+1,086	+ 49	+68·31	12·44	2·93	+52·94
60 " " " " " "	January ..	60	9,397	+ 481	+ 21	+29·98	15·68	1·30	+13·00

TABLE V.—*Concluded.* SUMMARY OF RESULTS OBTAINED IN SUMMERVALE FIELD AT DOLDS FOR THE SEASON ENDED 1910.

Manures. Name.	When applied.	Quantity applied.	Muscovado sugar per acre.	Increase or decrease on no-manure.	Molasses from increase of muscovado sugar.	Loss or gain.	Value of manure applied.	Cost of manufacture of incremental sugar or amount deducted where there was a loss as compared with the control plot.	Gain or loss by manuring.
		lb.	lb.	lb.	gals.	$ c.	$ c.	$ c.	$ c.
PHOSPHATE SERIES.									
Farmyard manure, potash, nitrogen and No-phosphate	...	...	9,126	+ 210	+ 9	+ 13·02	13·20	0·57	- 0·75
40 lb. phosphate as superphosphate	January	40	9,056	+ 140	+ 6	+ 8·68	14·44	0·38	- 6·14
80 " " " "	"	80	8,049	- 867	- 30	- 54·49	15·68	2·34	- 67·83
120 " " " "	"	120	9,058	+ 142	+ 6	+ 8·77	16·92	0·38	- 8·53
80 " " " "	January 40, June 40	80	9,156	+ 240	+ 11	+ 15·16	15·68	0·65	- 1·17
120 " " " "	January 60, June 60	120	8,364	- 552	- 25	- 34·76	16·98	1·49	- 59·25
80 " " " basic slag	January	80	10,683	+ 1,767	+ 79	+ 110·86	15·68	4·77	+ 90·41
100 " " " " "	"	100	8,007	- 809	- 14	- 19·46	16·30	0·82	- 34·03
POTASH SERIES.									
Farmyard manure, nitrogen, phosphate and No-potash	...	...	9,676	+ 760	+ 34	+ 47·69	12·20	2·05	+ 33·44
40 lb. potash as sulphate	January	40	8,432	- 481	- 22	- 30·51	14·52	1·31	- 43·72
60 " " " "	"	60	8,049	- 867	- 39	- 54·49	15·68	2·34	- 67·83
80 " " " "	"	80	9,865	+ 949	+ 42	+ 59·57	16·84	2·56	+ 39·97
100 " " " "	"	100	9,942	+ 1,026	+ 46	+ 64·42	18·00	2·77	+ 43·65
60 " " " "	January 30, June 30	60	9,537	+ 621	+ 28	+ 39·05	15·68	1·68	+ 21·69
80 " " " "	January 40, June 40	80	9,283	+ 367	+ 16	+ 22·87	16·81	0·99	+ 5·04

TABLE VI.— SHOWING THE NUMBER OF THE LARVAE OF THE ROOT-BORER AND BROWN HARD-BACK FOUND IN EACH MANURIAL PLOT IN SUMMERVALE FIELD FOR THE TWO SEASONS 1915-1917 AND 1917-1919.

Plots.	Root-borer and brown hard-back.		Plots.	Root-borer and brown hard-back.	
	1917.	1919.		1917.	1919.
A 1 ...	295	399	B 1 ...	412	212
A 2 ...	316	153	B 2 ...	378	254
A 3 ...	868	281	B 3 ...	720	330
A 4 ...	417	322	B 4 ...	556	261
A 5 ...	338	269	B 5 ...	430	238
A 6 ...	342	366	B 6 ...	477	283
A 7 ...	264	259	B 7 ...	374	275
A 8 ...	204	208	B 8 ...	346	269
A 9 ...	369	340	B 9 ...	555	465
A 10 ...	384	395	B 10 ...	71	339
A 11 ...	213	378	B 11 ...	79	303
A 12 ...	155	322	B 12 ...	58	240
A 13 ...	67	230	B 13 ...	51	243
	3,732	3,917		4,007	3,712

Total

1915-1917	7,739
1917-1919	7,629

In the Sugar Cane Experiment Report for 1916-1918, it was found in comparing the numbers of the root-borers and brown hard-backs collected from the manurial plots in Upper Bay Tree field for the seasons 1914—1916 and 1916—1918 that the number collected in 1916-1918 was more than double that collected in 1914—1916. This season on comparing the numbers collected in Summervale field in 1915—1917 and 1917—1919, we find practically only the same number collected as the season before. It would therefore seem that the efforts to eradicate or control these two pests have at least put a check to their increase.

In the Report for last year it was stated that owing to the injury being done to the sugar cane by the root-borer and the brown hard-back, the Barbados General Agricultural Society had forwarded a pamphlet to each planter in the island calling attention to the injury being done by these pests and making recommendations for keeping them in check. At the beginning of 1919, owing to the partial drying up of a considerable area of the sugar-canes in the Island, it was seen that these pests were doing a great deal of injury, and as His Excellency the Governor desired to know whether the recommendations contained in the pamphlet had been carried out, he directed the Director of Agriculture to send a form to each estate to which the pamphlet had been sent, asking whether the root-borer and brown hard-back were present, and if so, whether any action had been taken to control them. He also desired, in case the pests did not occur that a statement to that effect should be made on the form when it was being returned. In accordance with His Excellency's instructions 312 forms were sent out: of these 226 were returned. With regard to those returned, in a number of instances they were so incomplete that it was impossible to draw any conclusions from them. In several instances the forms were returned with the statement that no root borer or brown hard-back existed on the estates reported upon, when it was known that on some of the estates either one or the other or both of these pests were present. Eighty-six of the planters to whom the pamphlet was sent took no notice of the request for information as to what had been done on their estates. On a report being made to His Excellency he appointed a Commission "to enquire into the Root Borer disease of the Sugar Cane, and report on what measures should be adopted with a view of controlling or eradicating same."

EXPERIMENTAL ERROR.

The experiments started during the reaping season of 1912 for the purpose of ascertaining what is the probable error incident to carrying out the sugar-cane experiments in Barbados were continued this year. For this purpose the two centre rows of four four-row plots of B. 6450 alongside one another in North Grape Tree field at Summervale plantation, where the whole field had been treated alike, were reaped separately, the juice analysed, and the results calculated to the acre like all the seedling variety experiment plots. The results are given in Table VII. As will be seen from the table the difference in the yield of the plot which was highest and that which was lowest amounted this year to 546 lb. saccharose per acre or 7·01 per cent. The difference between the highest yield and the average for the four plots was 216 lb. of saccharose or + 2·85 per cent. and between the lowest yield and the average of the four plots was 330 lb. of saccharose or – 4·36 per cent.

TABLE VII. SOMMERVALE PLANTATION. NORTH GRAPE TREE FIELD.

Plant Canes.—Experimental Error. 1917—1919.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill	Normal Juice. Sp. Gr. 30° C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Percentage above or below the average which is 7,574 lb. saccharose per acre.
B. 6450 Plot I	19,163	28·78	10·81	61·00	1·0861	2·09	·066	·194	88·94	3·16	3,620	7,566	− 0·11
B. 6450 Plot II	20,084	30·07	11·99	58·00	1·0884	2·17	·056	·184	90·04	2·58	3,590	7,790	+ 2·85
B. 6450 Plot III	19,802	28·13	8·09	59·75	1·0861	2·09	·064	·196	88·91	3·06	3,466	7,244	− 4·36
B. 6450 Plot IV	19,512	28·65	12·27	61·50	1·0870	2·12	·063	·187	89·45	2·97	3,630	7,696	+ 1·61

EXPERIMENTS WITH THE WHITE TRANSPARENT, B. 6450, Ba. 6032, B. H. 10 (12) AND W. No. 2 AT WATERFORD PLANTATION.

In 1918, Messrs. F. A. C. Collymore and E. W. Mahon were good enough to give us the results obtained with four plots of half an acre each, i.e., there were two acres of each variety, of the following five sugar-canes grown under similar conditions in Burnt field at Waterford plantation, viz :—White Transparent, B. 6450, W. No. 2, B. H. 10 (12) and Ba. 6032. The results obtained with the five varieties were given in last year's report, but as it is of interest in showing the yields of these varieties for the two seasons first as plants and then as first ratoons the results are given in Table VIII.

TABLE VIII. WATERFORD PLANTATION—BURNT FIELD—EXPERIMENTS WITH WHITE TRANSPARENT, B.H. 10 (12) AND W. NO. 2 FOR THE TWO SEASONS 1916–1918 AND 1917–1919.

Name or No. of cane.	Plant canes, tons per acre.	First ratoons, tons per acre.	Total for the two crops.	Increase over W. Transparent in tons per acre for the two years.
B. H. 10 (12)	37·12	27·76	64·91	22·10
Ba. 6032	39·75	23·88	63·63	20·82
W. No. 2	33·05	25·19	58·24	15·43
B. 6450	39·95	22·22	53·17	10·36
W. Transparent.	26·18	16·63	42·81	...

As will be seen from the table the B.H. 10 (12), Ba. 6032, W. No. 2 and B. 6450 gave increased yields over the White Transparent of 22·10, 20·82, 15·43 and 10·36 tons of canes per acre respectively for the two crops. Assuming that as about nine tons of these sugar-canes would be sufficient to produce a ton of sugar, in the case of the B.H. 10 (12) it would be less, the increases over the White Transparent would be equivalent to 2·46, 2·31, 1·71 and 1·15 tons of sugar per acre respectively. At $5.03, the average price at which dark crystal sugar sold in 1919, the value of increased yields from the B. H. 10 (12), Ba. 6032, W. No. 2 and B. 6450 over the White Transparent for the two years would be $277.17, $260.27, $192.67 and $129.57 per acre respectively. As it did not cost anything more to produce the canes, and as the extra molasses would be sufficient to pay the cost of manufacturing the extra sugar, the amount mentioned above would be clear gain to the estate.

EXPERIMENTS WITH CUTTINGS MADE FROM LARGE AND SMALL CANES.

During the season under review experiments were carried out to ascertain whether cuttings taken from large sugar-canes gave better results than those taken from small sugar-canes. The cuttings of both plots germinated very regularly, and for the first three months there was a marked difference in favour of the cuttings planted from the large sugar-canes. After the rains came in and the sugar-canes commenced to grow the difference could not be so well seen. In January 1919, it was seen that a considerable number of the sugar-canes in these plots had been attacked by root-borer and brown hard-back. As soon as it was possible, the canes, the tops of which were drying in each plot, were cut and weighed and then the clumps, the tops of which were not so withered, were also cut and weighed. As soon as the canes were cut, the holes were dug out two feet square and, where practicable, a foot deep, and all

the larvae, pupae and imagoes of the root-borer and the brown hard-back were reckoned and destroyed. The results are given in the following table :—

TABLE IX. DODDS—SUMMERVALE FIELD—PLANT CANES, 1917-1919.

		Canes, tons per acre.	Per cent. by No. of rotten canes.	Diaprepes abbreviatus per acre.	Phytalus smithi per acre.	Total Diaprepes abbreviatus and Phytalus smithi per acre.
Large cane cuttings, B.H. 10 (12).						
Series 1 ...		28·25	3·08	2,017	504	2,521
Series 2 ...		26·74	4·38	7,744	1,452	9,196
Mean ...		27·50				5,859
Large cane cuttings, B.H. 10(12).						
Series 1 ...	Withered tops.	27·25	11·17	6,361	2,404	8,765
Series 2 ...		24·68	10·97	7,484	1,300	8,784
Mean ...		25·97				8,775
Small cane cuttings, B.H. 10(12).						
Series 1 ..		29·77	1·75	4,812	1,294	6,106
Series 2 ...		25·58	2·66	8,788	1,847	10,635
Mean ...		27·68				8,371
Small cane cuttings, B.H. 10(12).						
Series 1 ...	Withered tops.	26·76	12·36	8,253	4,235	12,488
Series 2 ...		21·83	8·31	6,897	1,694	8,591
Mean		24·30				10,540

As will be seen therefrom in each case the canes with the withered tops gave a lower yield than the canes in the same plots the tops of which were not so withered. In taking the average of the results a small difference of ·75 of a ton was shown in favour of plants grown from large canes. But as was seen from the number of the root-borer and brown hard-back feeding on the roots of these canes (vide table) it is impossible to draw any conclusion from the results of the experiments. Attention may, however, be drawn to the greater number of rotten canes among the "withered canes."

EXPERIMENTS WITH CUTTINGS MADE FROM CANES ATTACKED AND CANES NOT ATTACKED BY THE MOTH-BORER.

Experiments were also carried out during the year under review with cuttings taken from sugar-canes attacked and from sugar-canes not attacked by the moth-borer (*Diatraea saccharalis*, Fabr.). The experiments were carried out in a similar manner to those mentioned in the case of cuttings taken from large

sugar-canes and small sugar-canes, so there is no need to repeat it in detail. The results are given in the following table.

TABLE X :—DODDS—SUMMERVALE FIELD—PLANT CANES. 1917-1918.

		Canes, tons per acre.	Per cent. by No. of rotten canes.	Diaprepes abbreviatus per acre.	Phytalus smithi per acre.	Total Diaprepes abbreviatus and Phytalus smithi per acre.
Healthy cane cuttings, B. H. 10 (12)						
Series 1 ...		28·60	6·41	7,205	2,805	10,010
Series 2 ...		25·54	2·08	6,600	2,970	9,570
Mean. ...		27·07				9,790
Healthy cane cuttings, B. H. 10 (12)						
Series 1 ...	Withered tops	22·64	26·90	8,699	3,058	11,757
Series 2 ...		26·74	12·51	8,038	2,362	10,400
Mean. ...		24·69				11,079
Moth-borer cane cuttings, B. H. 10 (12)						
Series 1 ...		28·36	9·09	6,806	3,403	10,209
Series 2 ..		23·95	3·05	6,211	3,469	9,680
Mean. ...		26·16				9,945
Moth-borer cane cuttings, B. H. 10 (12)						
Series 1 ...	Withered tops	26·04	21·50	9,770	2,673	11,443
Series 2 ...		27·24	11·39	8,194	2,718	10,912
Mean		26·64				11,178

As will be seen therefrom, the average weight of the canes grown from the cuttings taken from canes attacked by the moth-borer was ·52 of a ton more than the canes that were not attacked. As will be also seen, there were so many larvae, etc., of the root-borer and brown hard-back present, it is impossible to draw any conclusion from the results of these experiments. Attention may, however, be drawn to the greater number of rotten canes among the "withered canes."

EXPERIMENTS WITH CUTTINGS MADE FROM PLANT CANES AND FIRST AND SECOND RATOONS.

As the matter is one of very great importance to the planters, experiments were, with the kind permission of Mr. G. Elliot Sealy, M.C.P., carried out at Lemon Arbor estate with the object of ascertaining whether there is any difference in the yield of canes grown from cuttings made from plant canes, and from cuttings made from first and second ratoon canes. The results are given in Table XI. As will be seen therefrom, they are not in accordance with results previously obtained inasmuch as cuttings made from first ratoons have this year given better results than cuttings made from plant canes. The difference, however, 210 lb. of saccharose per acre, is well within the sugar-cane plot experimental error. Furthermore, the sugar-canes on this estate were this year very badly attacked by the moth-borer, which also may have affected the yield on the plots. While the cuttings made from the plant canes have given a lower yield than those made from first ratoons, on the other hand, the cuttings made from plant canes have given a much higher yield per acre than those made from second ratoons.

TABLE XI.—LEMON ARBOR PLANTATION:—PASTURE FIELD. 1917—1919.

Name or No. of cane.	No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests.	
		Canes.	Tops.	Produce.			Sp. Gr. 30°C./16·6°C.	Lb. per gallon of			Quotient of purity.	Glucose ratio.				Diaprepes abbreviatus.	Phytalus smithi.
								Saccharose.	Glucose.	Solids not sugar.							
Plant cane cuttings of B. 376																	
Series i...	13,815	30·18	4·44	34·62	21·13	60·75	1·0822	2·03	·076	·134	90·63	3·74	3,705	7,704	Moderate.	Free.	Free.
Series ii...	15,262	29·59	5·07	34·66	15·69	61·00	1·0839	2·06	·078	·152	89·96	3·79	3,730	7,684	Moderate.	Free.	Free.
Mean...	...	29·89	4·75	34·64	...	...	...	2·05			90·30	...	...	7,694	...	...	...
1st Ratoon cuttings of B. 376																	
Series i..	12,485	28·30	4·97	33·27	22·29	61·25	1·0813	1·98	·096	·144	89·19	4·85	3,591	7,110	Moderate.	Free.	Free.
Series ii...	16,170	33·22	5·41	38·63	6·15	61·50	1·0830	2·06	·081	·140	89·96	3·93	4,222	8,607	Moderate.	Free.	Free.
Mean...	...	30·76	5·19	35·95	...	...	...	2·02			89·58	...	...	7,904	...	...	...
2nd Ratoon cuttings of B. 376														...			
Series i..	14,702	27·98	4·27	32·25	14·78	65·60	1·0844	2·08	·083	·137	90·43	3·99	3,791	7,885	Moderate.	Free.	Free.
Series ii..	14,671	27·13	4·75	31·88	8·89	62·00	1·0813	1·96	·083	·177	88·29	4·23	3,485	6,831	Moderate.	Free.	Free.
Mean...	...	27·56	4·51	32·07	...	...	...	2·02	...	...	89·36	...	...	7,358	...	...	...

LOSS OCCASIONED TO THE SUGAR CANE GROWER AND THE FACTORY OWNER BY THE ATTACKS OF THE MOTH-BORER, (*Diatraea saccharalis, Fabr.*)

As it has been evident for some time that the moth-borer (*Diatraea saccharalis*, Fabr.) is the cause of heavy loss to the sugar cane growers and the factory owners, experiments were carried out this year on three estates to obtain some idea of what this loss is. In 1913 a similar effort was made and the results were laid before the Barbados General Agricultural Society and published in the Report of the Sugar-cane Experiments for the season 1911-1913. On that occasion it was found that on the average of three experiments 29·8 per cent. of the canes grown in the plots tested were dead. There is no doubt that some of these canes were injured by the root fungus, (*Marasmius sacchari*). The opinion, however, which one of us formed at the time was that the loss was mainly due to the attacks of the moth-borer. At the price of $10.00 per ton for the canes the loss would have been $61.90 per acre. This year nine experiments on three estates were carried out to ascertain what the loss due to the moth-borer was on those estates. The estates are designated by numbers. On No. 1 estate two experiments were carried out, on No. 2 three and on No. 3 four. On each estate after the canes were cut the attacked canes from each plot were separated from those that were not attacked, each lot was then weighed and the numbers ascertained. In each case it was intended to send samples of 105 lb. each of attacked and unattacked canes to the Government Laboratory for analysis, but, unfortunately, owing to the number attacked a sufficient number of canes to give a full sample was only obtained from three plots. From two plots no unattacked canes were obtained, from another two only one unattacked cane was obtained from each plot and from the remaining two plots only five and fourteen canes respectively were obtained. To ascertain what would have been the weight of an acre of canes if none of them had been attacked, the total number of canes obtained per acre was multiplied by the average weight of an unattacked cane. The weight per acre of the unattacked and the attacked canes was then deducted from the weight of the total number of canes. To ascertain the loss sustained by the factory owner, samples of the unattacked and attacked canes were crushed separately, the per cent. of juice obtained and the composition of the juice ascertained. As can be easily understood, owing to the attacks of the moth-borer, these canes had less juice in them and the juice was inferior in quality to that of the unattacked canes. The average results of the plots are given in Table XII.

TABLE XII. LOSS IN FIELD.

	Average per cent of canes attacked.	Tons canes per acre.		Average loss tons canes per acre due to attack.	Average value of loss at $10 per ton.
					$ c.
Average weight of canes if none had been attacked	...	...	38·01	...	...
Average not attacked ...	...	2·16		...	...
Average attacked ...	94·87	29·60	31·76	6·25	62·50

LOSS IN FACTORY.

	Saccharose lb. per acre.		Average loss saccharose lb. per acre due to attack.	Average value of loss as muscovado sugar and its molasses.
				$ c.
Average saccharose from canes if none had been attacked ...	...	8,678	...	...
Average not attacked ...	577		...	...
Average attacked ...	7,516	8,093	585	31·80

As on one estate all the canes in both of the plots of the B. 6450 were attacked by the moth-borer, the results have not been included in the above table.

PART III.

EXPERIMENTS WITH SEEDLING AND OTHER CANES AT BARBADOS FOR THE SEASON 1917-1919.

The following is a summary of the principal results obtained in connection with seedling and other varieties of sugar-cane for the season 1917-1919. It contains the more important results that have been obtained during the season under review. In this branch of the work, the object which is steadily kept in view is to obtain such varieties as will be best suited to the soil and climatic conditions existing in the different districts of the island.

To this end numbers of new canes are raised annually from seed, the number depending in a great measure on the climatic conditions existing during the flowering season of the sugar-cane, and to the funds available for the carrying on of the work. When the weather conditions are favourable, large numbers are easily grown ; on the other hand when drought prevails at the time the sugar-canes are flowering, the seeds are by no means as fertile, and consequently few germinate.

Seeds of certain of the sugar-canes which are selected for their yield, etc., are sown in boxes towards the end of November or in the beginning of December in each year. As soon as the plantlets are sufficiently grown, they are pricked out into pots and when they are about eight or ten inches high they are planted, usually in the month of April, in a field arranged for irrigation, so that they may be grown to maturity by the May of the following year. In a year's time, those varieties, which from their field characters are considered good enough for reproduction, are cut, weighed, crushed, and the juice analysed. Only the stools from those canes which give a sufficiently high weight and contain fairly rich and pure juice are replanted. The stools of the canes selected are taken up, divided into halves, planted where they can be irrigated, and carefully labelled. At the same time a plan of the field is made showing the position of each stool.

During the following December, the canes from these stools are made into cuttings and planted. From then onward each variety is annually propagated and multiplied in the usual manner, and grown in competition with the White Transparent, the standard cane, and B. 6450, which has of late years given such excellent results.

If the results of the new canes when grown under similar conditions to the White Transparent and the B. 6450 justify it, they are cultivated on the various experiment plots in the black and red soil and the Scotland districts, until either they are ultimately rejected or cuttings are supplied to the planters with the recommendation to try them on a small estate scale, and if the results justify it, to gradually increase the areas under cultivation.

NATURAL HYBRIDS AND SELF-FERTILIZED SEEDLINGS.

As has been mentioned in previous reports attention is given to the obtaining of natural hybrids and self-fertilized sugar-cane seedlings. These terms have been fully dealt with in previous reports so that there is no need to explain what they mean here.

ARTIFICIAL HYBRIDS.

Of the three artificial hybrids remaining last year of those obtained in 1910, only two are now under cultivation, viz., B. H. 10 (12) and B. H. 10 (21). The results obtained with B. H. 10 (27) being unsatisfactory, it has been discarded.

SEEDLINGS OBTAINED FROM ARTIFICIAL HYBRIDS.

In December 1917, a large number of seedlings of the B. H. 10 (12) were obtained and of these 972 were potted out. From these a first selection of 480 were planted out in Pear Tree field. During the reaping season of 1919 twenty-three were reaped and the juice analysed. Of these eight were retained.

In December, 1918, a large number of seedlings of the B. H. 10 (12) were obtained and of these 902 were potted out. From these a first selection of 496 were planted out.

NATURAL HYBRIDS.

Owing to the results obtained not being satisfactory, the following natural hybrids have been discarded during this season, viz., B.N.H. 11 (1), B.N.H. 11 (6), B.N.H. 13 (4), and B.N.H. 13 (8).

The seventeen natural hybrids retained from those obtained in 1916 will be tested for the first time in 1920, viz., B.N.H. 16 (1) B.N.H. 16 (2) B.N.H. 16 (3) B.N.H. 16 (4) B.N.H. 16 (5) B.N.H. 16 (6) B.N.H. 16 (7) B.N.H 16 (8) B.N.H. 16 (9) B.N.H. 16 (10) B.N.H. 16 (11) B.N.H. 16 (12) B.N.H 16 (13) B.N.H 16 (14) B.N.H. 16 (15) B.N.H. 16 (16) and B.N.H. 16 (17).

The twenty-seven natural hybrids retained from the seventy-two obtained in 1917, have been discarded, as they were valueless.

SELFED SEEDLINGS OBTAINED FROM NATURAL HYBRIDS.

Of the eight selfed seedlings of the B.N.H. 11 (6) and the three of the B.N.H. 11 (1) obtained in 1915, five have been retained, viz., B.N.H. $\frac{11\ (6)}{15\ (2)}$ B.N.H. $\frac{11\ (6)}{15\ (3)}$, B.N.H. $\frac{11\ (6)}{15\ (4)}$, B.N.H. $\frac{11\ (6)}{15\ (7)}$ and B.N.H. $\frac{11\ (6)}{15\ (8)}$

SEEDLINGS OBTAINED IN 1917 AND 1918.

In 1917 owing to the suitable weather conditions, about 15,000 seedling sugar-canes were grown. Of these 4,977 were potted out and 2,724 of the more vigorous were planted in Pear Tree field at Waterford in 1918. These seedlings grew well and during the reaping season of 1919, 340 were reaped and the juice analysed. Of these latter 98 were, from their high tonnage and rich juice, considered worthy of retention. Owing to the favourable weather conditions that prevailed during the flowering season of the sugar-canes in 1918 over 15,000 seedlings were obtained. Of the seedlings that germinated 6,069 were potted out and a first selection of 2,946 of the more vigorous were planted in land rented from Waterford plantation in April 1919.

Since 1898 a total of 92,675 sugar-canes have been raised from seed and potted out. Of this number 7,401 reached the second stage. Of these latter 3,298 varieties were under cultivation during the season 1917–1919 and 767 variety and manurial plots were reaped and the juice from the sugar-canes analysed.

The selected varieties were cultivated during the season 1917-19 at fifteen estates representative of the localities in which they are situated, nine being in the black soil districts, five in the red soil, and one in the Scotland district. Of the above, five in the black soil districts and one in the red soil district are used as intermediary stations, on which the different varieties are tested before they are finally sent to what are generally known as the selected seedling estates. These latter are the estates on which the standard varieties and the best seedlings are cultivated in duplicate plots. In the Scotland district all the varieties grown were in duplicate plots.

The following are the most important field and factory characters, a consideration which goes to determine the value of any variety of cane :—

1. Germinating power.
2. Behaviour under extremes of dryness and moisture.
3. Habit, upright or recumbent.
4. Power of resisting the attacks of insects and fungi.
5. Period of growth.
6. Productive power in tons of canes.
7. Tonnage of tops.
8. Ratooning power.
9. Milling quality, whether the canes are tough or brittle.
10. Fuel producing property, depending upon the percentage of fibre.
11. The relative percentage of expressible juice (determining the "dryness" or the "juiciness" of the cane.)
12. The richness of the juice.
13. The purity of the juice.

The tables giving the details of the results of experiments with different varieties of canes are given at the end of the report for the benefit of those who may desire to refer to them.

It may here be pointed out that what has been stated in previous reports, viz., that the opinions expressed with regard to the value of any variety as to its suitability for the manufacture of muscovado sugar or as a ratooning cane, unless otherwise stated, must be taken to apply to the year under review, as it is impossible to draw more than temporary conclusions from one year's work.

The increase in value of any variety during the year under review when compared with the White Transparent, the standard cane, has been calculated at the rate of $4.53 per 100 lb. of muscovado sugar, the approximate average price at which that sugar sold during 1919. In the tables giving the increase compared with the White Transparent during the past five years, its value has been calculated at $3.65 per 100 lb., the approximate average price at which muscovado sugar sold for the years 1915-1919.

For the season under review, the comparative results of the plant canes in the black soil districts are given in Table XIII both in pounds of saccharose and pounds of muscovado sugar per acre. In calculating the results, as mentioned above, 100 lb. of saccharose is taken as equal to 80 lb. of muscovado sugar with its molasses.

Before considering the comparative results obtained with the different varieties of the sugar-cane cultivated for the season 1917-1919, it may be as well to emphasize the fact here that the results are by no means conclusive, owing, as in the case of the manurial experiments, to the attacks of the root-borer, (*Diaprepes abbreviatus*, Linn.) and the brown hard-back, (*Phytalus smithi*, Arrow). These pests attack some of the clumps of the sugar-canes in some plots in greater numbers than in others. As will be seen from the tables giving the number collected after the canes were reaped, and calculated to the acre, the results are not comparable. As will be seen from the tables giving the results of the experiment plots, on some of the estates the root-borer and brown hard back have not yet been found, therefore planters desirous of comparing the results of the different varieties of the better sugar-cane seedlings under experimentation should refer to those tables.

For the season under review in the black soil districts, the average yield of the White Transparent from seventeen plots was 4,172 lb. of muscovado sugar per acre. W. No. 2 which came first gave a yield of 8,706 lb. of muscovado sugar, an increase of 4,534 lb. over the White Transparent, and an increased monetary gain of $205.39. Ba. 11403 came next with 8,356 lb. muscovado sugar, an increase of 4,184 lb. worth $197.69 per acre more than the White Transparent. Ba. 8409 came third with a yield of 7,788 lb. of muscovado sugar, an increase of 3,506 lb. of the value of $161.54 per acre more than the White Transparent. B. H. 10 (12) gave a yield of 7,640 lb. of muscovado sugar, an increase of 3,468 lb. equal to an increased monetary gain of $157.10 per acre over the White Transparent. B. S. F. 12 (50) came next with a yield of 7,430 lb. of muscovado sugar, an increase of 3,258 lb. per acre, worth $147.59 more than the White Transparent. Two other varieties, Ba. 597 and Ba. 6032 gave yields of 7,154 lb. and 7,079 lb. of muscovado sugar, and monetary gains of $135.08 and $131.69 respectively over the White Transparent. The Ba. 8069, Ba. 11569, Ba. 12079, B. S. F. 12 (48), Ba. 7924, B.6308, Ba. 2471, B. S. F. 12 (27) and B.6450 gave increased yields of from 2,396 lb. to 1,686 lb. of muscovado sugar per acre, valued at from $108.45 to $76.38 more than the White Transparent. Six other varieties mentioned in the table gave increased yields over the White Transparent of from 1,501 lb. to 137 lb. of muscovado sugar valued at from $68.00 to $6.21 per acre. The Bourbon gave a decreased yield of 2,769 lb. of muscovado sugar per acre when compared with the White Transparent and a monetary loss of $125.44.

As will be seen from Table XIII, in some instances there are one or two plots of varieties apparently giving higher results than some of the better ones. The fact is that one variety grown in a very fertile district is compared with another variety grown in perhaps a dozen districts some of which are in parts of the island where the rainfall is below the average. To give an example, W. No. 2, as will be seen from the table, on two plots grown in the same field on the same estate gave an average yield of 8,706 lb. of muscovado sugar per acre; B.H. 10 (12) a decidedly better variety yielded on the average from twelve plots, in different fields on different estates, 7,640 lb. of muscovado sugar per acre, that is 1,066 lb. less than the W. No. 2. If, however, the average yield per acre of the B. H. 10 (12) is compared with the yield of the W. No. 2 when grown together in the same field on the same estate, it will be seen that the B. H. 10 (12) yielded 3,541 lb. of muscovado sugar more than the W. No. 2.

Another instance is the Ba. 6032. The yield of this cane on the average from thirteen plots, in different fields on different estates is 7,079 lb. of muscovado sugar per acre, that is 1,627 lb. less than the W. No. 2. If, however, the average yield per acre of the Ba. 6032 is compared with the yield of W. No. 2. when grown together in the same field on the same estate, it will be seen that the Ba. 6032 yielded 2,493 lb. of muscovado sugar per acre more than the W. No. 2.

On the red soils, as will be seen from Table XIV, the average yield of the White Transparent as plant canes was 5,352 lb. of muscovado sugar per acre, while some of the better seedling canes gave much higher yields. For instance, the B. H. 10 (12) gave a yield of 9,838 lb. of muscovado sugar per acre, an increased return compared with the White Transparent of 4,486 lb. equal in value to $203.22 per acre. B. S. F. 12 (27) came next with 8,898 lb. of muscovado sugar per acre, an increase of 3,446 lb. of the value of $160.63. With the Ba. 6032 the increase was 2,989 lb. of muscovado sugar per acre, of the value of $135.40. For the Ba. 11569 the increase was 1,965 lb. and for the B. S. F. 12 (34), 1,932 lb. of muscovado sugar, worth $89.01 and $87.52 respectively, per acre more than the White Transparent. Five other varieties Ba. 7924, Ba. 2471, B. S. F. 12 (24), B. 6450 and B. 3922, gave increased yields varying from 1,904 lb. to 326 lb. of muscovado sugar per acre valued from $86.25 to $14.77 more than the White Transparent.

As will be seen from Table XV, on the red soils as plants, first and second ratoons, grown during the season under review, the White Transparent gave 13,855 lb. of muscovado sugar, worth at $4.53 per 100 lb., $627.63 for the three crops. B. H. 10 (12) gave 23,365 lb. of muscovado sugar, an increase of 9,510 lb. worth for the three crops $430·80 more than the White Transparent. Ba. 7924 came next with a yield of 17,878 lb. of muscovado sugar, an increase of 4,023 lb. worth $182.24 more than the White Transparent. The Ba. 6032 gave 17,779 lb. of muscovado sugar and an increased monetary return of $177 76 more than the White Transparent. Four other varieties B. 3922, Ba. 12079, B.6450 and Ba. 2471 gave increases of 4,023 lb., 1,773 lb., 1,406 lb., and 1,003 lb., worth $80.82, $63.69, $61.25 and $45.44 respectively more than the White Transparent for the three crops.

The average results of the better varieties for the past five years are given in Table XVI. As will be observed on the black soils the White Transparent, which came out fortieth amongst all the varieties cultivated, gave an average yield of 4,938 lb. of muscovado sugar per acre for the five years 1915-1919. The B. H. 10 (12) which heads the list, gave a yield of 8,191 lb. of muscovado sugar, an increase of 3,253 lb. per acre, worth at $3.65—the average price at which muscovado sugar was sold for that period—$118.73 more per acre per annum than the White Transparent. The Ba. 6032 gave an increased yield of 2,407 lb. of muscovado sugar, worth $87.86 per acre per annum more than the White Transparent. W. No. 2 gave a yield of 7,338 lb. of muscovado sugar, an increase of 2,400 lb. worth $87.60 per acre per annum more than the White Transparent. Ba. 11403 and Ba. 8069 gave increased yields of 2,313 lb. and 2,268 lb. of muscovado sugar, worth respectively $84.42 and $82.78 more per acre per annum than the White Transparent. Three varieties, Ba. 11569, Ba. 12079 and B. 6450 gave increased yields of 2,016 lb., 1,664 lb. and 1,600 lb., worth $73.58, $60.74 and $58.40 respectively more per acre per annum than the White Transparent. Eight other varieties, Ba. 8409, B. 6308, Ba. 2471, Ba. 7924, Ba. 597, B. 7169, B. 147 and B. 376 gave increased yields worth from $57.09 to $7.92 per acre per annum more than the White Transparent.

The results of the experiments with different varieties as plant canes carried on in the red soil districts for the five years are shown in Table XVII. As will be seen therefrom the White Transparent gave an average yield of 4,772 lb. of muscovado sugar per acre per annum. Ba. 6032 which heads the list, gave an average yield of 7,593 lb. of muscovado sugar per acre, an increase of 2,821 lb., worth $102.97 more per acre per annum than the White Transparent. B. 6450 came next with 6,998 lb. of muscovado sugar, an increase of 2,226 lb., worth $81.25 more per acre per annum than the White Transparent. Ba. 2471 and B. 3922 gave increased yields of 1,723 lb. and 1,329, lb. worth respectively $62.89 and $48.51 more per acre per annum than the White Transparent.

TABLE XIII.—SELECTED AND OTHER VARIETIES THAT HAVE BEEN UNDER CULTIVATION FOR SOME YEARS, FOR THE SEASON 1917-1919.

Black Soils—Plant Canes.

Name or No. of cane.	No. of experiments.	Saccharose lb. per acre.	Muscovado sugar lb. per acre.	Increase or decrease in value per acre compared with White Transparent.
				$ c.
W. No. 2	2	10,883	8,706	205·39
Ba. 11403	1	10,670	8,536	197·69
Ba. 8109	1	9,672	7,738	161·54
B. B. 10 (12)	12	9,550	7,640	157·10
B.S.F. 12 (50)	1	9,288	7,430	147·59
Ba. 597	1	8,943	7,154	135·08
Ba. 6032	13	8,849	7,079	131·69
Ba. 8069	1	8,210	6,568	108·45
Ba. 11569	6	8,183	6,546	107·54
Ba. 12079	2	8,097	6,478	104·46
B.S.F. 12 (48)	1	7,869	6,295	96·17
Ba. 7924	12	7,836	6,269	94·99
B. 6308	6	7,759	6,207	92·19
Ba. 2471	10	7,659	6,127	88·56
B.S.F. 12 (27)	5	7,345	5,876	77·19
B. 6450	20	7,323	5,858	76·38
B. 147	1	7,091	5,673	68·00
B.S.F. 12 (24)	9	6,891	5,513	60·75
B.S.F. 12 (34)	2	6,513	5,210	47 02
B.S.F. 12 (45)	1	5,946	4,757	26·50
B. 7169	2	5,741	4,593	19·07
B. 376	1	5,386	4,309	6·21
W. Transparent	17	5,215	4,172	...
Bourbon	1	1,754	1,403	– 125·44

TABLE XIV.—Selected Varieties for the season 1917—1919

Red Soils.—Plant Canes.

Name or No. of cane.	No. of experiments.	Saccharose, lb. per acre.	Muscovado sugar, lb. per acre.	Increase or decrease in value per acre compared with White Transparent.
				$ c.
B.H. 10 (12)	9	12,298	9,838	203·22
B.S.F. 12 (27)	2	11,122	8,898	160·68
Ba. 6032	9	10,426	8,341	135·40
Ba. 11569	5	9,146	7,317	89·01
B.S.F. 12 (34)	4	9,105	7,284	87·52
Ba. 7924	9	9,070	7,256	86·25
Ba. 2471	4	8,448	6,758	63·69
B.S.F. 12 (24)	5	7,914	6,331	44·35
B. 6450	9	7,866	6,293	42·63
B. 3922	6	7,098	5,678	14·77
W. Transparent	9	6,690	5,352	...
Ba. 12079	2	5,134	4,107	−56·40

SELECTED VARIETIES.

TABLE XV.—Plant Canes, 1st Ratoons and 2nd Ratoons reaped during the crop season of 1919.

Red Soils.

Name or No. of cane.	No. of experiments.	Saccharose, lb. per acre.				Total muscovado yield for three crops.	Increase in value per acre compared with White Transparent.
		Plants.	First ratoons.	Second ratoons.	Total for three crops.		
							$ c.
B.H. 10 (12) ...	24	12,298	8,965	7,943	29,206	23,365	430·86
Ba. 7924 ...	24	9,070	7,442	5,835	22,347	17,878	132·24
Ba. 6032 ..	22	10,426	7,166	4,632	22,224	17,779	177·76
B. 3922 ...	16	7,098	6,799	5,638	19,535	15,628	80·32
Ba. 12079 ...	6	5,134	8,823	5,119	19,076	15,261	63·69
B. 6450 ...	24	7,866	6,425	4,718	19,009	15,207	61·25
Ba. 2471 ...	10	8,448	6,178	8,946	18,572	14,858	45·44
W. Transparent	24	6,690	5,684	4,945	17,319	13,855	...

TABLE XVI.—SELECTED VARIETIES FOR THE FIVE YEARS 1915—1919.

Black Soils—Plant Canes.

Name or No. of cane.	No. of years.	No. of experiments.	Saccharose, lb. per acre.	Muscovado sugar, lb. per acre.	Increase or decrease in value per acre compared with White Transparent.
					$ c.
B.H. 10 (12)	5	47	10,239	8,191	118·73
Ba. 6032	5	72	9,181	7,345	87·86
W. No. 2	5	10	9,173	7,338	87·60
Ba. 11403	5	5	9,064	7,251	84·42
Ba. 8069	5	5	9,008	7,206	82·78
Ba. 11569	5	19	8,692	6,954	73·58
Ba. 12079	5	8	8,252	6,602	60·74
B. 6450	5	96	8,172	6,538	58·40
Ba. 8409	5	5	8,127	6,502	57·09
B. 6808	5	37	8,069	6,455	55·37
Ba. 2471	5	57	7,888	6,310	50·08
Ba. 7924	5	41	7,848	6,278	48·91
Ba. 597	5	12	7,658	6,126	43·36
B. 7169	5	42	7,574	6,059	40 92
B. 147	5	22	6,695	5,356	15·26
B. 376	5	22	6,444	5,155	7·92
W. Transparent ...	5	93	6,173	4,938	...
Bourbon	5	5	4,170	3,336	– 58·47

TABLE XVII.—SELECTED VARIETIES FOR THE FIVE YEARS 1915—1919.

Red Soils—Plant Canes.

Name or No. of cane.	No. of years.	No. of experiments.	Saccharose, lb. per acre.	Muscovado sugar, lb. per acre.	Increase in value per acre compared with White Transparent.
					$ c.
Ba. 6032	5	31	9,491	7,593	102·97
B. 6450	5	38	8,747	6,998	81·29
Ba. 2471	5	14	8,119	6,495	62·86
B. 3922	5	30	7,626	6,101	48·51
W. Transparent... ...	5	37	5,965	4,772	...

In last year's report the results obtained with four of the newer varieties, viz :—B. S. F. 12 (24), B. S. F. 12 (27), B. S. F. 12 (34) and B. S. F. 12 (45) were given in Table XIX. This year owing to the fact that nearly all the sugar-canes growing in these plots were made into cuttings for planting purposes, the remainder were not enough for carrying out sufficient reliable tests.

As a considerable number of planters are now growing three of the newer seedling sugar-canes, viz :—B. H. 10 (12), Ba. 6032 and Ba. 7924, it may not be without interest if the results obtained with these three sugar-canes are compared with the White Transparent and B. 6450. Each of these newer varieties was grown on the same estate, in the same field and under the same conditions as the White Transparent and B. 6450. The results are given in Table XVIII. As will be seen therefrom, under the conditions mentioned above, B. H. 10 (12) yielded on the average for six years from forty-eight plots 10,852 lb. of saccharose or 4,100 lb. per acre more than the White Transparent and 2,314 lb. per acre more than the B. 6450. Ba. 6032 under similar conditions for five years from seventy-six plots yielded 2,987 lb. saccharose per acre more than the White Transparent and 1,020 lb. per acre more than B. 6450. Ba. 7924, under similar conditions for six years from forty-two plots, yielded 2,517 lb. saccharose per acre more than the White Transparent and 715 lb. saccharose more than B. 6450. Expressed in percentages, the B. H. 10 (12) gave an increased yield on the average for six years over the White Transparent of 60·7 per cent. and over the B. 6450 of 27·1 per cent. The Ba. 6032 gave an increased yield on the average over the White Transparent for five years of 49·5 per cent. and over the B. 6450 of 12·7 per cent. and the Ba. 7924 gave an increased yield on the average for six years over the White Transparent of 38 per cent. and over the B. 6450 of 8·5 per cent.

TABLE XVIII.—WHITE TRANSPARENT AND B. 6450 COMPARED WITH B.H. 10 (12) GROWN IN THE SAME FIELDS DURING THE SEASONS 1912-14 TO 1917-19.

Name or No. of cane.	No. of years.	No. of experiments.	Canes, tons per acre.	Per cent. juice by mill.	Normal Juice. Lb. per gallon of Saccharose.	Normal Juice. Lb. per gallon of Glucose.	Normal Juice. Quotient of purity.	Normal Juice. Glucose ratio.	Saccharose, lb. per acre.	Increase in saccharose lb. per acre over White Transparent.	Increase in saccharose lb. per acre over B 6450.	Per cent. of increase over White Transparent.
W. Transparent	6	48	25·70	62·27	2·05	·070	89·76	3·49	6,752	...	...	...
B. 6450	6	48	31·49	63·55	2·07	·064	89·62	3·13	8,538	1,786	...	27·1
B.H. 10 (12)	5	48	36·16	62·86	2·33	·063	91·14	2·71	10,852	4,100	2,314	60·7
White Transparent and B. 6450 compared with Ba. 6032 grown in the same fields during the seasons 1913-15 to 1917-19.												
W. Transparent	5	76	24·32	59·96	1·98	·060	89·62	3·51	6,034	...	...	...
B. 6450	5	76	30·86	62·00	2·02	·062	88·92	3·23	8,061	1,967	...	12·7
Ba. 6032	5	76	36·06	61·05	1·99	·065	89·25	3·34	9,021	2,987	1,020	49·5
White Transparent and B. 6450 compared with Ba. 7924 grown in the same fields during the seasons 1912-14 to 1917-19.												
W. Transparent	6	42	25·86	61·38	2·00	·081	88·50	4·13	6,626	...	...	...
B. 6450	6	42	32·27	63·55	2·00	·078	88·28	3·90	8,428	1,802	...	8·5
Ba. 7924	6	42	33·57	61·69	2·03	·089	90·41	1·91	9,143	2,517	715	38·0

SUMMARY OF THE RESULTS OF CERTAIN VARIETIES OF THE SUGAR-CANE AS COMPARED WITH THE WHITE TRANSPARENT AND THE B. 6450 ON CERTAIN ESTATES.

As it is most important to the sugar-cane growers as a whole that the results obtained with the better seedling varieties should be compared with the White Transparent, the standard cane, so as to obtain some idea of their comparative values, forms were sent to forty-three out of the 305 estates in the island asking for a return of the results obtained with the seedling and other sugar-canes grown for the crop of 1919. Replies this year were received from thirty-two estates. Of these, for various reasons, three were of no value, so that the comparative results could only be compiled from twenty-nine estates. Of these, sixteen were from the black and thirteen from the red soil districts. The number of forms sent out this year was considerably less than in previous years, which at one time was over 300. This was due to the fact that so few replies were received in the past in comparison with the number of forms sent out, that this year forms were sent only to those planters who in the past had returned them filled in, together with others who it was thought might possibly this year supply the information asked for.

Before comparing the results it might be as well if attention is called to the fact that the root-borer and the brown hard-back are found on a number of the estates supplying the information. It is therefore, probable, that the yields per acre of some of the different varieties of sugar-canes have been affected, and so they must be accepted with a certain amount of reserve. As has been already pointed out, the injury caused by these two pests on the manurial plots at Dodds and other plots, was considerable, and the loss in the case of the manurial plots was not less than 4·36 tons of cane per acre.

PLANT CANES.

As will be seen from Table XIX giving the results in the black soil districts, the average yields of the plant canes were as follows, viz:—Ba. 6032 from 366 acres, 34·13 tons of canes per acre, B. 6308 from 3·75 acres, 33·96 tons of canes per acre, B. H. 10 (12) from 436·5 acres, 33·95 tons of canes per acre, B. 6450 from 878·69 acres, 28·23 tons of canes per acre, White Transparent from 17·75 acres, 27·27 tons of canes per acre, and B. 376 from 85·5 acres, 25·17 tons of canes per acre; differences in favour of the Ba. 6032, B. 6308, B. H. 10 (12) and B. 6450, as compared with the White Transparent, of 6·86, 6·69, 6·68 and ·96 tons of canes per acre respectively. The B. 376 yielded 2·1 tons of canes per acre less than the White Transparent.

In the red soil districts it has been customary in previous years to compare the different seedling canes with the White Transparent as the standard cane. Owing, however, to some of the different varieties giving better yields than the White Transparent, most of the planters have now discontinued growing this sugar-cane. We have, therefore, this year to compare the results of the different varieties of sugar-cane grown in these districts with B. 6450, which is now being used as a standard in place of the White Transparent. The average yields of the plant canes were as follows, viz:—B.H. 10 (12) from 127·5 acres, 37·82 tons of canes per acre, Ba. 6032 from 77·5 acres, 36·38 tons of canes per acre, B. 6450 from 262·5 acres, 31·3 tons of canes per acre, B. 6308 from 12 acres, 30·96 tons of canes per acre, and B. 376 from 216·75 acres, 27·85 tons of canes per acre; differences in favour of the B.H. 10 (12) and Ba. 6032 as compared with the B. 6450, of 6·52 and 5·08 tons of canes per acre, respectively. The B. 6308 and B. 376 yielded ·34 and 3·45 tons of canes per acre, respectively, less than the B. 6450.

FIRST RATOONS.

As no results with White Transparent as first ratoons in the black soil districts were received, the results have been compared with the B. 6450. The average yields of the first ratoons were as follows, viz:—B.H. 10 (12) from 18·25 acres, 27·49 tons of canes per acre, B. 376 from 55·25 acres, 18·75 tons of canes per acre, B. 6450 from 226·5 acres, 18·57 tons of canes per acre, and Ba. 6032 from 35·5 acres, 18·19 tons of canes per acre; differences in favour of the B.H. 10 (12) and B. 376 when compared with the B. 6450 of 8·92 and ·18 tons of canes per acre, respectively. The Ba. 6032 yielded ·38 tons of canes per acre less than the B. 6450.

On the red soils the average yields were as follows, viz :—B.H. 10 (12) from one acre, 27·74 tons of canes, Ba. 6032 from 29 acres, 25·95 tons of canes per acre, Rappoe from 8 acres, 25·44 tons of canes per acre, B. 6308 from 16·5 acres, 23·48 tons of canes per acre, B. 6450 from 288·88 acres, 22·82 tons of canes per acre, B. 376 from 287·88 acres, 20·57 tons of canes per acre, and Caledonian Queen from one acre, 18 tons of canes; differences in favour of the B. H. 10 (12), Ba. 6032, Rappoe and B. 6308 when compared with the B. 6450, of 4·92, 3·13, 2·62 and ·66 tons of canes per acre respectively. The B. 376 and Caledonian Queen yielded 2·25 and 4·82 tons of canes per acre less, respectively, than the B. 6450.

SECOND RATOONS.

On the red soils the average yields of the second ratoons were as follows, viz :—Ba. 6032 from 5 acres, 26·49 tons of canes per acre, Rappoe from 9 acres, 20·64 tons of canes per acre, B. 6450 from 66·55 acres, 19·95 tons of canes per acre, and B. 376 from 209·55 acres, 19·53 tons of canes per acre; differences in favour of the Ba. 6032 and Rappoe when compared with B. 6450 of 6·54 and ·69 tons of canes per acre respectively. The B. 376 yielded ·42 tons of canes per acre less than the B. 6450.

In the reports for the six previous years estimates were made as to the value to the island of the B. 6450, which has for the past several years given such satisfactory results as compared with the White Transparent, the standard cane. As results with the White Transparent as plant canes were only received from two estates in the black soils, it would not be fair to compare it with the B. 6450, the results of which sugar-cane were received from seventeen estates. It would, therefore, be better to compare the B. 6450, which will now have to be considered the standard cane, with the seedling cane B. H. 10 (12) and other of the better seedling varieties which are now being grown all over the island. Owing to the increase in the price of sugar due to the war, on a great deal of the land on which cotton was cultivated, canes are now grown, therefore the area of canes reaped during 1919 would probably be about 35,000 acres. On comparing the yields of the plant canes and ratoons in the black and red soil districts, as given in Tables XIX and XX, it will be seen that the yields on the average of the B.H. 10 (12) over the B. 6450 amounted to 6·52 tons of canes per acre. As, on the average, factories in Barbados do not take more than nine tons of canes to make a ton of dark crystal sugar, and as several have taken less, it may be assumed that the increased yield of the B. H. 10 (12) over the B. 6450 is equal to about two-thirds of a ton of dark crystal sugar per acre. This would, if the 35,000 acres were all planted in B. H. 10 (12), be an increase to the crop of the island of about 23,338 tons of dark crystal sugar. In previous years it has been customary to calculate the increased yield at the average price at which dark crystal sugar sold for the previous twenty years, and at that price, viz., £12 12s 8½d. per ton, the monetary value of the increased yield would not be less than £294,822. If, however, the increase was calculated at the price obtained for dark crystal sugar this year, viz., £23 9s 5½d. per ton, the monetary value of the increased yield would not be less than £547,693. In addition there is a gain made by the factories on the sugar-canes worked up, and would, if all the canes were manufactured into sugar at a properly equipped factory, be as follows:—35,000 acres at 6·52 tons of sugar-cane per acre is 228,200 tons. At the rate of nine tons of canes per ton of sugar this would represent 25,355 tons of dark crystal sugar. At the price paid for sugar-canes grown on the lands of the Government Industrial Schools, viz., $8.94 per ton, and assuming that the cost of manufacture is £4 per ton, the gain to the factory would be £68,722, making a total of £616,415 to the sugar cane growers and factory owners from the work of the Department of Agriculture.

TABLE XIX.—SUMMARY OF RESULTS OF LARGE VARIETY EXPERIMENTS FOR SEASON 1917—1919.

Name or No. of cane.	No. of estates.	No. of acres.	Total No. tons canes.	Average tons canes per acre.	Increase or decrease compared with W. Transparent.
	BLACK SOILS—*Plant Canes.*				
Ba. 6032	1[illegible]	366·00	12493·40	34·13	+ 6·86
B. 6308	1	3·75	127·36	33·96	+ 6·69
B.H. 10 (12) ...	15	436·50	14821·12	33·95	+ 6·68
B. 6450	17	878·69	24801·71	28·23	+ ·96
W. Transparent ...	2	17·75	484·00	27·27	...
B. 376	8	85·50	2152·36	25·17	− 2·10
	BLACK SOILS—*First Ratoons.*				compared with B.6450
B.H. 10 (12) ...	4	18·25	501·78	27·49	+ 8·92
B. 376	6	55·25	1035·99	18·75	+ ·18
B. 6450	10	226·50	4205·71	18·57	...
Ba. 6032	6	35·50	645·92	18·19	− ·38

TABLE XX.

SUMMARY OF RESULTS OF LARGE VARIETY EXPERIMENTS FOR SEASON 1917—1919.

Name or No. of cane.	No. of estates.	No. of acres.	Total No. tons canes.	Average tons canes per acre.	Increase or decrease compared with B. 6450.
	RED SOILS.—*Plant Canes.*				
B.H. 10 (12)	10	127·50	4822·42	37·82	+ 6·52
Ba. 6032	7	77·50	2819·84	36·38	+ 5·08
B. 6450	12	262·50	8216·15	31·30	...
B. 6308	2	12·00	371·57	30·96	− ·34
B. 376	10	216·75	6036·90	27·85	− 3·45
	RED SOILS.—*First Ratoons.*				
B.H. 10 (12)	1	1·00	27·74	27·74	+ 4·92
Ba. 6032	6	29·00	752·43	25·95	+ 3·13
Rappoe	1	8·00	203·50	25·44	+ 2·62
B. 6308	4	16·50	387·39	23·48	+ ·66
B. 6450	12	288·88	6593·45	22·82	...
B. 376	11	287·83	5922·28	20·57	− 2·25
Cal. Queen	1	1·00	18·00	18·00	− 4·82
	RED SOILS.—*Second Ratoons.*				
Ba. 6032	3	5·00	132·47	26·49	+ 6·54
Rappoe	1	9·00	185·80	20·64	+ ·69
B. 6450	7	66·55	1327·79	19·95	...
B. 376	10	209·55	4093·29	19·53	− ·42

SELECTED VARIETIES.

TABLE XXI.—CARRINGTON PLANTATION :—No. 56 EXHIBITION FIELD.

Plant Canes. (1917-1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·0° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Mara-mius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent	Series i...	11,252	17·55	1·70	19·31	17·21	57·25	1·0857	2·14	·057	·133	91·85	2·66	2,073	4,436	Moderate.	D.a.	P.s.
	Series ii...	14,902	25·15	3·37	28·52	8·17	60·00	1·0870	2·13	·081	·159	89·87	3·80	3,110	6,624	Slight.	D.a.	P.s.
	Mean...	..	21·35	2·57	23·92	...	...	...	2·14	...	...	90·86	...	...	5,530	...	...	...
B. 6308	Series i...	11,534	22·34	3·31	25·65	3·88	60·00	1·0844	2·11	·060	·130	91·74	2·84	2,769	5,843	Slight.	D.a.	P.s.
	Series ii...	10,566	25·04	3·47	28·51	2·60	63·00	1·0839	2·07	·060	·154	90·39	3·19	3,261	6,750	Slight.	D.a.	Free
	Mean...	...	23·69	3·39	27·08	...	...	...	2·09	...	...	91·07	...	...	6,297	...	...	...
B. 6450	Series i...	16,414	29·02	3·78	32·80	2·16	59·75	1·0853	2·07	·068	·187	89·22	3·04	3,579	7,409	Slight.	D.a.	P.s.
	Series ii...	13,995	24·01	3·51	27·55	3·07	61·50	1·0857	2·07	·061	·199	88·84	2·95	3,050	6,314	Slight.	D.a.	P.s.
	Mean...	..	26·53	3·65	30·18	...	...	...	2·07	..	...	89·03	...	..	6,862	...	...	...
Ba. 6032	Series i...	14,196	28·16	2·65	30·81	3·83	59·25	1·0835	2·05	·069	·161	89·91	3·37	3,449	7,070	Slight.	Free	P.s.
	Series ii..	13,712	28·88	3·44	32·32	2·86	62·00	1·0857	2·09	·083	·157	89·70	3·97	3,694	7,720	Slight.	Free	P.s.
	Mean...	...	28·52	3·05	31·57	...	...	...	2·07	...	...	89·81	...	...	7,395	..	...	...
Ba. 7924	Series i...	19,641	33·16	3·35	36·51	2·60	59·00	1·0879	2·14	·078	·172	89·54	3·04	4,029	8,622	Slight.	Free	P.s.
	Series ii...	21,577	29·31	3·69	33·00	1·65	61·25	1·0848	2·11	·028	·172	91·34	1·38	3,707	7,822	Slight.	D.a.	Free.
	Mean..	...	31·24	3·52	34·76	...	...	...	2·13	...	...	90·44	...	..	8,222	..	...	...
B. H. 10 (12) ...	Series i..	14,357	32·17	3·35	35·52	3·78	59·25	1·0997	2·41	·078	·222	88·93	3·24	3,883	9,358	Slight.	D.a.	Free.
	Series ii..	15,971	32·91	3·87	36·78	4·58	59·75	1·0969	2·44	·036	·154	92·78	1·48	4,016	9,790	Slight.	Free	P.s.
	Mean ...	...	32·54	3·61	36·15	...	...	..	2·43	...	...	90·86	..	...	9,579	...	.	...
B.S.F. 12 (24) ...	Series i..	17,503	27·31	2·54	29·85	11·70*	61·75	1·0884	2·09	·081	·239	86·72	3·88	3,471	7,254	Slight.	D.a.	P.s.
	Series ii..	17,705	25·87	2·30	28·17	4·15	62·75	1·0857	2·07	·064	·196	88·84	2·09	3,350	6,935	Slight.	Free	P.s.
	Mean...	...	26·59	2·42	29·01	...	...	...	2·08	...	...	87·78	...	..	7,095	...	...	...

* Eaten by rats.

TABLE XXI.—*Concluded.*—CARRINGTON PLANTATION:—No. 56 EXHIBITION FIELD.

Plant Canes. 1917–1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius saccharii.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
B.S.F. 12 (27) ..	Series i...	19,439	32·37	4·34	36·71	1·63	58·50	1·0844	1·96	·089	·311	82·61	4·68	3,912	7,433	Slight.	D.a.	P.s.
	Series ii...	18,431	34·21	4·01	38·22	2·97	62·00	1·0866	2·12	·068	·172	89·83	3·21	4,372	9,269	Slight.	D.a.	P.s.
	Mean...	...	33·29	4·18	37·47	...	...	...	2·01	...	...	86·22	..	...	8,351	...	...	...
B.S.F. 12 (53) ...	Series i..	15,285	27·74	4·00	31·74	4·77	63·00	1·0839	1·98	·093	·217	86·46	4·70	3,612	7,152	Slight.	Free	P.s.
	Series ii...	15,400	28·77	3·91	32·68	1·55	61·75	1·0879	2·15	·083	·157	89·06	3·86	3,658	7,865	Slight.	D.a.	Free.
	Mean...	...	28·26	3·95	32·21	...	...	...	2·07	...	...	88·21	..	...	7,509	...	...	...

SELECTED VARIETIES.

TABLE XXII.—COVERLEY PLANTATION:—SUCK HOLE FIELD.

Plant Canes. 1917-1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30°C./16·6°C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent ...	Series i..	6,681	9·51	2·23	11·74	20·13	61·00	1·0778	1·86	·074	·186	87·74	3·98	1,206	2,242	Moderate.	D.a.	P.s.
	Series ii...	14,156	24·76	3·15	27·91	11·59	57·50	1·0822	1·97	·069	·201	87·95	3·50	2,946	5,804	Moderate.	D.a.	P.s.
	Mean...	...	17·14	2·69	19·83	...	...	...	1·92	...	...	87·85	...	...	4,024	...	...	...
B. 6450	Series i...	19,015	27·39	3·67	31·06	8·71	57·75	1·0778	1·84	·078	·202	86·79	4·24	3,288	6,050	Slight.	D.a.	P.s.
	Series ii...	22,789	38·43	4·50	37·93	8·33	58·12	1·0844	1·93	·078	·292	83·91	4·04	4,013	7,745	Slight.	D.a.	P.s.
	Mean...	...	30·41	4·09	34·50	...	...	...	1·89	...	...	85·35	...	...	6,898	...	...	...
Ba. 2471	Series i...	19,116	27·82	2·79	30·61	3·85	55·50	1·0866	2·09	·069	·201	88·56	3·30	3,183	6,652	Slight.	D.a.	P.s.
	Series ii...	20,730	29·08	2·95	32·03	7·39	58·00	1·0870	2·09	·060	·220	88·19	2·87	3,475	7,263	Slight.	D.a.	P.s.
	Mean...	...	28·45	2·87	31·32	...	...	...	2·09	...	...	88·38	...	...	6,958	...	...	...
Ba. 6032	Series i..	15,890	28·27	2·25	30·52	4·14	58·00	1·0818	1·96	·069	·191	88·29	3·52	3,396	6,656	Slight.	D.a.	P.s.
	Series ii ..	17,181	34·12	3·42	37·54	17·28	59·00	1·0809	1·89	·068	·252	85·52	3·60	4,172	7,885	Slight.	D.a.	P.s.
	Mean...	...	31·20	2·83	34·03	...	...	...	1·93	...	...	86·91	...	...	7,271	...	...	...
Ba. 7924	Series i...	15,971	24·49	3·51	28·00	5·71	55·75	1·0915	1·94	·069	·481	77·91	3·56	2,802	5,436	Slight.	D.a.	P.s.
	Series ii...	16,809	27·30	3·09	30·39	8·47	58·00	1·0826	1·99	·063	·197	88·44	3·17	3,276	6,519	Moderate.	D.a.	P.s.
	Mean...	...	25·90	3·30	29·20	...	...	...	1·97	...	...	83·18	...	...	5,978	...	...	...
Ba. 11569	Series i...	17,665	38·89	3·06	41·95	3·74	59·25	1·0884	2·12	·068	·222	87·97	3·21	4,742	10,058	Slight.	D.a.	P.s.
	Series ii...	19,116	37·90	4·14	42·04	9·54	58·00	1·0884	2·17	·046	·194	90·04	2·12	4,524	9,817	Moderate.	D.a.	P.s.
	Mean...	...	38·40	3·60	42·00	...	...	...	2·15	...	...	89·01	...	...	9,935	...	...	...
B.H. 10 (12) ...	Series i...	12,462	26·20	1·89	28·09	11·71	59·50	1·0883	2·36	·063	·247	88·39	2·67	3,179	7,502	Slight.	D.a.	P.s.
	Series ii...	16,455	29·44	2·79	32·28	8·72	58·50	1·0920	2·19	·045	·265	87·60	2·05	3,583	7,737	Moderate.	D.a.	P.s.
	Mean...	...	27·82	2·34	30·16	...	...	...	2·28	...	...	88·00	...	...	7,620	...	...	...

TABLE XXII.—*Concluded.*—COVERLEY PLANTATION :—SUCK HOLE FIELD.

Plant Canes. 1917-1919.

Name or No. of cane.	No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests.	
		Canes.	Tops.	Produce.			Sp. Gr. 30°C./16·6° C.	Lb. per gallon of Saccharose.	Lb. per gallon of Glucose.	Lb. per gallon of Solids not sugar.	Quotient of purity.	Glucose ratio.				Diaprepes abbreviatus.	Phytalus smithi.
B. S. F. 12 (24) ... Series i..	21,335	28·27	3·09	31·96	4·34	60·00	1·0897	2·18	·066	·194	89·34	3·03	3,486	7,599	Slight.	D.a.	P.s.
Series ii...	19,116	27·00	3·96	30·96	7·42	59·50	1·0870	2·07	·068	·237	87·34	3·04	3,311	6,854	Moderate.	D.a.	P.s.
Mean...	...	27·64	3·82	31·46	...	...	...	2·13	...	...	88·34	...	...	7,227	...	...	...
B. S. F. 12 (53) ... Series i...	15,930	29·35	2·70	32·05	0·82	59·75	1·0835	1·81	·081	·380	79·39	4·48	3,625	6,561	Moderate.	D.a.	P.s.
Series ii...	18,337	30·23	3·95	34·18	10·66	59·00	1·0826	1·90	·064	·280	81·44	3·37	3,690	7,011	Moderate.	D.a.	P.s.
Mean...	...	29·79	3·33	33·12	...	...	...	1·86	...	...	81·92	...	...	6,786	...	...	...

SELECTED VARIETIES.

TABLE XXIII.—PICKERINGS PLANTATION :— WILLIAMS FIELD. 1917-1919.

Plant Canes.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·5° C.	lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent	Series i...	13,920	15·97	3·62	19·59	10·67	55·75	1·0888	2·14	·076	·204	88·43	3·55	1,831	3,918	Moderate.	D.a.	Free.
	Series ii...	14,496	17·50	3·49	21·08	4·73	56·00	1·0906	2·28	·061	·129	92·31	2·68	2,024	4,615	Moderate.	D.a.	Free.
	Mean...	...	16·78	3·56	20·34	...	...	...	2·21	...	...	90·37	...	...	4,267	...	...	...
B. 6450 ...	Series i...	11,856	17·68	4·07	21·75	8·52	60·50	1·0897	2·21	·066	·164	90·57	2·99	2,199	4,860	Slight.	D.a.	Free.
	Series ii...	13,008	20·08	3·54	23·62	7·19	62·00	1·0911	2·27	·050	·160	91·53	2·20	2,556	5,802	Slight.	D.a.	Free.
	Mean...	..	18·88	3·81	22·60	...	...	...	2·24	...	...	91·05	...	...	5,331	...	...	...
Ba. 2471 ...	Series i...	18,096	20·64	3·79	24·43	2·84	55·25	1·0929	2·34	·049	·181	92·86	2·09	2,337	5,469	Slight.	D.a.	Free.
	Series ii...	19,200	22·27	3·49	25·76	1·96	56·75	1·0942	2·35	·047	·163	91·80	2·00	2,587	6,079	Slight.	D.a.	Free.
	Mean...	...	21·46	3·64	25·10	...	...	...	2·35	...	...	92·33	...	...	5,774	...	...	...
Ba. 6032 ...	Series i...	12,096	21·75	4·52	26·27	None.	59·00	1·0870	2·16	·061	·149	91·14	2·82	2,644	5,711	Slight.	D.a.	Free.
	Series ii...	12,624	22·61	3·06	25·67	1·87	59·50	1·0870	2·16	·068	·142	91·14	3·15	2,772	5,988	Slight.	D.a.	Free.
	Mean...	...	22·18	3·79	25·97	...	...	...	2·16	...	...	91·14	...	..	5,850	...	...	...
Ba. 7024 ...	Series i...	11,136	16·86	3·54	20·40	4·92	59·75	1·0857	2·12	·064	·146	90·99	3·02	2,079	4,407	Slight.	D.a.	Free.
	Series ii...	13,104	20·08	2·04	23·02	9·00	57·75	1·0861	2·14	·069	·141	91·06	3·22	2,391	5,117	Slight.	D.a.	Free.
	Mean...	...	18·47	3·24	21·71	...	..	...	2·13	...	...	91·03	...	..	4,762	...	...	...
Ba. 11569 ...	Series i...	13,632	22·09	5·25	27·34	6·89	57·50	1·0951	2·36	·056	·164	91·47	2·37	2,598	6,131	Slight.	D.a.	Free.
	Series ii...	13,488	21·02	4·95	25·97	4·42	54·75	1·0956	2·35	·069	·181	90·38	2·94	2,353	5,530	Slight.	D.a.	Free.
	Mean...	...	21·56	5·10	26·66	...	...	...	2·36	...	...	90·93	...	...	5,831	...	...	...
B.H. 10 (12) ...	Series i...	10,560	21·09	2·94	24·03	None.	61·25	1·0987	2·49	·069	·121	92·91	2·77	2,633	6,556	Slight.	D.a.	Free.
	Series ii...	10,128	20·59	3·71	24·30	1·40	57·25	1·0997	2·45	·071	·189	90·41	2·90	2,401	5,882	Slight.	D.a.	Free.
	Mean...	...	20·84	3·33	24·17	...	...	...	2·47	...	...	91·66	...	...	6,219	...	...	...

TABLE XXIII.—*Concluded.*—PICKERINGS PLANTATION :—WILLIAMS FIELD. 1917—1919.

Plant Canes.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Mosaic.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30° C. 15·5° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.				Diplodia.	Thielavia.
B.S.F. 12 (24) ...	Series i...	17,456	21·39	3·06	24·45	·92	59·25	1·0915	2·21	·114	·166	88·76	5·16	2,600	5,746	Slight.	D.a.	Free.
	Series ii...	9,216	15·79	3·36	19·15	2·54	59·50	1·0906	2·13	·081	·259	86·23	3·80	1,930	4,111	Slight.	D.a.	Free.
	Mean...	...	18·59	3·21	21·80	...	...	...	2·17	...	...	87·50	...	...	4,920	...	...	...
B.S.F. 12 (27) ...	Series i.	16,320	26·50	4·30	30·08	4·76	59·00	1·0875	2·00	·109	·271	84·03	5·45	3,232	6,461	Slight.	D.a.	Free.
	Series ii...	14,880	27·32	4·50	31·82	4·02	57·75	1·0897	2·07	·088	·287	84·84	4·01	3,243	6,718	Slight.	D.a.	Free.
	Mean...	...	26·96	4·45	31·41	...	...	...	2·04	...	...	84·44	...	...	6,589	...	...	...

SELECTED VARIETIES.

TABLE XXIV.—WATERFORD PLANTATION:—NO. 2 TENNANT FIELD. 1917—1919.

Plant Canes.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30°C./16·6°C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent ...	Series i...	16,176	31·14	2·68	33·82	12·92	60·50	1·0831	2·05	·068	·142	90·71	3·32	3,896	7,987	Bad.	Free.	Free.
	Series ii..	16,128	37·07	2·79	39·86	4·00	61·25	1·0853	2·07	·071	·179	89·22	3·43	4,687	9,702	Bad.	Free.	P.s.
	Mean..	...	34·11	2·73	36·84	...	...	...	2·06	...	...	89·97	...	...	8,845	...	...	...
B. 6450	Series i...	17,472	39·34	3·90	43·24	7·61	62·00	1·0848	2·01	·081	·219	87·01	4·03	5,065	10,181	Slight.	D.a.	Free.
	Series ii...	17,808	40·65	3·28	43·93	1·50	63·50	1·0848	2·02	·074	·216	87·45	3·66	5,330	10,767	Moderate.	Free.	P.s.
	Mean...	..	40·00	3·59	43·59	...	...	...	2·02	...	...	87·23	...	...	10,474	...	...	...
Ba. 2471	Series i...	24,912	44·94	3·06	48·00	13·50	60·50	1·0822	2·04	·069	·131	91·07	3·38	5,628	11,481	Slight.	Free.	Free.
	Series ii...	22,656	39·73	2·29	42·02	6·35	59·77	1·0835	1·98	·086	·214	86·84	4·34	4,909	9,720	Slight.	D.a.	Free.
	Mean...	...	42·34	2·67	45·01	...	...	...	2·01	...	...	88·96	...	...	10,601	...	...	...
Br. 6032	Series i...	16,224	58·24	2·46	60·70	0·88	62·00	1·0813	2·02	·069	·131	90·09	3·42	7,481	15,112	Slight.	Free.	Free.
	Series ii...	12,960	48·21	2·46	50·67	2·53	61·50	1·0860	2·11	·069	·181	89·41	3·27	6,113	12,898	Slight.	D.a.	Free.
	Mean...	...	53·23	2·46	55·69	...	...	...	2·07	...	...	90·20	...	...	14,005	...	...	...
Ba. 7924	Series i...	21,072	51·19	3·21	54·40	0·90	61·50	1·0831	2·07	·063	·127	91·59	3·04	6,511	13,478	Moderate.	Free.	Free.
	Series ii...	17,280	47·64	2·59	50·23	2·44	64·00	1·0820	2·02	·058	·172	89·78	2·87	6,309	12,744	Slight.	D.a.	Free.
	Mean..	...	49·42	2·90	52·32	...	...	...	2·05	...	...	90·69	...	...	13,111	...	...	...
W. No. 2	Series i..	22,464	43·86	2·57	46·43	4·29	59·25	1·0826	1·96	·081	·209	87·11	4·13	5,378	10,541	Moderate	Free.	Free.
	Series ii...	21,120	45·84	2·57	48·41	6·78	61·25	1·0813	1·93	·096	·194	86·04	4·96	5,816	11,225	Moderate.	Free.	Free.
	Mean...	...	44·85	2·57	47·42	...	..	...	1·95	..	...	87·03	...	...	10,883	...	...	...
P.U. 10 (12) ...	Series i...	16,944	48·02	2·96	50·98	1·67	62·75	1·0942	2·33	·050	·180	91·02	2·15	6,169	14,374	Slight.	Free.	Free.
	Series ii...	18,864	53·70	2·27	55·97	2·96	64·50	1·0938	2·29	·081	·179	89·80	3·54	7,093	16,248	Slight.	D.a.	Free.
	Mean...	..	50·86	2·62	53·48	...	...	...	2·31	...	...	90·41	..	...	15,309	...	...	...
B.S.F. 12 (53) ...	Series i...	18,192	47·79	2·40	50·19	5·25	62·37	1·0787	1·78	·089	·281	82·79	5·00	6,189	11,016	Slight.	Free.	Free
	Series ii...	15,168	44·29	2·23	46·52	7·60	62·75	1·0831	1·89	·098	·277	83·63	4·92	5,748	10,864	Slight.	D.a.	Free
	Mean...	...	46·04	2·32	48·36	...	...	...	1·84	...	...	83·21	...	...	10,940	...	...	...

SELECTED VARIETIES.

TABLE XXV.—WALKERS PLANTATION :—SWAMP FIELD.

Plant Canes. 1917—1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill	Normal Juice. Sp. Gr. 30° C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent	Series i...	15,166	36·37	6·63	43·00	10·84	56·00	1·0738	1·69	·078	·252	83·66	4·62	4,248	7,179	Slight.	Free.	Free.
	Series ii...	12,421	28·06	3·14	31·20	22·64	60·05	1·0738	1·67	·096	·254	82·67	5·75	3,516	5 872	Slight.	Free.	Free.
	Mean...	...	32·22	4·88	37·10	...	...	...	1·68	...	...	83·17	..	...	6,526	...	...	...
B. 6308	Series i...	9,407	29·29	2·85	32·14	30·17	60·50	1·0680	1·51	·089	·271	80·75	5·89	3,717	5,613	Slight.	Free.	Free.
	Series ii...	8,383	25·03	2·01	27·07	31·86	62·00	1·0734	1·69	·096	·224	84·08	5·68	3,239	5,474	Slight.	Free.	Free.
	Mean...	...	27·16	2·45	29·61	...	...	...	1·60	...	...	82·42	...	...	5,544	...	...	...
B. 6450	Series i...	8,959	21·66	3·00	24·66	21·74	59·46	1·0658	1·46	·089	·261	80·66	6·10	2,707	3,952	Slight.	Free.	Free.
	Series ii...	15,025	34·03	2·53	36·56	28·87	60·50	1·0743	1·71	·093	·227	84·24	5·44	4,292	7,339	Slight.	Free.	Free.
	Mean...	..	27·85	2·76	30·61	...	...	...	1·59	...	...	82·45	...	...	5,646	...	...	...
Ba. 6032	Series i...	9,977	35·35	2·97	38·32	12·50	59·25	1·0601	1·29	·125	·245	77·71	9·69	4,426	5,710	Slight.	Free.	Free.
	Series ii...	11,461	32·74	4·01	36·75	37·81	61·00	1·0636	1·43	·085	·247	81·25	5·80	4,207	6,016	Slight.	Free.	Free.
	Mean .	...	34·05	3·49	37·54	...	...	...	1·36	...	...	79·48	...	...	5,863	...	...	...
Ba. 7924	Series i...	13,110	20·72	3·83	33·55	9·40	60·00	1·0649	1·37	·056	·364	76·54	4·09	3,751	5,139	Slight.	Free.	Free.
	Series ii..		Germinated so irregularly that the plot was not reaped as the results would be misleading.															
	Mean.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ba. 11569	Series i..	16,616	50·25	5·98	56·23	19·48	56·00	1·0751	1·72	·076	·254	83·90	4·42	5,863	10,084	Slight.	Free.	Free.
	Series ii..	14,154	47·15	5·25	52·40	20·73	55·50	1·0782	1·81	·086	·244	81·58	4·75	5,436	9,889	Slight.	Free.	Free.
	Mean..	...	48·70	5·62	54·32	...	...	...	1·77	...	...	84·24	...	...	9,962	...	...	...
B. H. 10, (12)	Series i..	15,678	49·58	4·93	54·51	16·92	62·25	1·0787	1·83	·076	·241	85·12	4·15	6,409	11,728	Slight.	Free.	Free.
	Series ii..	15,678	36·94	6·22	43·16	2·17	57·88	1·0875	2·03	·081	·269	85·29	3·99	4,404	8,940	Slight.	Free.	Free.
	Mean..	..	43·26	5·58	48·84	...	...	...	1·93	...	...	85·21	...	...	10,334	...	...	...
Haw. 146	Series i...	13,588	35·39	4·02	39·41	21·21	56·50	1·0632	1·33	·086	·324	76·44	6·47	4,212	5,602	Slight.	Free.	Free.
	Series ii..	17,768	46·14	4·41	50·55	7·83	59·25	1·0734	1·56	·100	·350	77·61	6·41	5,705	8,900	Slight.	Free.	Free.
	Mean...	...	40·77	4·21	44·98	...	...	...	1·45	...	...	77·03	...	...	7,251	...	...	...

SELECTED VARIETIES.

TABLE XXVI.—CLIFTON HALL PLANTATION:—LOWER GOAT FIELD.

Plant Canes.

1917–1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal juice. Sp. Gr. 30° C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent ...	Series i...	7,549	15·30	3·11	18·41	52·38*	61·75	1·0826	2·05	·058	·142	91·11	2·83	1,954	4,006	Bad.	Free.	Free.
	Series ii...	14,459	30·20	4·41	34·61	29·06*	63·00	1·0826	2·05	·069	·131	91·11	3·37	3,937	8,071	Bad.	Free.	Free.
	Mean...	...	22·75	3·76	26·51	...	...	...	2·05	...	...	91·11	...	...	6,039	...	...	...
B. 3922	Series i...	8,072	17·76	3·24	21·00	53·36*	63·75	1·0839	2·04	·060	·181	89·08	3·38	2,340	4,774	Bad.	Free.	Free.
	Series ii...	13,937	27·87	3·76	31·63	25·00*	64·00	1·0385	2·02	·078	·182	88·60	3·86	3,687	7,448	Moderate.	Free.	Free.
	Mean...	...	22·82	3·50	26·32	...	...	...	2·03	...	...	88·84	..	...	6,111	...	...	...
B. 6450 ...	Series i...	6,304	23·85	3·11	26·96	29·90*	65·50	1·0875	2·16	·050	·170	90·76	2·31	3,218	6,951	Moderate.	Free.	Free.
	Series ii...	13,705	40·44	4·15	44·59	24·12*	65·75	1·0822	1·98	·081	·179	88·39	4·09	5,504	10,898	Slight.	Free.	Free.
	Mean...	...	32·15	3·63	35·78	...	...	...	2·07	...	...	89·58	...	...	8,925	...	...	...
Ba. 6032	Series i...	15,214	37·07	2·85	39·92	5·76	61·00	1·0795	1·93	·058	·182	88·94	3·01	4,692	9,056	Slight.	Free.	Free.
	Series ii...	15,969	41·61	3·63	45·24	·72	64·50	1·0839	2·06	·057	·173	89·93	2·77	5,546	11,425	Slight.	Free.	Free.
	Mean...	...	39·34	3·24	42·58	...	...	...	2·00	...	...	89·45	...	...	10,241	...	...	...
Ba. 7024 ...	Series i...	14,111	36·16	3·50	39·66	8·30	59·50	1·0795	1·93	·074	·166	88·94	3·83	4,465	8,617	Slight.	Free.	Free.
	Series ii...	13,879	40·18	3·37	43·55	23·64*	64·00	1·0817	1·98	·063	·187	88·79	3·18	5,825	10,544	Slight.	Free.	Free.
	Mean...	...	38·17	3·44	41·61	...	...	...	1·95	...	...	88·87	...	...	9,581	...	...	...
Ba. 12079 ...	Series i...	12,601	24·24	3·01	27·25	29·77*	62·25	1·0765	1·75	·080	·251	83·73	5·09	3,140	5,495	Moderate.	Free.	Free.
	Series ii...	11,962	20·48	3·11	23·59	34·39*	59·00	1·0831	1·91	·083	·267	84·51	4·35	2,499	4,773	Moderate	Free.	Free.
	Mean...	..	22·36	3·06	25·42	...	...	...	1·83	...	...	84·12	..	...	5,134	...	...	...
B.H. 10 (12) ...	Series i...	13,008	42·64	4·80	47·44	17·34	64·00	1·0875	2·06	·069	·251	86·55	3·35	5,622	11,581	Slight.	Free.	Free.
	Series ii...	11,846	40·81	4·46	44·77	8·93	63·00	1·0861	2·07	·069	·211	88·09	3·33	5,258	10,843	Slight.	Free.	Free.
	Mean...	..	41·48	4·63	46·11	..	...	...	2·07	...	...	87·32	...	...	11,212	...	...	...
B.S.F. 12 (24) ..	Series i...	13,124	25·79	3·37	29·16	26·86*	65·75	1·0822	2·00	·069	·171	89·29	3·45	3,510	7,020	Moderate.	Free.	Free.
	Series ii...	12,717	32·28	3·76	36·04	35·21*	67·00	1·0729	1·67	·086	·244	88·50	5·15	4,515	7,540	Moderate.	Free.	Free.
	Mean...	...	29·04	3·57	32·61	...	...	...	1·84	...	...	86·40	...	...	7,280	...	...	...

* Eaten by rats.

SELECTED VARIETIES.

TABLE XXVII.—CLIFTON PLANTATION :—UPPER EIGHT ACRE FIELD.

Plant Canes. 1917-1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30°C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent	Series i...	16,260	29·32	3·47	32·79	5·41	60·50	1·0826	2·01	·083	·157	89·33	4·13	3,670	7,377	Moderate.	Free.	Free.
	Series ii...	16,898	26·73	3·11	29·84	3·32	60·25	1·0800	1·98	·068	·132	90·83	3·43	3,340	6,613	Moderate.	Free.	Free.
	Mean...	..	28·03	3·29	31·32	...	...	...	2·00	...	...	90·08	...	...	6,995	...	...	..
B. 3922	Series i...	15,563	30·15	5·11	35·26	9·15	63·25	1·0857	2·08	·076	·174	89·27	3·65	3,934	8,183	Slight.	Free.	Free.
	Series ii...	8,827	23·20	4·56	27·76	19·57	64·75	1·0782	1·89	·006	·154	88·32	5·08	3,121	5,899	Slight.	Free.	Free
	Mean...	...	26·68	4·84	31·52	...	...	...	1·99	...	...	88·80	...	...	7,041	...	...	...
B. 6450	Series i...	15,621	28·52	3·42	31·94	4·94	63·25	1·0839	1·96	·081	·249	85·59	4·13	3,727	7,305	Slight.	Free.	Free.
	Series ii..	17,247	29·68	3·55	33·23	1·66	62·75	1·0809	1·94	·081	·189	87·78	4·18	3,860	7,488	Slight.	Free.	Free.
	Mean...	..	29·10	3·49	32·59	...	...	...	1·95	...	...	86·69	...	..	7,397	...	...	...
Ba. 2471	Series i...	26,945	34·45	2·75	37·20	2·11	59·25	1·0888	2·11	·068	·242	87·19	3·22	4,200	8,862	Slight.	Free.	Free.
	Series ii..	28,454	32·07	2·46	34·53	None.	58·00	1·0844	2·03	·066	·204	88·26	3·25	3,842	7,799	Slight.	Free.	Free.
	Mean...	...	33·26	2·61	35·87	...	...	...	2·07	..	...	87·73	...	...	8,331	...	...	...
Ba. 6032	Series i...	15,214	39·48	3·01	42·49	·38	61·50	1·0866	2·11	·069	·181	89·41	3·27	5,006	10,563	Slight.	Free.	Free.
	Series ii...	14,924	28·93	2·67	31·60	None.	60·50	1·0809	1·98	·068	·162	89·59	3·43	3,627	7,181	Slight.	Free.	Free.
	Mean...	..	34·21	2·64	36·85	...	...	...	2·05	...	...	89·50	...	..	8,872	...	...	...
Ba. 7924	Series i...	17,130	30·10	3·37	33·47	2·32	61·50	1·0835	2·05	·066	·164	89·91	3·22	3,796	7,782	Slight.	Free.	Free.
	Series ii...	19,337	29·84	3·06	32·90	5·93	59·25	1·0809	1·99	·066	·154	90·05	3·32	3,664	7,291	Slight.	Free.	Free.
	Mean...	...	29·97	3·22	33·19	...	...	..	2·02	...	...	89·98	..	...	7,537	...	...	...
Ba. 11509	Series i...	15,040	30·54	3·63	34·17	16·72	60·50	1·0802	2·20	·076	·174	89·80	3·45	3,790	8,351	Slight.	Free.	Free.
	Series ii...	19,570	33·57	2·88	36·45	2·32	58·75	1·0915	2·29	·068	·137	91·97	2·75	4,048	9,270	Slight.	Free.	Free.
	Mean...	...	32·06	3·26	35·32	...	...	...	2·25	...	...	90·89	...	...	8,811	...	...	...

SELECTED VARIETIES.

TABLE XXVII.—*Concluded.*—CLIFTON PLANTATION:—UPPER EIGHT ACRE FIELD.

Plant Canes. 1917-1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
H. H. 10 (12)... ...	Series i..	15,563	42·95	4·41	47·36	2·55	62·25	1·0956	2·40	·053	·147	92·31	2·21	5,4 7	13,121	Slight.	Free.	Free.
	Series ii...	13,937	37·67	3 47	41·14	1·23	61·00	1·0929	2·30	·061	·159	91·27	2·65	4,709	10,831	Slight.	Free.	Free.
	Mean...	...	40·31	3·94	44 25	...	...	...	2·35	...	...	91·79	..	...	11,976	...	...	...
B.S.F. 12 (24) ..	Series i...	20,789	34·06	3·68	37·74	8·44	63·75	1·0875	2·14	·068	·177	89·92	2·94	4,473	9,572	Slight.	Free.	Free.
	Series ii...	13,530	22·32	1·84	24·16	23·61*	64·00	1·0853	2·07	·064	·186	89·22	3·09	2,948	6,102	Slight.	Free.	Free.
	Mean..	...	28·19	2·66	30·85	...	...	...	2·11	...	...	89 57	..	..	7,887	...	...	...
B.S.F. 12 (34) ...	Series i..	14,692	37·46	3·45	40 91	None.	62·00	1·0861	2·02	·071	·259	85·96	3 51	4 700	9,076	Slight.	Free.	Free.
	Series ii...	13,356	32 46	3·29	35·75	1·29	62·50	1·0848	2·01	·071	229	87·01	3·55	4,189	8,420	Slight.	Free.	Free.
	Mean...	...	34·96	3·37	38·33	...	...	...	2·02	...	...	86·49	...	...	9,048	..	...	...
B.S.F. 12 (53) ...	Series i.	19,337	31·50	4·41	35·91	·89	61·50	1 0835	1 94	·086	·254	85·09	4·48	4,005	7,770	Slight.	Free.	Free.
	Series ii...	13,931	25·38	4·67	30·05	10·44	60 00	1·0787	1·85	·076	·224	86·05	4 11	3,162	5,850	Slight.	Free.	Free.
	Mean...	...	28·44	4·54	32·98	...	...	....	1·90	...	...	85·57	...	...	6,810	...	...	..

* Eaten by rats.

SELECTED VARIETIES.

TABLE XXVIII.—HENLEY PLANTATION :- SWAMP FIELD. 1917-1919.

Plant Canes.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent	Series i...	12,892	24·11	2·85	26·96	21·83	62·50	1·0866	2·11	·066	·184	89·41	3·13	3,106	6,554	Bad.	Free.	Free.
	Series ii...	13,646	27·61	2·98	30·59	9·27	61·30	1·0875	2·01	·078	·292	84·45	3·88	3,480	7,007	Moderate.	Free.	Free.
	Mean...	...	25·86	2·92	28·78	...	...	...	2·06	...	...	86·93	...	...	6,781	...	...	...
B. 3922 ...	Series i...	16,816	30·60	3·72	34·32	4·31	64·50	1·0897	2·16	·061	·219	88·52	2·82	4,057	8,768	Slight.	Free.	Free.
	Series ii...	14,808	27·09	4·07	31·16	12·81	61·75	1·0915	2·19	·063	·237	87·95	2·88	3,483	7,518	Slight.	Free.	Free.
	Mean ..	...	28·85	3·90	32·75	...	...	...	2·18	...	...	88·24	...	...	8,141	...	...	...
B. 6450 ...	Series i...	13,879	31·11	2·93	34·04	8·08*	63·50	1·0853	1·99	·069	·261	85·78	3·47	4,077	8,113	Slight.	Free.	Free.
	Series ii...	12,543	27·09	3·24	30·33	14·06*	63·80	1·0897	2·18	·064	·196	89·34	2·94	3,558	7,756	Slight.	Free.	Free.
	Mean...	..	29·10	3·09	32·19	...	...	...	2·09	...	...	87·56	...	..	7,935	...	...	...
Ba. 2471 ...	Series i...	22,763	34·61	2·20	36·81	6·80	61·00	1·0875	1·98	·074	·326	83·19	3·74	4,348	8,609	Slight.	Free.	Free.
	Series ii...	22,009	31·67	2·28	33·65	18·21*	60·75	1·0920	2·18	·066	·254	87·20	3·03	3,909	8,522	Slight.	Free.	Free.
	Mean...	...	32·90	2·24	35·23	...	...	...	2·08	...	...	85·20	...	..	8,566	...	...	...
Ba. 6032 ...	Series i...	16,202	45·50	3·37	48·87	9·42	65·25	1·0831	1·96	·081	·219	86·73	4·13	5,951	11,664	Slight.	Free.	Free.
	Series ii...	13,879	35·26	3·63	38·89	·83	60·75	1·0897	2·21	·063	·167	90·57	2·85	4,403	9,731	Slight.	Free.	Free.
	Mean...	...	40·38	3·50	43·88	...	..	...	2·09	...	...	88·65	...	..	10,608	...	...	...
Ba. 7924 ..	Series i...	19,816	41·08	3·89	44·97	6·19	60·00	1·0875	2·17	·060	·150	91·18	2·76	5,076	11,015	Slight.	Free.	Free.
	Series ii...	16,921	31·94	4·31	36·25	1·45	60·00	1·0879	2·16	·068	·162	90·38	3·15	3,916	8,523	Slight.	Free.	Free.
	Mean...	...	36·51	4·10	40·61	...	...	...	2·17	...	...	90·78	...	...	9,769	...	.	...
Ba. 11569 ...	Series i...	15,621	31·63	2·98	34·61	10·93	58·75	1·0960	2·40	·044	·166	91·95	1·83	3,798	9,115	Slight.	Free.	Free
	Series ii...	10,453	28·39	3·63	32·02	32·58*	63·25	1·0915	2·25	·060	·180	90·36	2·67	3,685	8,291	Slight.	Free.	Free.
	Mean...	...	30·01	3·31	33·32	...	...	...	2·33	...	...	91·16	...	...	8,703	...	...	...

*Eaten by rats.

SELECTED VARIETIES.

TABLE XXVIII.—*Concluded.*—HENLEY PLANTATION :—SWAMP FIELD.

Plant Canes. 1917-1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30°C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.				Diaprepes abbreviatus.	Phytalus smithi.
B.H. 10 (12) ...	Series i.	15,040	36·55	2·59	39·14	·77	58·00	1·0056	2·38	·016	·174	91·54	1·93	4,385	10,317	Slight.	Free.	Free.
	Series ii...	15,447	34·74	4·02	38·76	·38	61·25	1·0978	2·43	·050	·180	91·35	2·06	4,341	10,549	Slight.	Free.	Free.
	Mean...	...	35·65	3·31	38·96	...	...	...	2·41	...	...	91·45	...	...	10,433	...	...	...
B. S. F. 12 (56) ...	Series i...	17,537	30·20	3·94	34·14	5·33*	62·00	1·0897	1·98	·088	·377	81·15	4·19	3,849	7,621	Slight.	Free.	Free.
	Series ii..	19,105	36·03	4·54	40·57	4·36	60·50	1·0888	2·11	·074	·236	87·19	3·51	4,485	9,463	Slight.	Free.	Free.
	Mean...	...	33·12	4·24	37·36	...	...	...	2·05	...	...	84·17	...	...	8,542	...	...	...

*Eaten by rats.

TABLE XXIX.—LEMON ARBOR PLANTATION :—STILL HOUSE FIELD.

Plant Canes. 1917-1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30°C./16·4° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius saccheri.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent ...	Series i.	15,330	36·42	6·09	42·51	22·12	61·75	1·0804	1·94	·104	·146	88·58	5·36	4,663	9,046	Bad.	Free.	Free.
	Series ii...	16,376	8·78	4·92	33·70	13·50	60·75	1·0765	1·90	·086	·104	90·91	4·53	3,638	6,912	Moderate.	Free.	Free.
	Mean...	...	32·60	5·51	38·11	...	...	...	1·92	...	...	89·75	...	...	7,979	...	...	...
B. 6450	Series i...	13,356	29·94	3·87	33·81	20·69*	62·25	1·0791	1·91	·076	·144	89·81	3·92	3,869	7,506	Slight.	Free.	Free.
	Series ii...	16,666	33·79	5·09	38·88	None	63·50	1·0795	1·91	·083	·177	88·02	4·35	4,452	8,503	Slight.	Free.	Free.
	Mean...	...	31·87	4·23	36·10	...	...	...	1·93	...	...	88·92	...	...	8,005	...	...	...
Ba. 6032	Series i...	20,963	53·66	6·22	59·88	None	59·50	1·0809	1·98	·083	·147	89·56	4·19	6,617	13,102	Slight.	Free.	Free.
	Series ii...	19,991	54·25	4·83	59·08	None	62·50	1·0751	1·77	·104	·176	86·34	5·88	7,065	12,505	Slight.	Free.	Free.
	Mean...	...	53·96	5·53	59·49	...	...	...	1·88	...	...	87·97	...	...	12,804	...	...	...
Ba. 7924	Series i	21,165	42·77	7·97	50·74	None	60·75	1·0848	2·11	·054	·146	91·34	2·56	5,365	11,320	Slight.	Free.	Free.
	Series ii .	20,411	41·87	5·70	47·57	3·30	61·00	1·0809	1·99	·086	·184	90·05	4·32	5,293	10,533	Slight.	Free.	Free.
	Mean...	...	41·82	6·84	48·66	...	...	...	2·05	...	...	90·70	...	...	10,927	...	...	...
B.H. 10 (12) ...	Series i...	21,312	56·77	4·67	61·44	None	60·00	1·0879	2·16	·066	·164	90·38	3·06	7,014	15,150	Slight.	Free.	Free.
	Series ii .	20,325	53·66	5·54	59·20	None	60·50	1·0906	2·15	·119	·201	87·04	5·53	6,668	14,336	Slight.	Free.	Free.
	Mean ..	...	55·22	5·11	60·33	...	...	...	2·16	...	...	88·71	...	...	14,743	...	...	...
B.S.F. 12 (27) ...	Series i...	22,125	52·24	7·35	59·59	None	61·50	1·0787	1·79	·156	·204	83·26	8·72	6,971	11,941	Slight.	Free.	Free.
	Series ii...	23,170	44·07	8·43	52·50	None	60·00	1·0809	1·88	·089	·241	85·07	4·73	5,480	10,302	Slight.	Free.	Free.
	Mean..	...	48·16	7·89	56·05	...	...	...	1·84	...	...	84·17	...	...	11,122	...	...	...
B.S.F. 12 (34) ...	Series i...	16,482	46·36	6·28	52·64	4·65	62·25	1·0822	1·82	·125	·295	81·25	6·87	5,974	10,873	Slight.	Free.	Free.
	Series ii...	15,563	34·74	5·65	40·39	None	57·75	1·0795	1·79	·182	·248	82·49	7·37	4,163	7,452	Slight.	Free.	Free.
	Mean...	...	40·55	5·97	46·52	...	...	...	1·81	...	...	81·87	...	...	9,163	...	...	...

*Eaten by rats.

SELECTED VARIETIES.

TABLE XXX.—WATERFORD PLANTATION:—TEN ACRE DIXON FIELD. 1917—1919.

First Ratoons.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent juice by mill.	Normal Juice. Sp. Gr. 30°C./16·6°C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent ...	Series i...	16,172	15·63	2·61	18·24	1·28	57·25	1·0915	2·26	·060	·170	90·76	2·65	1,886	4,149	Bad.	..	...
	Series ii...	14,357	14·96	2·34	17·30	0·84	56·00	1·0938	2·35	·033	·157	92·52	1·10	1,717	4,035	Bad.	...	...
	Mean...	...	15·30	2·47	17·77	...	...	...	2·31	...	...	91·64	...	...	4,092	...	...	...
R. 6150	Series i...	16,853	14·80	3·08	17·88	0·71	58·75	1·0897	2·19	·061	·180	89·75	2·79	1,787	3,914	Bad.	...	...
	Series ii...	18,495	15·66	2·37	18·03	None	60·50	1·0911	2·24	·054	·186	90·32	2·41	1,946	4,359	Moderate.	..	...
	Mean...	...	15·23	2·78	17·96	...	...	...	2·22	...	...	90·04	...	...	4,137	...	...	...
Ba. 2471	Series i...	24,601	18·96	1·73	20·69	None.	56·71	1·0906	2·17	·069	·231	87·85	3·18	2,208	4,791	Bad.	...	...
	Series ii...	25,690	15·57	2·27	17·84	0·31	49·00	1·0929	2·27	·053	·197	90·08	2·33	1,564	3,550	Bad.	...	...
	Mean...	...	17·27	2·00	19·27	...	...	...	2·22	...	...	88·97	...	...	4,171	...	..	...
Ba. 6032	Series i...	12,971	15·17	1·86	17·03	0·74	61·00	1·0875	2·16	·064	·156	90·76	2·96	1,906	4,117	Moderate.	...	...
	Series ii...	14,168	15·33	1·76	17·09	0·35	57·32	1·0897	2·22	·052	·168	90·08	2·34	1,806	4,009	Moderate.	...	...
	Mean...	...	15·25	1·81	17·06	...	...	...	2·19	...	...	90·87	...	...	4,063	...	...	...
Ba. 7024	Series i...	18,632	19·68	1·67	21·35	0·43	57·00	1·0866	2·15	·050	·160	91·10	2·33	2,312	4,971	Moderate.	...	...
	Series ii...	16,535	17·00	1·26	18·26	0·73	58·00	1·0884	2·23	·057	·128	92·53	2·56	2,029	4,525	Moderate.	..	...
	Mean..	...	18·34	1·47	19·81	...	...	...	2·19	...	...	91·82	...	...	4,748	...	...	...
W. No. 2	Series i...	18,713	15·63	2·74	18·37	0·22	57·50	1·0924	2·33	·054	·126	92·83	2·32	1,843	4,294	Bad.	...	...
	Series ii...	19,963	17·32	2·23	19·55	0·20	60·00	1·0915	2·31	·051	·129	92·77	2·21	2,132	4,927	Bad.	..	...
	Mean...	...	16·48	2·48	18·96	...	..	...	2·32	..	...	92·80	...	...	4,611	..	..	...
B.U. 10 (12) ...	Series i...	18,269	19·03	2·79	21·82	None.	58·48	1·1010	2·54	·048	·152	92·31	1·89	2,262	5,745	Moderate	...	...
	Series ii...	16,818	17·46	2·61	20·07	None.	59·00	1·1020	2·59	·040	·130	93·84	1·54	2,094	5,423	Moderate.	...	...
	Mean...	...	18·25	2·70	20·95	...	...	...	2·57	...	...	93·09	..	...	5,584	...	...	...

SELECTED VARIETIES.

TABLE XXXI.—WALKERS PLANTATION :—WESTERN FIELD.

First Ratoons. 1917—1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent	Series i..	23,509	35·39	6·85	41·74	None.	60·61	1·0848	1·93	·114	·266	83·55	5·91	4,429	8,548	Moderate.	Free.	Free.
	Series ii...	11,091	23·20	4·54	27·74	None.	60·00	1·0835	1·94	·083	·257	85·09	4·28	2,878	5,583	Slight.	Free.	Free.
	Mean...	...	29·30	5·45	34·75	...	...	...	1·94	...	...	84·32	...	...	7,066	...	...	...
B. 6308	Series i...	15,025	25·76	3·40	29·16	None.	60·81	1·0809	1·85	·093	·267	83·71	5·03	3,246	6,005	Slight.	Free.	Free.
	Series ii..	19,234	28·67	5·99	34·66	1·12	60·21	1·0839	2·00	·063	·227	87·34	3·15	3,568	7,136	Slight.	Free.	Free.
	Mean...	...	27·22	4·70	31·92	...	...	...	1·93	...	...	85·53	...	...	6,571	...	...	...
B. 6450	Series i..		Germination so irregularly that the plot was not reaped as the results would be misleading.															
	Series ii...	17,420	22·78	3·89	26·67	None.	61·66	1·0760	1·73	·089	·267	88·17	4·80	2,928	5,057	Moderate.	Free.	Free.
	Mean...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ba. 6032	Series i...	15,211	30·33	3·66	33·99	None	61·77	1·0831	1·96	·076	·224	86·73	3·88	3,875	7,595	Slight.	Free.	Free.
	Series ii...	23,450	34·99	4·97	39·96	None.	61·54	1·0826	2·00	·071	·179	88·89	3·55	4,456	8,912	Slight.	Free.	Free.
	Mean..	...	52·66	4·32	36·98	..	...	...	1·98	...	...	87·81	...	...	8,254	...	...	...
Ba. 7924	Series i...	17,658	28·52	4·30	32·82	0·33	60·75	1·0822	1·98	·078	·182	88·39	3·94	3,586	7,100	Slight.	Free.	Free.
	Series ii..	23,867	35·52	5·31	40·83	None.	61·54	1·0831	1·90	·089	·271	84·07	4·68	4,520	8,588	Slight.	Free.	Free.
	Mean..	...	32·02	4·81	36·83	...	...	...	1·94	...	...	86·23	...	...	7,844	...	...	...
Ba. 11569	Series i..	19,628	36·55	6·48	43·03	None.	60·00	1·0942	2·29	·052	·218	89·45	2·27	4,490	10,282	Slight.	Free.	Free.
	Series ii..	23,2.8	44·46	5·76	50·22	0·74	61·50	1·0897	2·18	·063	·197	89·31	2·89	5,621	12,254	Slight.	Free.	Free.
	Mean..	...	40·51	6·12	46·63	...	...	...	2·24	...	...	89·40	...	...	11,268	...	..	...
B. H. 10, (12)	Series i..	18,815	30·33	3·11	33·44	None.	60·25	1·0915	2·11	·081	·299	84·74	3·84	3,750	7,913	Slight.	Free.	Free.
	Series ii...	17,880	30·59	4·25	34·84	None.	61·75	1·0929	2·27	·063	·187	90·08	2·78	3,872	8,789	Slight.	Free.	Free.
	Mean..	..	30·46	3·68	34·14	...	..	...	2·19	...	...	87·41	...	...	8,351	...	...	...
Haw. 146	Series i...	15,679	31·37	3·21	34·58	None.	61·00	1·0831	2·04	·069	·151	90·27	3·38	3,957	8,072	Slight.	Free.	Free.
	Series ii..	21,486	38·63	4·77	43·40	None.	58·25	1·0791	1·82	·071	·269	84·26	3·90	4,671	8,501	Slight.	Free.	Free.
	Mean...	...	35·00	3·99	38·99	...	...	...	1·93	...	...	87·27	...	...	8,287	...	...	...

SELECTED VARIETIES.

TABLE XXXII.—CLIFTON HALL PLANTATION :—UPPER GOAT FIELD. 1917—1919.

First Ratoons.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaspepes abbreviatus.	Phytalus smithi.
W. Transparent	Series i...	12,235	19·57	3·89	23·46	14·00	60·17	1·0826	2·03	·066	·154	90·22	3·25	2,437	4,947	Moderate.	Free.	Free.
	Series ii...	15,853	21·00	3·76	24·76	8·08	60·50	1·0813	2·06	·064	·096	92·79	3·11	2,632	5,422	Bad.	Free.	Free.
	Mean...	...	20·29	3·82	24·11	...	...	...	2·05	...	...	91·51	...	..	5,185	...	..	...
B. 3922 ...	Series i..	12,137	24·89	5·31	30·20	40·29*	60·00	1·0835	2·07	·063	·147	90·79	3·04	3,087	6,390	Moderate.	Free.	Free.
	Series ii...	12,513	23·46	3·76	27·22	23·10*	60·25	1·0920	2·31	·036	·154	92·40	1·56	2,900	6,669	Moderate.	Free.	Free.
	Mean...	...	24·18	4·53	28·71	...	...	...	2·19	...	..	91·60	...	..	6,545	...	...	...
B. 6450 ...	Series i...	17,595	29·55	3·21	32·76	16·53*	66·50	1·0826	2·02	·068	·162	89·78	3·37	4,966	8,213	Moderate	Free.	Free.
	Series ii...	14,808	25·70	3·76	29·55	23·19*	64·71	1·0902	2·25	045	·155	91·84	2·00	3,450	7,718	Moderate.	Free.	Free.
	Mean...	...	27·67	3·50	31·17	...	...	...	2·14	...	...	90·81	...	..	7,966	...	...	...
Ba. 6032 ...	Series i...	20,208	38·76	3·10	41·86	2·52	68·00	1·0809	1·98	·060	·161	89·59	3·48	5,060	10,019	Moderate.	Free.	Free.
	Series ii...	18,699	35·78	3·32	39·10	3·01	59·40	1·0817	1·99	·070	·161	89·24	3·82	4,401	8,758	Moderate.	Free.	Free.
	Mean...	...	37·27	3·21	40·48	...	..	..	1·99	...	...	89·42	...	...	9,389	...	...	...
Ba. 7924 ...	Series i	24,215	36·99	5·13	42·12	2·11	59·75	1·0870	2·19	·040	·140	92·01	1·83	4,555	9,975	Moderate.	Free.	Free.
	Series ii...	22,415	32·25	3·24	35·49	5·89	59·50	1·0866	2·19	·046	·124	92·89	2·10	3,956	8,604	Moderate.	Free.	Free.
	Mean...	..	34·62	4·19	38·81	...	...	...	2·19	...	...	92·41	...	..	9,320	...	...	...
Ba. 12079 ...	Series i...	23,867	33·31	5·06	38·37	4·64	59·25	1·0857	2·12	·078	·132	90·99	3·68	4,072	8,633	Moderate.	Free.	Free.
	Series ii...	22,415	34·22	4·80	39·02	9·60*	58·75	1·0893	2·18	·089	·161	89·71	4·08	4,134	9,012	Moderate.	Free.	Free.
	Mean...	...	33·77	4·93	38·70	...	...	...	2·15	...	...	90·35	...	...	8,823	...	...	...
B. H. 10 (12) ...	Series i.	21,370	38·24	5·57	43·81	3·67	61·25	1·0906	2·26	·048	·162	91·49	2·12	4,810	10,871	Moderate	Free.	Free.
	Series ii...	20,673	29·81	4·02	33·83	7·29	63·00	1·0969	2·31	·083	·257	87·84	3·59	3,836	8,861	Moderate.	Free.	Free.
	Mean.	...	34·03	4·79	38·82	...	...	...	2·29	...	...	89·66	...	...	9,866	...	...	...

*Eaten by rats.

SELECTED VARIETIES.

TABLE XXXIII.—CLIFTON PLANTATION :— LONG GROUND FIELD. 1917-1919.

First Ratoons.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diopsis abbreviatus.	Phytalus smithi.
W. Transparent	Series i...	17,305	21·85	4·10	25·95	8·87	60·75	1·0813	2·05	·078	·092	92·84	3·80	2,750	5,638	Moderate.	Free.	Free.
	Series ii...	18,292	24·37	3·37	27·74	6·25	57·00	1·0844	1·96	·070	·264	85·22	3·88	2,869	5,623	Moderate.	Free.	Free.
	Mean...	...	23·11	3·74	26·85	...	...	...	2·01	...	...	88·78	...	...	5,631	...	...	...
B. 3922 ...	Series i...	12,253	27·14	4·30	31·44	7·46	62·00	1·0870	2·18	·071	·119	91·98	3·26	3,468	7,560	Moderate.	Free.	Free.
	Series ii...	16,666	24·76	3·32	28·08	None.	61·00	1·0884	2·11	·088	·217	87·55	3·93	3,108	6,558	Moderate.	Free.	Free.
	Mean...	...	25·95	3·81	29·76	...	...	...	2·15	...	...	89·77	...	...	7,059	...	...	...
B. 6450 ...	Series i...	16,459	26·01	3·16	29·17	8·97	63·75	1·0809	1·96	·078	·172	88·69	3·98	3,437	6,737	Moderate.	Free.	Free.
	Series ii...	19,744	27·69	2·90	30·59	None.	61·00	1·0826	1·96	·093	·197	87·11	4·74	3,494	6,848	Moderate.	Free.	Free.
	Mean...	...	26·85	3·03	29·88	...	...	...	1·96	...	...	87·90	...	...	6,793	...	...	...
Ba. 2471 ...	Series i...	21,021	20·56	2·54	23·10	7·18	55·00	1·0853	2·05	·125	·145	88·36	6·10	2,334	4,785	Moderate.	Free.	Free.
	Series ii...	28,570	28·49	1·69	30·18	2·77	59·00	1·0826	1·90	·078	·272	84·44	4·11	3,478	6,608	Moderate.	Free.	Free.
	Mean...	..	24·53	2·11	26·64	...	...	...	1·98	...	...	86·40	...	..	5,697	...	...	...
Ba. 6032 ...	Series i...	16,956	29·68	3·16	32·84	None.	60·25	1·0788	1·73	·083	·207	85·04	4·80	3,781	6,455	Moderate.	Free.	Free.
	Series ii...	14,924	27·87	2·20	30·07	None.	62·50	1·0822	1·94	·070	·224	86·61	3·92	3,605	6,994	Moderate.	Free.	Free.
	Mean...	...	28·78	2·68	31·46	...	...	...	1·84	...	...	86·13	...	..	6,725	...	...	...
Ba. 7924 ...	Series i...	15,737	22·09	2·83	24·92	4·58	59·75	1·0773	1·01	·063	·137	90·52	3·30	2,744	5,241	Moderate.	Free.	Free.
	Series ii...	16,434	25·61	1·94	27·55	1·74	59·18	1·0917	1·99	·042	·198	89·24	2·11	3,139	6,247	Moderate.	Free.	Free.
	Mean...	...	23·85	2·39	26·24	...	..	...	1·95	...	...	89·88	...	...	5,744	...	..	...
Ba. 11569 ...	Series i...	22,241	40·13	4·48	44·61	5·43	59·50	1·0870	2·09	·076	·204	88·19	3·64	4,921	10,285	Moderate.	Free.	Free.
	Series ii...	21,021	33·36	2·62	35·98	6·22	59·29	1·0893	2·07	·063	·297	85·19	3·04	4,068	8,421	Moderate.	Free.	Free.
	Mean...	...	36·75	3·55	40·30	...	...	...	2·08	...	...	86·69	...	...	9,353	...	...	...

SELECTED VARIETIES.

TABLE XXXIII.—*Concluded.*—CLIFTON PLANTATION:—LONG GROUND FIELD.

First Ratoons. 1917-1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30° C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.				Diaprepes abbreviatus.	Phytalus smithi.
B. H. 10 (12) ...	Series i...	13,879	33·57	2·26	35·83	1·24	62·50	1·0987	2·45	·058	·172	91·42	2·37	4,278	10,481	Moderate.	Free.	Free.
	Series ii...	14,053	31·58	1·69	33·27	1·22	58·50	1·0933	2·12	·061	·359	83·46	2·88	3,785	8,024	Moderate.	Free.	Free.
	Mean...	...	32·58	1·97	34·55	...	...	...	2·29	...	...	87·44	..	...	9,253	...	...	...
B.S.F. 12 (24) ..	Series i...	12,950	22·37	2·80	25·17	None.	64·50	1·0844	1·98	·068	·257	86·09	3·18	2,981	5,902	Moderate.	Free.	Free.
	Series ii...	15,272	21·14	1·81	23·25	4·01	61·25	1·0844	1·86	·074	·366	80·87	3·98	2,713	5,046	Moderate.	Free.	Free.
	Mean...	...	21·91	2·30	24·21	...	...	...	1·92	...	...	83·48	...	..	5,474	...	...	...
B.S.F. 12 (53) ...	Series i..	15,563	28·08	1·76	29·84	2·55	60·00	1·0839	1·96	·068	·262	85·59	3·47	3,481	6,823	Moderate.	Free.	Free.
	Series ii...	22,007	20·74	2·51	23·25	7·54	59·00	1·0853	1·93	·081	·309	83·19	4·20	2,525	4,573	Moderate.	Free.	Free.
	Mean...	...	24·41	2·14	26·55	...	...	...	1·95	...	...	84·39	...	...	5,848	...	...	...

SELECTED VARIETIES.

TABLE XXXIV.—HENLEY PLANTATION:—NORTH GINGER FIELD.

First Ratoons. 1917-1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Uisprepes abbreviatus.	Phytalus smithi.
W. Transparent ...	Series i...	16,876	18·92	4·02	22·94	12·69	59·60	1·0839	2·08	·071	·139	90·83	3·41	2,331	4,848	Moderate.	Free.	Free.
	Series ii...	26,596	26·81	3·76	30·07	1·50	60·00	1·0875	2·14	·064	·176	89·92	2·99	3,252	6,959	Bad.	Free.	Free.
	Mean...	...	22·62	3·89	26·51	...	...	...	2·11	...	...	90·38	...	..	5,904	...	...	...
B. 3922 ...	Series i...	14,634	26·96	5·06	32·02	10·96*	61·25	1·0924	2·27	·058	·182	90·44	2·56	3,386	7,686	Moderate.	Free.	Free.
	Series ii...	14,576	20·61	3·76	24·37	6·34*	63·25	1·0884	2·20	·066	·144	91·29	3·00	2,683	5,903	Moderate.	Free.	Free.
	Mean...	...	23·79	4·41	28·20	...	...	...	2·24	...	...	90·87	..	...	6,795	...	...	...
B. 6450 ...	Series i...	8,827	15·17	2·72	17·89	19·58*	60·50	1·0817	1·96	·068	·202	87·89	3·47	1,900	3,724	Moderate.	Free.	Free.
	Series ii...	17,073	21·52	2·98	24·50	8·98*	64·25	1·0853	2·08	·068	·172	89·66	3·27	2,853	5,934	Moderate.	Free.	Free.
	Mean...	...	18·35	2·85	21·20	...	...	...	2·02	...	...	88·78	...	...	4,829	...	...	...
Ba. 2471 ...	Series i...	18,640	22·55	2·59	25·14	18·58*	58·25	1·0897	2·07	·069	·301	84·84	3·33	2,701	5,591	Moderate.	Free.	Free.
	Series ii...	26,248	26·44	2·72	29·16	13·24	68·75	1·0857	2·06	·074	·196	88·41	3·59	3,751	7,727	Moderate	Free.	Free.
	Mean...	...	24·50	2·66	27·16	...	...	...	2·07	...	...	86·63	...	...	6,659	...	...	..
Ba. 6032 ...	Series i...	16,202	31·50	3·50	35·00	None	62·75	1·0853	2·03	·078	·212	87·50	3·84	4,079	8,280	Moderate.	Free.	Free.
	Series ii...	11,672	15·42	3·76	19·18	None	59·75	1·0804	1·93	·081	·179	88·13	4·20	1,911	3,688	Moderate.	Free.	Free.
	Mean...	...	23·46	3·63	27·09	...	...	...	1·98	...	...	87·82	...	...	5,984	...	..	...
Ba. 7024 ...	Series i...	21,950	31·11	4·02	35·13	5·50	60·75	1·0884	2·19	·066	·154	90·87	3·01	3,889	8,517	Moderate.	Free.	Free.
	Series ii...	17,595	17·50	2·46	19·96	None	60·50	1·0853	2·08	·071	·269	89·66	3·41	2,185	4,545	Moderate.	Free.	Free.
	Mean...	...	24·31	3·24	27·55	...	...	...	2·14	...	...	90·27	.	...	6,531	...	...	...
Ba. 11509 ...	Series i...	16,782	19·05	2·33	21·38	14·50*	62·50	1·0942	2·27	·056	·234	88·67	2·47	2,488	5,534	Moderate.	Free.	Free.
	Series ii...	19,560	24·37	2·85	27·22	2·84	62·75	1·0942	2·33	·050	·180	91·02	2·15	3,130	7,293	Slight.	Free.	Free.
	Mean...	...	21·71	2·59	24·30	...	...	...	2·30	...	...	89·85	...	...	6,414	...	...	...
B.H. 10 (12) ...	Series i...	21,776	36·68	2·72	39·40	·79	62·25	1·0983	2·83	·053	·287	87·27	2·27	4,657	10,851	Slight.	Free.	Free.
	Series ii...	14,576	22·94	3·37	26·31	4·20	60·00	1·0942	2·24	·061	·259	87·50	2·72	2,818	6,312	Moderate.	Free.	Free.
	Mean...	...	29·81	3·05	32·86	...	...	...	2·29	...	...	87·39	...	...	8,582	...	...	...

* Eaten by rats.

SELECTED VARIETIES.

TABLE XXXV.—LEMON ARBOR PLANTATION:—SPOONERS FIELD.

First Ratoons. 1917–1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30°C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent ...	Series i.	17,189	26·18	3·50	29·68	10·57	58·79	1·0800	2·01	·060	·140	90·95	2·99	3,190	6,412	Moderate.	Free.	Free.
	Series ii...	18,060	26·18	2·72	28·90	14·56	59·75	1·0848	2·11	·054	·146	91·34	2·56	3,230	6,815	Moderate.	Free.	Free.
	Mean...	...	26·18	3·11	29·29	...	...	...	2·06	...	...	91·15	...	...	6,614	...	...	...
B. 6450	Series i..	18,640	24·89	4·02	28·91	7·23	63·00	1·0835	2·06	·058	·162	90·35	2·82	3,241	6,670	Slight.	Free.	Free.
	Series ii..	21,892	31·37	3·37	34·74	7·14	64·00	1·0813	2·01	·050	·160	90·54	2·49	4,159	8,360	Moderate.	Free.	Free.
	Mean...	...	28·13	3·70	31·83	...	...	...	2·04	...	...	90·45	...	...	7,518	...	...	...
Ba. 6082	Series i.	17,247	29·04	3·24	32·28	·67	61·00	1·0760	1·80	·083	·197	86·54	4·61	3,687	6,637	Moderate.	Free.	Free.
	Series ii...	17,479	30·16	2·85	33·31	·99	59·85	1·0769	1·83	·076	·194	87·14	4·15	3,793	6,941	Moderate.	Free.	Free.
	Mean...	...	29·75	3·05	32·80	...	...	...	1·82	...	...	86·84	...	...	6,789	...	...	...
Ba. 7924	Series i..	25,086	32·79	4·28	37·07	1·37	60·78	1·0765	1·85	·076	·161	88·52	4·11	4,148	7,674	Slight.	Free.	Free.
	Series ii..	25,783	33·96	3·89	37·85	2·84	60·25	1·0778	1·92	·069	·131	90·57	3·59	4,252	8,164	Moderate.	Free.	Free.
	Mean...	...	33·38	4·09	37·47	...	...	...	1·89	...	...	89·55	...	...	7,919	...	...	...
B. S. F. 12 (84) ...	Series i...	13,182	26·18	2·46	28·64	10·98*	61·25	1·0791	1·84	·078	·242	85·19	4·24	3,329	6,125	Moderate.	Free.	Free.
	Series ii...	7,839	14·85	1·59	16·44	33·11*	62·00	1·0769	1·77	·081	·249	84·29	4·58	1,915	3,390	Moderate.	Free.	Free.
	Mean.	...	20·52	2·03	22·55	...	...	...	1·81	...	...	84·74	...	...	4,758	...	...	...
B.H. 10(12) ...	Series i...	22,938	35·39	4·02	39·41	3·89	60·75	1·0879	2·11	·053	·227	88·28	2·51	4,426	9,339	Slight.	Free.	Free.
	Series ii..	20,325	32·79	3·11	35·90	7·16	61·00	1·0897	2·21	·047	·193	90·57	2·13	4,112	9,088	Slight.	Free.	Free.
	Mean...	..	34·09	3·57	37·66	...	...	...	2·16	...	...	89·43	...	...	9,214	...	...	..

*Eaten by rats.

TABLE XXXVI.—WALKERS PLANTATION :—CHURCH FIELD.

Second Ratoons. 1917-1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30°C./16·6°C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent	Series i...	17,078	30·07	4·93	35·00	9·82	59·25	1·0800	1·85	·109	·221	84·86	5·89	3,696	6,838	Bad.	Free.	Free.
	Series ii...	18,640	24·76	3·37	28·13	0·93	58·00	1·0791	1·73	·100	·350	80·09	5·78	2,981	5,157	Moderate.	Free.	Free.
	Mean...	...	27·42	4·15	31·57	...	...	...	1·79	...	...	82·48	...	...	5,998	...	...	...
B. 6808	Series i...	10,670	19·93	3·11	23·04	9·26	62·28	1·0721	1·69	·100	·180	85·70	5·92	2,593	4,382	Slight.	Free.	Free.
	Series ii...	18,948	35·32	4·05	39·37	5·78	61·49	1·0787	1·76	·096	·204	81·86	5·45	4,510	7,938	Moderate.	Free.	Free
	Mean...	...	27·63	3·58	31·21	...	...	...	1·73	...	...	83·83	...	...	6,160	...	...	...
B. 6450	Series i...	16,482	25·42	3·59	29·01	19·08	62·50	1·0809	1·91	·083	·217	86·43	4·35	3,293	6,290	Slight.	Free.	Free.
	Series ii...	24,540	32·68	3·72	36·35	0·91	62·29	1·0795	1·88	·093	·197	86·64	4·95	4,217	7,928	Moderate.	Free.	Free.
	Mean...	...	29·03	3·65	32·68	...	...	...	1·90	...	...	86·53	...	..	7,109	...	...	...
Ba. 6032	Series i...	17,227	23·76	3·72	27·48	None.	60·96	1·0738	1·75	·083	·187	86·63	4·74	3,022	5,289	Slight.	Free.	Free.
	Series ii...	18,894	45·46	3·89	49·35	None.	62·69	1·0654	1·41	·156	·234	78·33	11·06	5,992	8,449	Slight.	Free.	Free.
	Mean...	...	34·61	3·81	38·42	...	...	...	1·58	..	...	82·48	...	...	6,869	...	...	...
Ba. 7924	Series i...	19,879	22·19	3·43	25·62	5·37	58·75	1·0760	1·86	·076	·164	88·57	4·09	2,711	5,042	Slight.	Free.	Free.
	Series ii...	16,956	28·26	4·02	32·28	None.	60·73	1·0769	1·78	·085	·287	84·76	4·66	3,569	6,353	Slight.	Free.	Free.
	Mean...	...	25·23	3·72	33·95	...	...	...	1·82	...	...	86·67	...	..	5,698	...	...	...
B.F. 10 (12)	Series i...	15,911	26·83	4·15	30·98	4·53	65·25	1·0848	2·03	·069	·211	87·88	3·40	3,338	6,776	Slight.	Free.	Free.
	Series ii...	22,878	41·48	4·30	45·78	None.	61·16	1·0826	1·78	·078	·392	79·11	4·38	5,248	9,341	Slight.	Free.	Free.
	Mean...	...	34·16	4·22	38·38	...	...	..	1·91	...	...	83·50	..	...	8,059	...	.	...
Haw 145.	Series i...	19,395	35·31	3·50	36·81	None.	61·25	1·0809	1·94	·076	·194	87·78	3·92	4,228	8,202	Slight.	Free.	Free.
	Series ii...	22,559	41·41	3·11	44·52	None.	58·38	1·0866	1·91	·093	·357	80·93	4·87	4,984	9,519	Slight.	Free.	Free.
	Mean...	...	37·36	3·31	40·67	...	...	...	1·93	...	...	84·36	...	..	8,861	...	...	...

SELECTED VARIETIES.

TABLE XXXVII.—CLIFTON HALL PLANTATION :—UPPER SACKEY FIELD. 1917—1919.

Second Ratoons.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius saccbari.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent	Series i...	15,040	19·44	3·24	22·68	19·81*	57·73	1·0875	2·07	·064	·246	86·97	3·09	2,212	4,786	Bad.	Free.	Free.
	Series ii...	16,202	20·61	3·89	24·50	16·22*	58·75	1·0791	1·92	·074	·166	88·89	3·85	2,513	4,825	Moderate.	Free.	Free.
	Mean...	...	20·03	3·57	23·60	...	...	...	2·00	...	...	87·93	...	..	4,806	...	..	...
B. 3922 ...	Series i...	14,111	19·83	3·50	23·33	9·33	60·50	1·0875	2·08	·063	·237	87·39	3·03	2,471	5,140	Moderate.	Free.	Free.
	Series ii...	16,085	22·55	4·15	26·70	11·50*	63·00	1·0760	1·83	·078	·172	87·98	4·26	2,958	5,413	Moderate.	Free.	Free.
	Mean...	...	21·10	3·83	25·02	...	...	...	1·96	...	...	87·69	...	..	5,277	...	...	...
B. 6450 ...	Series i...	19,221	24·11	3·24	27·35	11·73*	60·50	1·0826	2·00	·060	·190	88·89	3·00	3,018	6,036	Moderate.	Free.	Free.
	Series ii...	17,595	21·39	2·72	24·11	9·55*	62·50	1·0801	1·93	·076	·184	88·13	3·94	2,771	5,348	Moderate.	Free.	Free.
	Mean...	...	22·75	2·98	25·73	...	...	...	1·97	...	...	88·51	...	..	5,692	...	...	...
Ba. 6032 ...	Series i...	15,214	17·63	2·20	19·83	2·96	61·00	1·0822	1·93	·071	·239	86·16	3·68	2,226	4,296	Moderate.	Free.	Free.
	Series ii...	15,563	18·28	2·46	20·74	1·83	61·25	1·0822	1·97	·069	·201	87·95	3·50	2,317	4,564	Moderate.	Free.	Free.
	Mean...	...	17·96	2·33	20·29	..	..	..	1·95	...	...	87·06	...	...	4,430	...	...	...
Ba. 7924 ...	Series i.	16,550	21·78	3·37	25·15	13·64	58·75	1·0822	2·02	·064	·156	90·18	3·17	2,648	5,349	Moderate.	Free.	Free.
	Series ii...	20,499	26·05	3·76	29·81	4·08	60·25	1·0853	2·12	·061	·139	91·38	2·88	3,240	6,869	Moderate.	Free.	Free.
	Mean...	...	23·92	3·57	27·49	...	...	...	2·07	...	...	90·78	...	..	6,109	...	..	...
Ba. 12079 ...	Series i...	17,363	20·61	3·11	23·72	16·94*	59·75	1·0835	1·98	·066	·234	86·84	3·33	2,546	5,041	Moderate.	Free.	Free.
	Series ii...	18,466	21·26	3·24	24·50	23·37*	59·75	1·0844	1·98	·068	·252	86·09	3·43	2,624	5,196	Moderate.	Free.	Free.
	Mean...	...	20·94	3·18	24·12	...	...	...	1·98	...	...	86·47	...	...	5,119	...	...	...
B. H. 10 (12) ...	Series i...	18,815	22·74	4·47	27·21	None.	60·00	1·0857	2·07	·056	·204	88·84	2·71	2,816	5,829	Moderate	Free.	Free.
	Series ii...	21,680	31·50	4·02	35·52	4·28	61·50	1·0920	2·24	·056	·204	89·60	2·50	3,974	8,902	Moderate.	Free.	Free.
	Mean .	...	27·12	4·25	31·37	...	...	...	2·16	...	...	89·22	...	...	7,366	...	...	...

*Eaten by rats

TABLE XXXVIII.—CLIFTON PLANTATION:—FOUR ACRE PARISH FIELD.

Second Ratoons. 1917–1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre. Canes.	Tops.	Produce.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30°C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent ...	Series i..	20,557	17·89	2·20	20·09	4·07	58·50	1·0835	2·04	·068	·172	89·47	3·33	2,163	4,413	Moderate.	Free.	Free.
	Series ii...	17,305	17·29	2·00	19·29	4·79	58·55	1·0839	2·06	·068	·162	89·96	3·30	2,092	4,310	Moderate.	Free.	Free.
	Mean...	...	17·59	2·10	19·69	...	...	...	2·05	...	...	89·72	...	...	4,362	...	...	...
B. 3922	Series i...	22,503	23·01	3·56	26·57	1·59	60·25	1·0911	2·21	·061	·209	89·11	2·76	2,846	6,290	Moderate.	Free.	Free.
	Series ii...	24,196	21·32	2·79	24·11	2·85	59·50	1·0897	2·19	·050	·190	89·75	2·74	2,607	5,709	Moderate.	Free.	Free.
	Mean...	...	22·17	3·18	25·35	...	...	...	2·20	...	...	89·43	...	...	6,000	...	...	...
B. 6450	Series i..	19,367	16·69	2·06	18·75	·50	56·00	1·0826	1·90	·071	·279	84·44	3·74	1,935	3,677	Moderate.	Free.	Free.
	Series ii...	23,550	13·30	2·07	15·37	None.	58·25	1·0795	1·91	·086	·174	88·02	4·50	1,608	3,071	Moderate.	Free.	Free.
	Mean...	...	15·00	2·07	17·07	...	...	...	1·91	...	...	86·23	...	...	3,374	..	...	...
Ba. 2471	Series i...	28,919	19·68	2·28	21·96	4·41	58·75	1·0857	2·07	·081	·179	88·84	3·91	2,182	4,517	Moderate.	Free.	Free.
	Series ii..	22,415	14·18	1·48	15·66	6·54	58·25	1·0861	1·98	·069	·301	84·26	3·48	1,704	3,374	Moderate.	Free.	Free.
	Mean...	..	16·93	1·88	18·81	...	...	...	2·03	...	...	86·55	...	...	3,946	...	...	...
Ba. 7924 ...	Series i...	24,215	22·06	2·26	24·32	5·66	61·22	1·0844	2·05	·069	·181	89·13	3·37	2,790	5,720	Moderate.	Free.	Free.
	Series ii..	21,514	18·98	1·89	20·87	2·88	58·25	1·0800	1·94	·069	·171	88·99	3·56	2,293	4,448	Moderate.	Free.	Free.
	Mean.	...	20·52	2·08	22·60	...	...	...	2·00	...	...	89·06	...	...	5,084	...	...	...
B.H. 10(12) ...	Series i..	25,725	31·52	2·15	33·67	None.	59·25	1·0942	2·33	·054	·176	91·02	2·32	2,610	6,081	Moderate.	Free.	Free.
	Series ii...	26,132	33·65	2·93	36·58	·66	60·00	1·0924	2·22	·058	·232	88·45	2·61	4,140	9,191	Moderate.	Free.	Free.
	Mean...	..	27·59	2·54	30·13	...	...	...	2·28	...	...	89·74	...	...	7,636	...	...	..

SELECTED VARIETIES.

TABLE XXXIX.—LEMON ARBOR PLANTATION:—WEST RABBIT PEN FIELD.

Second Ratoons. 1917-1919.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30°C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.				Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent ...	Series i..	17,537	20·09	4·28	24·37	12·72*	60·50	1·0817	2·06	·050	·120	92·38	2·43	2,517	5,185	Moderate.	Free.	Free.
	Series ii...	20,441	25·41	5·44	30·85	2·22	57·00	1·0809	2·05	·063	·097	92·76	3·07	3,001	6,152	Bad.	Free.	Free.
	Mean...	...	22·75	4·86	27·61	...	...	...	2·06	...	...	92·57	...	...	5,669	...	...	...
B. 6450	Series i...	20,904	17·50	5·28	22·78	None.	60·00	1·0826	2·05	·060	·140	91·11	2·98	2,172	4,458	Moderate.	Free.	Free.
	Series ii...	24,157	22·81	5·18	27·99	None.	60·50	1·0809	2·00	·066	·144	90·50	3·30	2,860	5,720	Moderate.	Free.	Free.
	Mean...	...	20·16	5·23	25·39	...	...	...	2·03	...	...	90·81	...	...	5,087	...	...	...
Ba. 6032	Series i...	19,428	21·39	4·86	26·25	·45	57·50	1·0817	2·01	·064	·156	90·13	3·18	2,546	5,117	Moderate.	Free.	Free.
	Series ii...	17,073	21·26	4·93	26·19	None.	57·98	1·0743	1·77	·083	·177	87·19	4·69	2,570	4,549	Moderate.	Free.	Free.
	Mean...	...	21·33	4·90	26·23	...	...	...	1·89	...	...	88·66	...	...	4,833	...	...	...
Ba. 7924	Series i...	29,325	29·04	6·35	35·39	1·17	58·25	1·0848	2·12	·051	·139	91·77	2·41	3,492	7,403	Moderate.	Free.	Free.
	Series ii..	24,854	21·78	5·15	27·23	None.	58·00	1·0791	1·99	·076	·091	92·13	3·82	2,622	5,218	Moderate.	Free.	Free.
	Mean...	...	25·41	5·90	31·31	...	...	...	2·06	...	...	91·95	...	...	6,311	...	...	...
B.H. 10 (12) ...	Series i...	25,028	31·50	6·61	38·11	None.	61·00	1·0969	2·43	·037	·163	92·40	1·52	3,924	9,535	Moderate.	Free.	Free.
	Series ii..	27,409	29·29	6·35	35·64	None.	60·25	1·0902	2·24	·053	·157	91·43	2·37	3,626	8,122	Moderate.	Free	Free.
	Mean ..	...	30·40	6·48	36·88	...	...	...	2·34	...	...	91·92	...	...	8,829	...	...	...

*Eaten by rats.

SELECTED VARIETIES.

TABLE XL.—DODDS PLANTATION :—LOWER CHAPEL FIELD. 1917-1919.

Plant Canes.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Insect pests per acre. Diaprepes abbreviatus.	Phytalus smithi.	Total.
W. Transparent	12,187	19·96	18·04	61·84	1·0844	2·03	·086	·184	88·26	4·24	2,529	5,134	Slight.	929	3,775	4,704
Bourbon	4,825	7·78	67·42	64·00	1·0743	1·69	·083	·257	83·25	4·91	1,038	1,754	Slight, coefficatum.	813	4,746	5,559
B. 147	14,866	28·52	None.	64·75	1·0791	1·85	·098	·217	85·65	5·03	3,833	7,091	Slight.	2,077	1,072	3,149
B. 376	17,247	21·39	19·29	62·00	1·0809	1·96	·078	·172	88·69	3·98	2,748	5,886	Slight.	2,497	1,916	4,413
B. 6308	18,066	27·48	None.	62·50	1·0813	1·97	·081	·169	88·74	4·11	3,558	7,009	Slight.	581	3,426	4,007
B. 6450	15,420	25·20	None.	60·00	1·0835	2·00	·078	·202	87·72	3·90	3,126	6,252	Slight.	1,161	1,355	2,516
B. 7169	15,162	22·90	15·47	57·25	1·0782	1·88	·088	·177	87·85	4·41	2,724	5,121	Moderate.	4,000	3,613	7,613
Ba. 2471	26,190	36·55	10·87	59·00	1·0848	2·04	·083	·187	88·31	4·07	4,453	9,084	Moderate.	4,820	4,762	9,582
Ba. 6032	15,679	32·08	3·36	60·50	1·0773	1·89	·083	·137	89·57	4·39	4,086	7,628	Slight.	544	3,919	4,463
Ba. 7924	20,450	35·16	0·74	61·00	1·0795	1·95	·081	·139	89·86	4·15	4,451	8,679	Slight.	1,363	1,666	3,029
Ba. 8409	16,782	37·20	0·69	61·75	1·0853	2·04	·076	·204	87·93	3·73	4,741	9,672	Slight.	2,904	1,220	4,124
Ba. 8846	17,537	29·29	None.	62·25	1·0809	1·97	·078	·162	89·14	3·96	5,779	7,445	Slight.	174	3,426	3,600
Ba. 11403	18,524	35·39	None.	61·50	1·0965	2·40	·063	·157	91·63	2·63	4,446	10,670	Slight.	871	639	1,510
Ba. 12079	23,925	37·72	0·96	62·00	1·0791	1·78	·083	·297	82·41	4·66	4,855	8,642	Slight.	1,336	523	1,859
B.S.F. 12 (45)	21,312	24·89	5·17	61·25	1·0795	1·88	·089	·201	86·64	4·73	3,163	5,946	Slight.	1,742	1,742	3,484
B.S.F. 12 (48)	22,822	28·00	7·09	63·25	1·0888	2·16	·096	·164	89·26	4·44	3,643	7,860	Slight.	258	903	1,161
B.S.F. 12 (50)	18,931	40·05	3·26	65·00	1·0800	1·72	·086	·374	78·90	5·00	5,400	9,288	Slight.	1,103	3,020	4,123
B.S.F. 12 (53)	22,647	27·09	11·96	59·75	1·0778	1·88	·081	·149	89·10	4·31	3,366	6,328	Slight.	755	1,103	1,858

TABLE XLI.—DODDS PLANTATION —WELL FIELD.

Plant Canes. 1917–1919.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·6° C.	Lb. per gallon. of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Insect pests per acre. Diaprepes abbreviatus.	Phytalus spretini.	Total.
W. Transparent	13,995	20·09	19·67	61·75	1·0791	1·89	·086	·184	87·50	4·55	2,575	4,867	Bad.	3,252	9,175	12,427
B. 6450	19,163	33 70	3·79	66·00	1·0822	1·92	·093	·227	85·71	4 84	4,604	8,840	Slight.	7,316	4,994	12,810
Ba. 597	15,098	34 09	7·47	32·25	1·0844	2·04	·069	·191	88·70	3·38	4,384	8,943	Slight.	5,923	4,413	10,336
Ba. 8192	18,608	31·24	5·30	62·25	1·0809	1·89	·119	·201	85·52	6·40	4,030	7,617	Slight.	7,026	5,981	13,007
Ba. 12296	19,976	31·63	14 64	64 00	1·0809	1·65	·156	·404	74·66	9·45	4,195	6,922	Slight.	4,855	5,865	10,220
Ba. 12567	14,597	21·72	8·30	61·50	1·0817	1·95	·104	·176	87·44	5·33	2,766	5,394	Slight.	2,032	3,194	5,226
Ba. 12673	24,022	20·85	14·17	59·75	1·0809	1·86	·125	·225	84·16	6·72	3,820	7,105	Slight.	4,529	4,471	9,000
B. 12	23,402	26·96	24·58	62·25	1·0721	1·60	·147	·223	81·22	9·19	3,507	5,611	Bad.	4,239	2,323	6,562
B. 18	22,647	38·11	3·47	68·50	1·0782	1·77	·189	·231	82·71	7·85	5,027	8,898	Slight.	4,529	4,529	9,058
B. 19	16,724	24·89	16·08	59·75	1·0765	1·72	·119	·251	82·30	6·92	3,094	5,322	Moderate.	5,052	4,471	9,523
B. 39	21,079	37·46	3·71	64·50	1·0809	1·93	·086	·194	87·33	4·46	5,007	9,664	Slight.	3,949	2,671	6,620
B. 63	13,187	20·61	14·66	60·75	1·0915	2·24	·076	·174	89·96	3·35	2,569	5,755	Moderate.	7,433	10,394	17,827
B. 73	16,956	17·63	23·76	60·50	1·0791	1·81	·132	·218	83·80	7·29	2,214	4,007	Bad.	4,587	7,026	11,613
B. 76	21,892	31·11	4 80	61·25	1·0870	2 04	·081	·249	86·08	3·97	3,927	8,011	Slight.	8,187	3,368	11,555
B. 77	23,751	32·02	2·85	56·50	1 0857	1·91	·125	·295	81·97	6·54	3,782	7,128	Slight.	3,774	3,832	7,606
B. 82	23,634	28·18	12·10	60·50	1·0875	2·13	·083	·167	89·50	3·90	3,512	7,481	Slight.	5,226	2,961	8,187
B. 85	23 712	28·96	2·75	56·00	1·0853	1·99	·119	·211	85·78	5·98	3,347	6,661	Bad.	4,761	5,574	10,335
B. 92	15,214	23·38	6·76	63·75	1·0791	1·93	·066	·164	89·35	3·42	3,094	5 971	Slight.	7,433	4,007	11,440
B. 107	16 202	23·20	2·11	61·25	1·0888	2·17	·074	·173	89·67	3·41	2,924	6,345	Slight.	6,213	3,658	9,871
B. 117	16,318	27·69	4·75	60·50	1·0960	2·40	·060	·150	91·95	2·50	3,423	8,215	Moderate.	9,175	6,445	15,620
B. 119	18,350	28·91	5 39	64·00	1·0875	2·17	·057	·153	91·18	2·63	3,810	8,268	Slight.	9,233	5,691	14,924
B. 120	14,342	23·75	3·89	59·75	1·0875	2·13	·068	·182	89·50	3·19	2,928	6,226	Moderate.	10,626	5,691	16,317
B. 121	9,318	17·53	9·15	62·50	1·0813	1·96	·081	·179	88·29	4·13	2,269	4,447	Bad.	6,164	5,494	11,658

TABLE XLI.—*Concluded.*—DODDS PLANTATION:—WELL FIELD. 1917—1919.

Plant Canes.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent juice by mill.	Normal Juice. Sp. Gr. 30°C./16·6°C.	Lb. per gallon of Saccharose.	Lb. per gallon of Glucose.	Lb. per gallon of Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Insect pests per acre. Diaprepes abbreviatus.	Phytalus smithi.	Total.
B. 126	18,878	22·55	1·22	59·25	1·0915	2·28	·061	·149	91·57	2·68	2,742	6,252	Bad.	7,200	3,882	11,082
B. 130	17,479	27·71	·99	60·00	1·0861	2·14	·071	·139	91·06	3·32	3,429	7,338	Moderate.	8,013	6,678	14,691
B. 134	16,143	28·44	1·07	61·25	1·0902	2·18	·078	·102	88·98	3·58	3,579	7,802	Moderate.	12,542	6,852	19,394
B. 135	11,8.4	21·21	11·11	61·50	1·0800	1·94	·083	·157	88·00	4·28	2,705	5,248	Moderate.	7,955	10,104	18,059
B. 138	18,408	21·70	2·76	58·50	1·0844	2·05	·081	·169	89·13	3·95	2,622	5,375	Bad.	7,665	6,155	13,820
B. 143	16,143	24·45	3·81	64·00	1·0853	2·01	·104	·206	86·64	5·17	3,229	6,490	Moderate.	9,116	8,013	17,129
B. 654	18,850	23·77	2·17	64·00	1·0787	1·88	·119	·151	87·44	6·33	3,159	5,989	Moderate.	12,484	11,033	23,517
B. 674	19,570	20·95	1·75	57·50	1·0857	2·05	·083	·197	87·98	4·05	2,485	5,094	Slight.	17,072	15,213	32,285
B. 1198	15,795	18·79	5·23	57·25	1·0804	1·89	·096	·204	86·30	5·08	2,280	4,217	Moderate.	11,091	10,220	21,311
B. 1876	16,492	24·42	1·39	60·75	1·0791	1·94	·078	·142	89·81	4·02	3,080	5,975	Moderate.	9,924	9,819	19,743
B. 2001	18,026	24·01	None.	61·50	1·0822	2·00	·074	·166	89·29	3·70	3,056	6,112	Slight.	9,260	8,435	17,695
B. 2057	15,621	26·44	6·27	63·00	1·0751	1·82	·100	·130	88·78	5·49	3,471	6,317	Moderate.	10,220	7,200	17,420
B. 2063	12,612	17·11	None.	61·75	1·0729	1·81	·083	·107	90·50	4·59	2,206	3,998	Bad.	9,198	8,013	17,211
B. H. $\frac{10\ (26)}{15\ (1)}$	14,227	15·81	11·23	57·25	1·0839	2·06	·074	·156	89·96	3·59	1,871	3,854	Moderate.	8,768	6,968	15,736

TABLE XLII.—DODDS PLANTATION :—MILL FIELD.

Plant Canes. 1917—1919.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6°C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus, per acre.	Phytalus smithi, per acre.	Total.
W. Transparent	9,872	11·41	31·45	57·50	1·0853	2·05	·086	·184	88·36	4·20	1,354	2,776	Bad.	4,297	3,949	8,246
B. 6450	19,305	27·74	14·14	62·75	1·0861	2·02	·089	·241	85·96	4·41	3,590	7,252	Moderate.	3,865	5,770	9,635
B. 221	23,693	29·16	14·82	57·50	1·0848	1·98	·093	·287	85·71	4·70	3,463	6,857	Moderate.	5,459	5,633	11,092
B. 222	10,975	20·22	15·25	62·25	1·0782	1·86	·081	·199	86·92	4·35	2,615	4,864	Slight.	4,239	4,646	8,885
B. 224	16,724	19·96	18·18	62·00	1·0844	2·08	·078	·142	90·43	3·75	2,556	5,316	Moderate.	6,446	4,994	11,440
B. 225	24,099	26·18	10·56	63·50	1·0881	1·87	·086	·304	82·74	4·60	3,439	6,431	Moderate.	3,363	2,555	5,928
F.J.C.	17,537	19·70	31·98	61·75	1·0788	1·51	·096	·414	74·75	6·36	2,538	3,832	Moderate.	1,800	2,439	4,239
F.A.C.C.	18,931	14·18	14·44	54·25	1·0947	2·37	·064	·136	92·22	2·70	1,568	3,716	Bad.	1,442	3,784	5,226
J.A.M.	25,841	26·05	5·52	57·75	1·0881	1·76	·083	·417	77·88	4·71	3,112	5,477	Moderate.	2,381	2,265	4,646
G.T.C.	17,479	25·41	7·07	62·00	1·0765	1·75	·088	·257	83·73	4·74	3,278	5,787	Slight.	5,284	3,020	8,304
Big Tanna	15,880	24·50	None.	57·72	1·0818	1·84	·003	·377	79·65	5·05	2,920	5,378	Slight.	5,284	2,961	8,245
Striped Tanna	12,702	21·71	None.	58·75	1·0787	1·63	·085	·437	75·81	5·09	2,648	4,316	Bad.	3,266	2,758	6,024
White Tanna	16,318	21·78	None.	58·25	1·0817	1·78	·096	·354	79·82	5·39	2,627	4,676	Bad.	2,961	4,123	7,084
Haw. 146	15,040	22·68	None.	59·50	1·0857	2·04	·081	·209	87·55	3·99	2,785	5,681	Slight.	3,891	4,413	8,304
Uba.	49,301	36·42	7·92	53·25	1·0858	1·94	·088	·207	83·62	4·28	4,003	7,766	Slight.	2,207	1,103	3,310
M. 1287	12,020	25·65	8·00	63·00	1·0716	1·63	·125	·205	83·16	7·67	3,772	6,148	Slight.	2,671	4,588	7,259
S.C. $\frac{12}{4}$	16,840	26·57	8·01	57·25	1·0933	2·35	·089	·151	92·52	1·66	3,117	7,325	Slight.	2,555	3,426	5,981
S.C. $\frac{12}{11}$	10,104	21·52	21·62	61·75	1·0848	2·09	·078	·142	90·48	3·73	2,744	5,735	Moderate.	1,394	5,110	6,504
P.N.H. $\frac{11\ (6)}{15\ (2)}$	15,969	24·63	None.	59·50	1·0860	2·14	·074	·146	90·68	3·46	3,021	6,465	Moderate.	871	5,662	6,533
B.N.H. $\frac{11\ (6)}{15\ (3)}$	17,247	20·74	None.	55·25	1·0897	2·19	·076	·174	89·75	3·47	2,355	5,157	Slight.	1,394	2,787	4,181

TABLE XLII.—*Concluded.*—DODDS PLANTATION:—MILL FIELD.

Plant Canes. 1917-1919.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Insect pests per acre. Diaprepes abbreviatus.	Phytalus smithi.	Total.
B.N.H. 11 (6) / 15 (4)	15,787	28·00	None.	61·50	1·0929	2·22	·093	·207	88·10	4·19	3,529	7,834	Slight.	1,219	4,123	5,342
B.N.H. 11 (6) / 15 (7)	17,421	30·20	3·54	60·50	1·0893	2·18	·071	·179	89·71	3·26	3,757	8,190	Slight.	1,974	3,426	5,400
B.N.H. 11 (6) / 15 (8)	23,671	30·42	None.	55·50	1·0839	2·05	·076	·164	89·52	3·71	3,489	7,152	Slight.	3,074	3,996	7,070

TABLE XLIII.—DODDS PLANTATION:—PILGRIM FIELD. 1917—1919.

Plant Canes.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30°C./16·6°C.	Lb. per gallon of Saccharose.	Lb. per gallon of Glucose.	Lb. per gallon of Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Insect pests per acre. Diaprepes abbreviatus.	Insect pests per acre. Phytalus smithi.	Insect pests per acre. Total.
W. Transparent	13,879	20·09	21·12	51·10	1·0800	1·72	·086	·374	78·90	5·00	2,129	3,662	Bad.	2,729	4,471	7,200
B. 6450	18,931	25·02	8·68	59·50	1·0853	2·00	·083	·237	86·21	4·15	3,072	6,144	Moderate.	2,207	3,658	5,865
B. H. 10 (21)	12,137	23·20	15·73	58·00	1·0766	1·78	·089	·231	84·76	5·00	2,799	4,982	Moderate.	2,207	3,020	5,227
B.S.F. 12 (2)...	25,493	26·44	9·11	58·50	1·0942	2·11	·083	·367	82·42	3·93	3,167	6,682	Slight.	3,891	4,239	8,130
B.S.F. 12 (13)	18,040	24·89	6·14	59·00	1·0875	2·01	·093	·247	85·71	4·56	3,024	6,169	Slight.	2,962	2,207	5,169
B.S.F. 12 (17)	16,260	24·11	4·76	59·25	1·0835	1·80	·09	·387	78·95	5·17	2,958	5,315	Slight.	929	3,310	4,239
B.S.F. 12 (22)	16,956	22·29	None.	62·00	1·0839	1·89	·093	·307	82·53	4·92	2,857	5,400	Slight.	3,775	3,426	7,201
B.S.F. 12 (28)	20,325	24·63	8·85	58·50	1·0911	2·11	·081	·289	85·08	3·84	2,958	6,241	Bad.	3,658	3,310	6,968
B.S.F. 12 (31)	16,976	23·16	None.	59·00	1·0915	2·20	·083	·207	88·35	3·77	2,811	6,250	Slight.	3,078	3,310	6,388
B.S.F. 12 (35)	13,414	13·72	15·07	58·47	1·0801	2·03	·083	·237	86·38	4·09	2,0[illegible]6	4,092	Moderate.	4,128	4,413	8,536
B.S.F. 13 (8)	17,827	22·68	11·78	61·50	1·0885	1·01	·093	·577	70·61	5·78	2,[illegible]84	4,643	Slight.	2,381	2,439	4,810
B.S.F. 13 (10)	18,815	23·33	9·50	59·50	1·0893	2·16	·083	·187	88·89	3·81	2,855	6,167	Moderate.	755	1,452	2,207
B.S.F. 13 (14)	23,693	29·42	·97	58·00	1·0853	1·70	·119	·501	73·28	7·00	3,522	5,987	Moderate.	581	1,858	2,439
B.S.F. 15 (1)	18,118	29·55	None.	55·25	1·0897	1·81	·071	·559	74·18	3·42	3,600	6,516	Moderate.	3,775	1,220	4,995
B.S.F. 15 (2)	20,150	29·55	None.	64.03	1·0853	1·[illegible]2	·125	·375	78·45	6·87	3,906	7,109	Moderate.	1,916	1,336	3,252
B.S.F. 15 (4)	31,590	28·91	·55	59·25	1·0835	1·96	·093	·287	83·33	4·89	3,541	6,728	Moderate.	1,220	1,584	2,804

TABLE XLIV.—DODDS PLANTATION —UPPER PADMORE FIELD.

Plant Canes. 1917-1919.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C. 16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Insect pests per acre. Diaprepes abbreviatus.	Phytalus smithii.	Total.
W. Transparent	14,082	23·85	19·12	60·50	1·0822	2·03	·078	·132	90·93	3·84	2,987	6,064	Moderate.	3,194	1,800	4,994
B. 6450 ... Series i..	17,189	26·70	10·30	60·75	1·0848	2·08	·069	·161	90·04	3·32	3,350	6,969	Slight.	3,833	4,065	7,898
B. 6450 ... Series ii.	20,383	29·29	4·88	61·50	1·0817	1·99	·081	·159	89·24	4·07	3,731	7,425	Slight.	4,936	1,974	6,910
B. 6450 .. Series iii..	16,550	26·05	3·06	63·11	1·0795	1·89	·086	·194	87·10	4·55	3,412	6,449	Moderate.	4,413	3,775	8,188
B. 6150 ... Series iv...	18,989	31·03	9·92	59·44	1·0814	1·99	·083	·227	86·52	4·17	3,864	7,089	Moderate.	3,194	2,207	5,401
... ... Mean..	...	28·42	...	...	...	1·99	..	...	88·23	...	..	7,133	...	..	...	..
B. 150	11,807	16·20	18·12	56·75	1·0787	1·83	·114	·206	85·12	6·23	1,909	3,493	Moderate.	3,387	2,226	5,613
B. 151	12,455	19·25	9·49	60·50	1·0817	1·96	·083	·187	87·89	4·23	2,411	4,726	Slight.	5,139	3,658	8,797
B. 152	21,872	22·03	5·83	54·50	1·0787	1·90	·068	·182	88·37	3·58	2,494	4,739	Slight.	3,678	6,000	9,678
B. 153	11,846	17·11	None	57·86	1·0756	1·78	·080	·201	85·99	5·00	2,062	3,670	Slight.	2,439	3,832	6,271
B. 154	14,119	27·63	13·48	61·00	1·0813	2·02	·069	·131	90·99	3·42	3,491	7,052	Slight.	3,209	3,759	6,968
B. 155	20,731	26·44	6·05	58·75	1·0866	2·04	·119	·201	86·44	5·83	3,203	6,534	Slight.	4,239	2,032	6,271
B. 159	16,071	18·26	38·30	56·75	1·0773	1·80	·086	·134	89·57	4·55	1,564	2,956	Bad.	7,918	4,197	12,115
B. 163	17,537	32·28	5·32	57·75	1·0835	2·02	·081	·179	88·60	4·01	3,853	7,783	Slight.	5,052	4,820	9,872
B. 164	18,582	20·29	7·51	60·00	1·0848	2·08	·078	·152	90·01	3·75	3,629	7,548	Slight.	4,878	1,974	6,852
B. 166	15,737	23·59	3·21	53·76	1·0888	1·86	·060	·500	76·86	3·23	2,609	4,853	Bad.	6,852	8,827	15,679
B. 167	16,027	19·70	10·10	62·00	1·0817	1·05	·081	·199	87·44	4·15	2,530	4,934	Bad.	5,110	4,471	9,581
B. 168	22,241	26·44	·52	55·00	1·0795	1·86	·089	·221	85·71	4·78	3,237	6,021	Moderate.	5,226	4,530	9,756
B. 169	15,040	26·18	3·36	60·00	1·0844	2·06	·081	·159	89·57	3·93	3,245	6,685	Moderate	5,342	4,472	9,814
B. 174	13,414	16·20	1·28	59·25	1·0831	1·97	·081	·209	87·17	4·11	1,985	3,910	Moderate.	7,259	3,775	11,034
B. 175	12,500	19·74	22·31	56·75	1·0826	2·03	·074	·146	90·22	3·65	2,318	4,706	Bad.	10,988	6,030	17,018
B. 177	16,549	28·51	8·06	59·00	1·0831	2·03	·078	·152	89·82	3·84	3,479	7,062	Bad.	10,452	6,387	16,839
B. 178	17,537	26·05	4·13	58·25	1·0831	2·02	·078	·162	89·38	3·86	3,189	6,341	Bad.	7,143	3,833	10,976

TABLE XLIV.—*Concluded.*—DODDS PLANTATION :—UPPER PADMORE FIELD. 1917—1919.

Plant Canes

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Insect pests per acre. Diaprepes abbreviatus.	Phytalus smithi.	Total.
B. 181	12,427	25·54	0·96	65·50	1·0778	1·88	·109	·131	88·68	5·80	3,476	6,585	Bad.	7,491	5,342	12,833
B. 183	22,415	33·83	3·98	64·25	1·0765	1·85	·083	·157	88·52	4·49	4,523	8,368	Moderate.	8,536	6,446	14,982
B. 184	8,711	10·81	49·66	60·75	1·0725	1·67	·119	·191	84·34	7·13	1,372	2,291	Bad.	6,852	7,085	13,937
B. 185	13,182	20·22	4·22	58·50	1·0769	1·73	·109	·261	82·38	6·30	2,461	4,258	Bad.	6,620	6,786	13,356
B. 187	21,776	25·92	4·34	59·50	1·0782	1·83	·132	·178	85·51	7·21	3,205	5,865	Bad.	2,497	5,168	7,665
B. 188	15,836	22·98	14·58	60·50	1·0822	2·01	·081	·140	89·73	4·03	2,877	5,783	Bad.	2,692	3,009	5,701
B. 189	15,156	23·85	None.	62·75	1·0768	1·69	·179	·221	80·86	10·59	3,113	5,261	Moderate.	2,207	2,729	4,936
B. 191	15,098	25·92	5·45	64·00	1·0793	1·88	·100	·180	87·04	5·32	3,444	6,475	Moderate.	3,078	4,239	7,317
B. 193	25,435	26·26	·68	56·00	1·0800	1·84	·093	·247	84·40	5·05	3,050	5,612	Moderate.	1,974	4,123	6,097
B. 195	18,053	26·16	0·56	59·25	1·0809	1·56	·086	·564	70·59	5·51	3,212	5,011	Bad.	6,810	6,255	13,065
B. 196	15,156	27·22	7·45	61·50	1·0804	1·63	·089	·471	74·13	5·46	3,471	5,658	Slight.	5,226	4,355	9,581
B. 197	18,350	28·65	7·60	63·75	1·0760	1·58	·096	·404	75·91	6·08	3,802	6,007	Moderate.	5,807	5,168	10,975
B. 198	19,105	26·31	1·50	58·00	1·0866	1·92	·089	·351	81·36	4·64	3,146	6,040	Slight.	6,736	4,239	10,975
B. 199	20,847	33·70	·28	61·50	1·0817	1·91	·109	·211	85·65	5·71	4,292	8,198	Slight.	6,097	4,123	10,220
B. 204	22,473	31·24	7·42	59·75	1·0839	1·85	·083	·357	80·79	4·49	3,857	7,135	Slight.	3,484	3,426	6,910
B. 209	35,074	36·29	·98	54·00	1·0893	1·93	·066	·434	79·42	3·42	4,068	7,851	Slight.	4,035	2,962	7,027
B. 211	18,002	25·92	2·52	59·75	1·0870	2·14	·069	·161	90,30	3·22	3,192	6,831	Moderate.	4,704	2,323	7,027
B. 217	20,208	25·66	6·70	51·34	1·0817	1·69	·080	·454	75·78	5·09	2,729	4,612	Slight.	5,226	3,775	9,001

TABLE XLV.—SUNBURY PLANTATION:—LOWER FOURPATH FIELD.

Plant Canes. 1917–1919.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30°C./16·6° C.	Lb. per gallon of Saccharose.	Lb. per gallon of Glucose.	Lb. per gallon of Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Presence of insect pests. Phytalus smithi.
W. Transparent	11,978	22·06	8·33	58·72	1·0879	2·04	·096	·254	85·36	4·71	2,775	5,661	Slight.	D.a.	P.s.
B. 6308	11,857	28·71	4·23	63·50	1·0835	1·94	·086	·254	85·09	4·43	3,770	7,314	Slight.	Free.	P.s.
B. 6150	13,148	27·10	3·76	61·25	1·0875	2·15	·069	·161	90·34	3·21	3,419	7,351	Slight.	D.a.	P.s.
Pa. 2471	17,342	25·66	7·13	55·50	1·0866	2·13	·063	·167	90·25	2·96	2,935	6,252	Slight.	D.a.	Free.
Ba. 6032	12,623	29·70	2·19	59·00	1·0782	1·92	·078	·142	89·72	4·06	3,641	6,991	Slight.	D.a.	P.s.
B. 6820	8,380	20·25	7·56	62·50	1·0875	2·19	·061	·120	92·02	2·79	2,608	5,712	Slight.	Free.	P.s.
Ba. 7924	13,188	26·28	6·57	59·50	1·0791	1·98	·069	·161	89·85	3·58	3,247	6,267	Slight.	D.a.	P.s.
Ba. 11224	12,462	27·54	4·63	60·25	1·0911	2·25	·056	·174	90·73	2·49	3,407	7,666	Slight.	D.a.	P.s.
Ba. 12079	16,818	29·62	1·65	60·00	1·0857	2·06	·066	·204	88·42	3·20	3,666	7,552	Slight.	Free.	P.s.
B.H. 10 (12)	13,148	32·14	·91	62·00	1·0938	2·33	·050	·170	91·37	2·15	4,081	9,509	Slight.	D.a.	P.s.
B.S.F. 12 (53)	12,099	24·24	7·69	61·75	1·0853	2·01	·074	·236	86·04	3·68	3,178	6,388	Slight.	D.a.	P.s.

TABLE XLVI.—HAMPTON PLANTATION :—UPPER NAT VALLEY. 1917-1919.

Plant Canes.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by roll.	Normal Juice. Sp. Gr. 80° C. / 16·6° C.	Lb. per gallon of Saccharose.	Lb. per gallon of Glucose.	Lb. per gallon of Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Presence of insect pests. Phytalus smithi.
W. Transparent	17,280	24·09	9·41	58·00	1·0826	2·10	·066	·084	93·33	3·14	2,891	6,071	Slight.	D.a.	Free.
B. 6308	16,8[illegible]2	34·03	4·12	62·25	1·0853	2·01	·083	·227	86·61	4·13	4,372	8,788	Slight.	D.a.	P.s.
B. 6450	16,845	27·12	5·94	59·00	1·0893	2·20	·058	·172	90·53	2·64	3,260	7,238	Slight.	D.a.	P.s.
B. 7169	16,988	24·85	7·14	57·25	1·0920	2·18	·078	·242	87·20	3·58	2,918	6,361	Slight.	D.a.	P.s.
B. 14701	13,552	27·98	12·50	60·50	1·0875	2·15	·050	·180	90·34	2·33	3,487	7,[illegible]97	Slight.	D.a.	P.s.
Ba. 2471	20,476	33·92	8·01	55·75	1·0875	2·15	·066	·164	90·34	3·07	3,8[illegible]5	8,374	Slight.	D.a.	Free.
Ba. 6032	18,634	46·56	6·55	62·50	1·0750	1·77	·089	·211	85·51	5·03	6,061	10,728	Slight.	D.a.	P.s.
Ba. 11569	17,134	36·08	10·83	55·50	1·0915	2·27	·061	·159	91·16	2·69	4,110	9,330	Slight.	D.a.	P.s.
B.H. 10 (12)	16,558	33·38	3·93	63·00	1·0965	2·41	·051	·156	91·98	2·24	4,266	10,353	Slight.	D.a.	P.s.
B.S.F. 12 (24)	21,83[illegible]	30·21	6·44	63·00	1·0866	2·11	·074	·176	89·41	3·51	3,924	8,280	Slight.	D.a.	P.s.
B.S.F. 12 (53)	16,450	26·79	3·68	60·50	1·0817	1·98	·081	·169	88·79	4·09	3,357	6,647	Slight.	D.a.	P.s.

TABLE XLVII.—HANNAYS PLANTATION :—LITTLE WOOD FIELD.

Plant Canes. 1917--1919.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diagreipes abbreviatus.	Phytalus smithi.
W. Transparent	12,197	22·04	5·62	62·50	1·0844	2·12	·066	·111	92·17	3·11	2,845	6,031	Slight.	Free.	P.s.
B. 6450	17,618	29·28	4·16	61·25	1·0833	2·04	·068	·172	89·47	3·33	3,889	7,934	Slight.	Free.	P.s.
Ba. 2471	22,602	22·15	4·69	59·75	1·0861	2·07	·068	·212	88·09	3·29	2,729	5,649	Slight.	Free.	P.s.
Ba. 6032	21,683	43·65	None.	61·75	1·0795	1·98	·066	·124	91·21	3·33	5,593	11,074	Slight.	Free.	P.s.
Ba. 7924	17,424	27·44	2·74	61·00	1·0787	1·91	·071	·139	90·23	3·66	3,476	6,743	Slight.	Free.	P.s.
Ba. 11569	19,408	30·57	None.	58·50	1·0807	2·21	·056	·144	91·80	2·50	3,677	8,236	Slight.	Free.	Free.
B.H. 10 (12)	18,486	34·28	None.	61·25	1·0884	2·12	·068	·222	87·97	3·21	4,922	9,463	Slight.	Free.	Free.
B.S.F. 12 (21)	21,714	30·79	13·42*	64·50	1·0817	1·90	·109	·221	85·20	5·74	4,113	7,815	Slight.	Free.	Free.
B.S.F. 12 (34)	12,778	28·09	10·20*	61·75	1·0801	1·67	·081	·189	76·26	4·85	3,596	6,005	Slight.	Free.	Free.
B.S.F. 12 (53)	10,300	34·57	5·54	62·50	1·0760	1·59	·083	·407	76·44	5·22	4,498	7,152	Slight.	Free.	P.s.

*Eaten by rats.

TABLE XLVIII.—BRIGHTON PLANTATION :—LONG POND FIELD.

Plant Canes. 1917-1919.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 38°C./16·6°C.	Lb. per gallon of: Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius saccbari.	Presence of insect pests. Diaspepes abbreviatus.	Phytalus smithi.
W. Transparent	11,091	24·94	11·86	64·00	1·0848	2·11	·081	·110	91·34	3·84	3,295	6,952	Slight.	Free.	Free.
B. 6308	17,256	40·95	6·55	65·75	1·0787	1·94	·081	·129	90·23	4·18	5,593	10,850	Slight.	Free.	Free.
B. 6450	14,438	27·05	2·98	65·25	1·0866	2·14	·064	·156	90·68	2·99	3,610	7,790	Slight.	Free.	Free.
Ba. 6032	14,568	37·42	3·85	63·50	1·0787	1·94	·089	·121	90·23	4·59	4,935	9,574	Slight.	Free.	Free.
Ba. 7924	16,235	31·00	·02	61·50	1·0835	2·08	·054	·146	91·23	2·60	3,941	8,197	Slight.	Free.	Free.
Ba. 8009	14,599	29·62	1·09	61·84	1·0893	2·18	·078	·172	89·71	3·58	3,766	8,210	Slight.	Free.	Free.
B.H. 10 (12)	15,088	29·80	1·06	60·00	1·0947	2·22	·114	·256	86·38	5·14	3,658	8,121	Slight.	Free.	Free.
B.S.F. 12 (24)...	16,898	29·98	7·10	62·50	1·0853	1·92	·109	·291	82·70	5·68	3,867	7,425	Slight.	Free.	Free.
B.S.F. 12 (27)...	15,930	32·32	None.	60·00	1·0848	1·96	·250	·100	84·85	1·28	4,001	7,848	Slight.	Free.	Free.
B.S.F. 12 (34)...	11,582	27·55	None.	61·75	1·0857	2·00	·119	·211	85·84	5·95	3,510	7,020	Slight.	Free.	Free.
B.S.F. 12 (53)...	16,979	31·78	7·06	61·05	1·0826	1·93	·119	·201	85·78	6·17	4,025	7,768	Slight.	Free.	Free.
B.S.F. 18 (8)...	9,478	20·17	2·49	64·75	1·0795	1·82	·08	·269	83·87	4·15	2,709	4,930	Moderate.	Free.	Free.

TABLE XLIX.—VAUCLUSE PLANTATION:—SEVEN ACRE NILES FIELD.

Plant Canes. 1917-1919.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30°C./15·6°C.	Lb. per gallon of Saccharose.	Lb. per gallon of Glucose.	Lb. per gallon of Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Presence of insect pests. Phytalus smithi.
W. Transparent	13,530	17·71	19·93	62·00	1·0848	2·04	·071	·199	88·31	3·48	2,207	4,625	Moderate.	Free.	Free.
B. 6450	13,821	26·05	25·16	62·25	1·0835	1·87	·076	·324	82·02	4·06	3,353	6,270	Slight.	Free.	Free.
Ba. 6032	17,015	32·77	2·98	61·00	1·0870	2·09	·069	·211	88·19	3·30	4,119	8,609	Slight.	Free	Free.
Ba. 7924	17,653	24·63	10·32	60·75	1·0826	1·94	·063	·247	86·22	3·25	3,006	6,006	Moderate.	Free.	Free.
Ba. 9855	14,634	28·23	5·07	60·00	1·0835	1·98	·074	·226	86·84	3·74	3,502	6,934	Slight.	Free.	Free.
Ba. 11224	15,241	26·24	22·22*	62·00	1·0879	2·19	·068	·132	91·63	3·11	3,350	7,337	Slight.	Free.	Free.
Ba. 11569	20,673	36·09	5·07	61·25	1·0960	2·37	·054	·180	90·80	2·28	4,517	10,705	Slight.	Free.	Free.
Ba. 13554	15,330	15·68	31·43*	64·50	1·0873	1·98	·078	·162	85·34	3·94	2,088	4,134	Slight.	Free.	Free.
B.H. 10 (12)	18,002	45·32	None.	65·00	1·0924	2·31	·060	·140	92·63	2·60	6,040	13,952	Slight.	Free.	Free.
B.S.F. 12 (24)	14,343	34·66	18·48*	63·50	1·0875	2·06	·071	·249	86·55	3·45	4,533	9,338	Slight.	Free.	Free.
B.S.F. 12 (53)	14,602	28·65	14·24	63·25	1·0817	1·83	·083	·317	82·06	4·54	3,752	6,866	Slight.	Free.	Free.

*Eaten by rats.

TABLE L.—BRIGHTON PLANTATION :—MONKEY POND FIELD.

First Ratoons. 1917—1919.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·6° C.	Lb. per gallon of: Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests: Diaprepes abbreviatus.	Phytalus smithi.
W. Transparent	10,213	21·61	·99	60·00	1·0879	2·15	·093	·147	89·96	4·33	2,669	5,738	Bad.	Free.	Free.
B. 6308	14,357	17·19	None.	59·25	1·0857	2·16	·088	·087	92·70	3·84	2,102	4,540	Moderate.	Free.	Free.
B. 6450	17,221	20·71	None.	61·75	1·0870	2·16	·119	·091	91·14	5·51	2,635	5,692	Moderate.	Free.	Free.
Ba. 6032	16,858	28·81	None.	59·47	1·0795	1·88	·083	·207	86·64	4·41	3,555	6,683	Moderate.	Free.	Free.
Ba. 7924	13,309	13·59	None.	60·25	1·0817	2·06	·088	·187	92·38	4·03	1,696	3,494	Slight.	Free.	Free.
Ba. 8069	14,448	18·63	None.	61·50	1·0897	2·20	·066	·174	90·16	3·00	2,356	5,183	Moderate.	Free.	Free.
B.H. 10 (12)	19,520	32·77	None.	61·75	1·0947	2·33	·061	·179	90·66	2·62	4,141	9,649	Moderate.	Free.	Free.
B.S.F. 12 (27)	18,149	23·23	None.	61·25	1·0857	2·02	·096	·214	86·70	4·75	2,935	5,929	Moderate.	Free.	Free.

TABLE LI.—VAUCLUSE PLANTATION :— ALLEY HOUSE FIELD. 1917-1919.

First Ratoons.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of Saccharose.	Lb. per gallon of Glucose.	Lb. per gallon of Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari.	Presence of insect pests. Diaprepes abbreviatus.	Presence of insect pests. Phytalus smithi.
W. Transparent	13,411	15·94	6·85	62·00	1·0893	2·21	·063	·157	90·95	2·85	2,039	4,493	Moderate.	Free.	Free.
B. 6450	12,434	14·21	1·43	61·48	1·0835	2·00	·083	·197	87·72	4·15	1,806	3,612	Moderate.	Free.	Free.
Ba. 6032	13,640	25·15	None.	62·00	1·0857	2·09	·069	·171	89·70	3·30	3,217	6,724	Moderate.	Free.	Free.
Ba. 7024	23,80[illegible]	28·39	2·61	61·60	1·0884	2·23	·060	·120	92·53	2·69	3,564	7,918	Moderate.	Free.	Free.
B[illegible]. 9855	19,669	23·81	1·81	60·75	1·0817	1·99	·066	·174	89·21	3·32	2,996	5,962	Moderate.	Free.	Free.
Ba. 11224	20,034	23·28	6·25	55·00	1·091	2·28	·043	·157	91·94	1·89	2,629	5,994	Moderate.	Free.	Free.
Ba. 11569	18,234	23·51	·95	58·50	1·0933	2·37	·042	·128	93·31	1·77	2,818	6,679	Moderate.	Free.	Free.
Ba. 13554	19,187	20·22	3·85	64·50	1·0861	2·02	·063	·207	85·96	3·12	2,690	5,434	Moderate.	Free.	Free.
B.H. 10 (12)	16,027	22·81	·72	61·25	1·0956	2·40	·012	·158	92·31	1·75	2,857	6,857	Moderate.	Free.	Free.
B.S.F. 12 (24)	21,312	28·59	3·42	63·00	1·0897	2·26	·050	·124	92·62	2·48	3,703	8,369	Moderate.	Free.	Free.
B.S.F. 12 (53)	20,26[illegible]	23·72	·85	60·00	1·0870	2·20	·048	·142	92·05	2·18	2,930	6,446	Moderate.	Free.	Free.

Black Soils—Plant Canes.

TABLE LII. FIRST YEAR SEEDLINGS

RESULTS OF CERTAIN OF THE SUGAR CANES UNDER EXPERIMENT FOR THE YEAR 1919.

Name or No. of cane.	No. of experiments.	No. of years.	Canes, tons per acre.	Saccharose, lb. per gallon.	Glucose, lb. per gallon.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.
		UPPER PADMORE FIELD.						
B. 190 ...	1	1	31·87	2·04	·083	89·47	4·07	9,007
B. 183 ...	1	1	33·83	1·85	·083	88·52	4·49	8,368
B. 199 ..	1	1	33·70	1·91	·109	85·65	5·71	8,198
B. 209 ...	1	1	36·29	1·93	·066	79·42	3·42	7,851
B. 163 ...	1	1	32·28	2·02	·081	88·60	4·01	7,783
B. 164 ...	1	1	26·29	2·08	·078	90·04	3·75	7,548
B. 204 ...	1	1	31·24	1·85	·085	80·79	4·49	7,135
B. 6450 ...	4	1	28·42	1·99	·080	88·23	4·03	7,133
B. 177 ...	1	1	28·51	2·03	·078	89·82	3·84	7,062
B. 154 ...	1	1	27·63	2·02	·069	90·99	3·43	7,052
B. 211 ...	1	1	25·92	2·14	·069	90·30	3·22	6,831
B. 169 ...	1	1	26·18	2·06	·081	89·57	3·93	6,685
B. 181 ...	1	1	25·54	1·88	·109	88·68	5·80	6,535
B. 155 ...	1	1	26·44	2·04	·119	86·44	5·83	6,534
B. 191 ...	1	1	25·92	1·88	·100	87·04	5·32	6,475
B. 178 ...	1	1	26·05	2·02	·078	89·38	3·86	6,341
W. Transparent.	1	1	23·85	2·03	·078	90·63	3·84	6,064
B. 198 ...	1	1	26·31	1·92	·089	81·36	4·64	6,040
B. 168 ...	1	1	26·44	1·86	·089	85·71	4·78	6,021
B. 197 ...	1	1	28·65	1·58	·096	75·91	6·08	6,007
B. 187 ...	1	1	25·92	1·83	·132	85·51	7·21	5,865
B. 188 ...	1	1	22·98	2·01	·081	89·73	4·03	5,783
B. 196 ...	1	1	27·22	1·63	·089	74·43	5·46	5,658
B. 193 ...	1	1	26·26	1·84	·093	84·40	5·05	5,612
B. 189 ...	1	1	23·85	1·69	·179	80·86	10·59	5,261
B. 195 ...	1	1	26·16	1·56	·086	70·59	5·51	5,011
B. 167 ...	1	1	19·70	1·95	·081	87·44	4·15	4,934
B. 166 ...	1	1	23·59	1·86	·060	76·86	3·23	4,853
B. 152 ...	1	1	22·03	1·90	·068	88·37	3·58	4,739
B. 151 ...	1	1	19·25	1·96	·083	87·89	4·23	4,726
B. 175 ...	1	1	19·74	2·03	·074	90·22	3·65	4,706
B. 217 ...	1	1	25·66	1·69	·089	75·78	5·09	4,612
B. 185 ...	1	1	20·22	1·73	·109	82·38	6·30	4,258
B. 174 ...	1	1	16·20	1·97	·081	87·17	4·11	3,910
B. 153 ...	1	1	17·11	1·78	·089	85·99	5·00	3,670
B. 150 ...	1	1	16·20	1·83	·114	85·12	6·23	3,493
B. 159 ...	1	1	13·26	1·89	·086	89·57	4·55	2,956
B. 184 ...	1	1	10·81	1·67	·119	84·34	7·13	2,291

Black Soils—Plant Canes.

TABLE LII.—*Concluded.*—FIRST YEAR SEEDLINGS.

RESULTS OF CERTAIN OF THE SUGAR CANES UNDER EXPERIMENT FOR THE YEAR 1919.

Name or No. of cane.	No. of experiments.	No. of years.	Canes, tons per acre.	Saccharose, lb. per gallon.	Glucose, lb. per gallon.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.
			MILL	FIELD				
B. N. H. $\frac{11\ (6)}{15\ (7)}$	1	1	30·20	2·18	·071	89·71	3·26	8,190
B. N. H. $\frac{11\ (6)}{15\ (4)}$	1	1	28·00	2·22	·093	88·10	4·19	7,884
B. 6450 ...	1	1	27·74	2·02	·089	85·96	4·41	7,252
B. N. H. $\frac{11\ (6)}{15\ (8)}$	1	1	30·42	2·05	·076	89·52	3·71	7,152
B. 221 ...	1	1	29·16	1·98	·093	85·71	4·70	6,857
B. N. H. $\frac{11\ (6)}{15\ (2)}$	1	1	24·63	2·14	·074	90·68	3·46	6,465
B. 225 ...	1	1	26·18	1·87	·086	82·74	4·60	6,431
G. T. C. ...	1	1	25·41	1·75	·083	83·73	4·74	5,737
J. A. M. ...	1	1	26·05	1·76	·083	77·88	4·71	5,477
Big Tanna ...	1	1	24·50	1·84	·093	79·65	5·05	5,373
B. 224 ...	1	1	19·96	2·08	·078	90·43	3·75	5,316
B. N. H. $\frac{11\ (6)}{15\ (3)}$	1	1	20·74	2·19	·076	89·75	3·47	5,157
B. 222 ...	1	1	20·22	1·86	·081	86·92	4·35	4,864
Striped Tanna	1	1	21·71	1·63	·083	75·81	5·09	4,316
F. J. C. ...	1	1	19·79	1·51	·096	74·75	6·36	3,832
F. A. C. C. ..	1	1	14·13	2·37	·064	92·22	2·70	3,716
W. Transparent	1	1	11·41	2·05	·086	88·36	4·20	2,776
			PILGRIM	FIELD				
B. S. F. 15 (2) ...	1	1	29·55	1·82	·125	78·45	6·87	7,109
B. S. F. 15 (4) ...	1	1	28·91	1·90	·093	88·83	4·89	6,728
B. S. F. 15 (1) ...	1	1	29·55	1·81	·071	74·18	3·42	6,516
B. 6450 ...	1	1	25·02	2·00	·083	86·21	4·15	6,144
W. Transparent	1	1	20·09	1·72	·086	78·90	5·00	2,662
			WELL	FIELD.				
B 6450 ...	1	1	33·70	1·92	·093	85·71	4·84	8,840
B. 2057 ...	1	1	26·44	1·82	·100	88·78	5·49	6,817
B. 2001 ...	1	1	24·01	2·00	·074	89·29	3·70	6,112
B. 1876 ...	1	1	24·12	1·94	·078	89·81	4·02	5,975
B. 654 ...	1	1	23·77	1·88	·119	87·44	6·33	5,939
B. 674 ...	1	1	20·95	2·05	·083	87·98	4·05	5,094
W. Transparent	1	1	20·09	1·89	·086	87·50	4·55	4,867
B. 1198 ...	1	1	18·79	1·89	·096	86·30	5·08	4,217
B. 2003 ...	1	1	17·11	1·81	·083	90·50	4·59	3,993
B.H. $\frac{10\ (26)}{15\ (1)}$ ...	1	1	15·81	2·06	·074	98·96	3·59	3,854

TABLE LIII. SECOND YEAR SEEDLINGS—DODDS.

RESULTS OF SOME OF THE BETTER SEEDLING CANES UNDER EXPERIMENT FOR THE SEASON 1917—1919.

Name or No. of cane.	No. of experiments.	No. of years.	Canes, tons per acre.	Saccharose, lb. per gallon.	Glucose, lb. per gallon.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.
			WELL	FIELD.				
B. 6450 ...	1	1	33·70	1·92	·093	85·71	4·84	8,840
B. 119 ...	1	1	28·91	2·17	·057	91·18	2·63	8,268
B. 117 ...	1	1	27·69	2·40	·060	91·95	2·50	8,215
B. 76 ...	1	1	31·11	2·04	·081	86·08	3·97	8,011
B. 134 ...	1	1	28·44	2·18	·078	88·98	3·58	7,802
B. 82 ...	1	1	28·18	2·13	·083	89·50	3·90	7,481
B. 130 ...	1	1	27·71	2·14	·071	91·06	3·32	7,338
P. 77 ..	1	1	32·02	1·91	·125	81·97	6·54	7,128
B. 85 ...	1	1	28·96	1·99	·119	85·78	5·98	6,661
B. 143 ...	1	1	24·45	2·01	·104	86·64	5·17	6,490
B. 107 ...	1	1	23·20	2·17	·074	89·67	3·41	6,345
B. 126 ...	1	1	22·55	2·28	·061	91·57	2·68	6,252
B. 120 ...	1	1	23·75	2·13	·068	89·50	3·19	6,226
B. 92 ...	1	1	23·38	1·93	·066	89·35	3·42	5,971
B. 138 ...	1	1	21·70	2·05	·081	89·13	3·95	5,375
B. 135 ...	1	1	21·21	1·94	·083	88·99	4·28	5,248
W. Transparent	1	1	20·09	1·89	·086	87·50	4·55	4,867
B. 121 ...	1	1	17·53	1·96	·081	88·92	4·13	4,447
B. 73 ..	1	1	17·03	1·81	·132	83·80	7·29	4,007
			MILL	FIELD.				
S.C. $\frac{1}{1}^{2}$ ..	1	1	26·57	2·35	·039	92·52	1·66	7,325
B. 6450 ...	1	1	27·74	2·02	·089	85·96	4·41	7,252
S.C. $\frac{1}{11}^{2}$ ...	1	1	21·52	2·09	·078	90·48	3·73	5,735
W. Transparent	1	1	11·41	2·05	·086	88·36	4·20	2,776

TABLE LIV. *Black Soils—Plant Canes.*

RESULTS OF SEEDLING CANES UNDER EXPERIMENT FOR THE THREE SEASONS 1915—1917, 1916—1918 AND 1917—1919

	Name or No. of cane	No. of experiments.	No. of years.	Canes, tons per acre.	Saccharose, lb. per gallon.	Glucose, lb. per gallon.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.
1	B. 18	3	3	39·50	1·78	·142	88·06	8·07	9,081
2	B. 39	3	3	36·25	1·92	·078	87·93	4·06	8,894
3	B.S.F. 13 (14)	3	3	36·09	1·82	·140	79·93	7·67	7,944
4	B.S.F. 13 (10)	3	3	28·42	2·03	·087	87·33	4·36	7,705
5	B. 12	3	3	34·08	1·72	·119	84·16	6·99	7,622
6	Uba.	3	3	35·71	1·89	·104	84·10	5·51	7,384
7	B. 68	3	3	24 94	2·29	·049	91·35	2·13	7,022
8	B. 19	3	3	31·80	1·80	·112	84·22	6·25	6,955
9	M. 1237	3	3	31·74	1·68	·107	85·28	6·39	6,852
10	B.S.F 13 (8)	4	3	32·53	1·74	·118	77·55	6·80	6,791

TABLE LV. *Red Soils—Plant Canes.*

VARIETIES ARRANGED ACCORDING TO YIELD OF SACCHAROSE PER ACRE FOR THE SEASON 1917–1919.

Name or No. of cane.	No. of estates.	No. of plots reaped.	Canes, tons per acre.	Saccharose.	Glucose.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.
			PLANT CANES.					
B.H. 10 (12) ...	5	9	43·18	2·25	·066	90·03	2·97	12,298
B.S.F. 12 (27) ...	1	2	48·16	1·84	·123	84·17	6·73	11,122
Ba. 6032 ...	5	9	40·95	2·01	·072	88·81	3·65	10,426
Ba. 11569 ...	3	5	32·04	2·30	·059	90·98	2·60	9,146
B.S.F. 12 (34) ...	2	4	37·76	1·91	·100	84·18	5·32	9,105
Ba. 7924 ...	5	9	35·40	2·05	·067	89·63	3·29	9,070
Ba. 2471 ...	2	4	33·13	2·08	·069	86·46	3·31	8,448
B.S.F. 12 (24) ...	3	5	29·82	1·99	·071	87·70	3·62	7,914
B. 6450 ...	5	9	30·05	1·99	·073	87·83	3·72	7,866
B.S.F. 12 (53) ...	3	5	30·35	1·94	·080	84·31	4·16	7,514
Ba. 11224 ...	1	1	26·24	2·19	·068	91·63	3·11	7,337
B. 3922 ...	3	6	26·11	2·06	·074	88·62	3·61	7,098
Ba. 9855 ...	1	1	28·23	1·98	·074	86·84	3·74	6,934
W. Transparent	5	9	26·24	2·01	·076	89·34	3·79	6,690
Ba. 12079 ...	1	2	22·36	1·83	·086	84·12	4·72	5,134
Ba. 13554 ...	1	1	15·68	1·98	·078	85·34	3·94	4,134
			FIRST RATOONS.					
B.H. 10 (12) ...	5	9	31·53	2·27	·056	88·90	2·48	8,965
Ba. 12079 ...	1	2	33·77	2·15	·084	90·35	3·88	8,823
Ba. 11569 ...	3	5	28·08	2·23	·057	89·28	2·61	7,642
Ba. 7924 ...	5	9	28·97	2·06	·059	90·79	2·91	7,442
Ba. 6032 ...	5	9	29·30	1·92	·077	87·79	4·01	7,166
B. 3922 ...	3	6	24·64	2·19	·063	90·74	2·89	6,799
B.S.F. 12 (24) ...	2	3	24·13	2·03	·064	86·53	3·21	6,439
B. 6450 ...	5	9	24·02	2·03	·068	89·29	3·25	6,425
Ba. 2471 ...	2	4	24·51	2·02	·087	86·51	4·28	6,178
B.S.F. 12 (53) ...	2	3	24·15	2·03	·065	86·94	3·28	6,047
Ba. 11224 ...	1	1	23·28	2·28	·043	91·94	1·89	5,994
Ba. 9855 ...	1	1	23·81	1·99	·066	89·24	3·32	5,962
W. Transparent	5	9	22·26	2·07	·066	90·51	3·20	5,684
Ba. 13554 ...	1	1	20·22	2·02	·063	85·96	3·12	5,434
B.S.F. 12 (34) ...	1	2	20·52	1·81	·080	84·74	4·41	4,758
			SECOND RATOONS.					
B.H. 10 (12) ...	3	6	28·37	2·26	·052	90·29	2·34	7,943
Ba. 7924 ...	3	5	23·28	2·04	·065	90·60	3·20	5,835
B. 3922 ...	2	4	21·68	2·08	·066	88·56	3·20	5,638
Ba. 12079 ...	1	2	20·94	1·98	·067	85·47	3·38	5,119
W. Transparent	3	6	20·12	2·03	·065	90·07	3·18	4,945
B. 6450 ...	3	6	19·30	1·97	·070	88·52	3·40	4,718
Ba. 6032 ...	2	4	19·64	1·92	·072	87·86	3·76	4,632
Ba. 2471 ...	1	2	16·93	2·03	·075	86·55	3·70	3,946

Black Soils—Plant Canes.

TABLE LVI.—SUMMARY OF THE RESULTS OF CERTAIN OF THE SUGAR-CANES UNDER EXPERIMENT FOR THE YEARS 1915, 1916, 1917, 1918, AND 1919.

	Name or No. of cane.	No. of experiments.	No. of years.	Canes, tons per acre.	Saccharose, lb. per gallon.	Glucose, lb. per gallon.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.
1	B. H. 10 (12)	47	5	35·04	2·34	·051	91·27	2·18	10,239
2	Ba. 6032	72	5	36·36	1·98	·065	89·41	3·30	9,181
3	W. No 2	10	5	36·35	2·04	·064	89·81	3·20	9,173
4	Ba. 11403	5	5	31·83	2·29	·051	90·79	2·22	9,064
5	B. S. F. 12 (50)	4	4	39·54	1·78	·132	82·59	7·42	9,027
6	Ba. 8069	5	5	33·68	2·05	·078	88·50	3·80	9,008
7	B. S. F. 12 (27)	9	4	36 40	1·99	·108	85·54	4·17	8,746
8	Ba. 11569	19	5	32·82	2·21	·061	90·90	2·76	8,692
9	Ba. 12573	4	4	36·76	1·85	·109	85·74	5·87	8,481
10	Ba. 12079	8	5	34·66	1·91	·090	87·20	4·72	8,252
11	B. S. F. 12 (45)	4	4	34·40	1·88	·090	85·94	4·81	8,228
12	B. 6450	96	5	31·38	2·01	·070	88·52	3·56	8,172
13	B. S. F. 12 (34)	5	4	32·35	1·93	·101	84·31	5·25	8,136
14	Ba. 8409	5	5	32·00	2·01	·072	88 69	3·58	8,127
15	B. S. F. 12 (48)	4	4	32·18	1·98	·114	85·97	5·83	8,095
16	B. 6308	37	5	31·63	1·93	·067	89·21	3·52	8,069
17	Ba. 12296	4	4	33·17	1·86	·147	81·85	7·96	8,015
18	Ba. 8846	9	5	29·79	2·14	·052	90·28	2·47	8,011
19	B. S. F. 12 (2)	4	4	30·00	2·14	·062	87·12	2·89	7,912
20	Ba. 2471	57	5	30·89	2·11	·068	89·67	3·44	7,888
21	B. S. F. 12 (28) ... —	4	4	29·65	2·07	·074	87·58	3·59	7,857
22	Ba. 7924	41	5	31·11	2·02	·044	90·02	2·20	7,848
23	B. S. F. 12 (13)	4	4	33·36	1·91	·086	87·02	4·66	7,836
24	B. S. F. 12 (24)	15	4	30·13	2·04	·082	87·60	4·07	7,801
25	B. S. F. 12 (22)	4	4	30·75	1·96	·082	86·75	4·18	7,728
26	Ba. 11224	6	4	29·58	2·12	·041	91·54	1·98	7,671
27	Ba. 597	12	5	30·26	1·85	·056	81·58	2·79	7,658
28	Haw. 146	5	5	31·97	1·89	·077	86·91	4·15	7,589
29	B. 7169	42	5	28·40	2·10	·063	90·24	3·05	7,574
30	Ba. 8192	12	5	28·22	2·16	·069	89·63	3·23	7,560
31	B. H. 10 (21)	5	5	31·13	1·87	·061	88·60	3·32	7,408
32	B. S. F. 12 (35)	4	4	27 96	2·02	·077	87·94	3·86	7,330
33	Ba. 12567	4	4	29·23	1·98	·068	89·40	3·43	7,255
34	Ba. 6829	5	5	25 69	2·15	·055	90·86	2·54	7,253
35	B. S. F. 12 (31)	4	4	27·31	2·11	·089	87·49	4·29	7,189
36	B. 14761	18	5	27·35	2·09	·058	89·22	2·91	7,062
37	B. S. F. 12 (17)	4	4	27·62	1·92	·096	84·14	5·01	6,844
38	B. 147	22	5	27 30	1·89	·083	87·68	4·44	6,695
39	B. 376	22	5	26·16	1·96	·074	88·94	3·80	6,444
40	W. Transparent	93	5	24·51	2·00	·078	89·29	3·69	6,173
41	W. Tanna	4	4	24·19	1·77	·077	83·05	4·37	5,084
42	Bourbon	5	5	18·55	1·66	·117	83·11	7·04	4,170

TABLE LVII.

Red Soils.

SUMMARY OF THE MEAN RESULTS OF CANES UNDER EXPERIMENT FOR THE YEARS 1915, 1916, 1917, 1918 AND 1919.

Name or No. of cane.	No. of experiments.	No. of years.	Canes, tons per acre.	Saccharose, lb. per gallon.	Glucose, lb. per gallon.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.
			PLANT CANES.					
B. H. 10 (12) ..	26	3	41·85	2·22	·055	91·01	2·53	11,893
Ba. 6032 ..	31	5	38·39	1·94	·059	89·35	3·09	9,491
B. 6450 ..	38	5	34·14	1·96	·056	89·44	3·02	8,747
Ba. 2471 ..	14	5	32·24	2·05	·075	88·47	3·73	8,119
B. 3922 ..	30	5	29·73	1·95	·061	89·91	3·20	7,626
W. Transparent	37	5	24·35	1·94	·062	90·27	3·20	5,965
			FIRST RATOONS.					
Ba. 6032 ...	23	4	28·65	1·90	·072	88·60	3·81	6,932
B. 6450 ...	36	5	26·33	1·93	·063	89·51	3·31	6,654
B. 3922 ...	30	5	25·81	2·02	·050	91·19	2·46	6,607
Ba. 2471 ...	12	4	24·03	2·03	·071	89·18	3·51	5,876
W. Transparent	37	5	22·56	1·96	·053	91·14	2·73	5,462
			SECOND RATOONS.					
B. 3922 ...	16	5	26·21	2·01	·053	90·13	2·72	6,676
B. 6450 ..	24	5	22·17	1·89	·074	88·50	4·00	5,483
W. Transparent	24	5	19·08	1·95	·055	90·84	2·87	4,566

TABLE LVIII.

Scotland District.

MEAN RESULTS OF CANES UNDER EXPERIMENT FOR THE SEASON 1917—1919.

	Name or No. of cane.	No. of experiments.	Canes, tons per acre.	Saccharose, lb. per gallon.	Glucose, lb per gallon.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.
			PLANT CANES.					
1	B. H. 10 (12)	2	43·26	1·93	·079	85·21	4·07	10,334
2	Ba. 11569	2	48·70	1·77	·081	84·24	4·59	9,962
3	Haw. 146	2	40·77	1·45	·093	77·03	6·44	7,251
4	W. Transparent ...	2	32·22	1·68	·087	83·17	5·19	6,576
5	Ba. 6032	2	34·05	1·36	·104	79·48	7·75	5,865
6	B. 6450	2	27·90	1·59	·091	82·45	5·77	5,646
7	B. 6308	2	27·16	1·60	·093	82·42	5·79	5,544
8	Ba. 7924	1	29·72	1·37	·056	76·54	4·09	5,139
			FIRST RATOONS.					
1	Ba. 11569	2	40·51	2·24	·058	89·40	2·58	11,268
2	B. H. 10 (12)	2	30·46	2·19	·072	87·41	3·31	8,351
3	Haw. 146	2	35·00	1·93	·070	87·27	3·64	8,287
4	Ba. 6032	2	32·66	1·98	·074	87·81	3·72	8,254
5	Ba. 7924	2	32·02	1·94	·084	86·23	4·31	7,844
6	W. Transparent ...	2	29·30	1·94	·099	84·32	5·10	7,066
7	B. 6308	2	27·22	1·93	·078	85·83	4·09	6,571
8	B. 6450	1	22·78	1·73	·083	83·17	4·80	5,057
			SECOND RATOONS.					
1	Haw. 146	2	37·36	1·93	·085	84·36	4·40	8,851
2	B. H. 10 (12)	2	34·16	1·91	·074	83·50	4·39	8,059
3	B. 6450	2	29·03	1·90	·088	86·53	4·65	7,109
4	Ba. 6032	2	34·61	1·58	·120	82·48	7·90	6,869
5	B. 6308	2	27·63	1·73	·098	83·83	5·69	6,160
6	W. Transparent ...	2	27·42	1·79	·105	82·48	5·89	5,998
7	Ba. 7924	2	25·23	1·82	·080	86·67	4·38	5,698

TABLE LIX. *Scotland District—Plant Canes.*

MEANS RESULTS OF CANES UNDER EXPERIMENT FOR THE YEARS 1916, 1917, 1918, AND 19 9.

	Name or No. of cane.	No of experiments.	Cane, tons per acre.	Saccharose, lb. per gallon.	Glucose, lb. per gallon.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.
1	B. H. 10 (12)*	5	42·40	1·99	·071	85·86	3·67	10,699
2	Ba. 6032	8	38·88	1·60	·082	82·91	5·41	8,054
3	Ba. 7924*	5	36·48	1·69	·055	84·15	3·32	7,884
4	Haw. 146	8	40·80	1·66	·074	82·81	3·79	7,687
5	W. Transparent ...	8	32·38	1·77	·066	85·60	3·81	7,124
6	B. 6450	7	33·39	1·62	·079	83·00	5·00	6,989
7	B. 6308	8	32·60	1·54	·084	82·59	5·63	6,558

*For 3 years only.