

SESS. II.—1897.
NEW ZEALAND.

BEET-ROOT SUGAR.

(REPORT FROM SELECT COMMITTEE, HOUSE OF ASSEMBLY OF TASMANIA, WITH MINUTES OF PROCEEDINGS AND APPENDIX.)

Laid on the Table of the House of Representatives by Leave.

[SELECT COMMITTEE APPOINTED, ON FRIDAY, THE 12TH JULY, 1895, TO INQUIRE INTO AND REPORT UPON THE FEASIBILITY OF ESTABLISHING THE SUGAR-BEET INDUSTRY IN TASMANIA, WITH POWER TO SEND FOR PERSONS AND PAPERS.]

Members of the Committee.—Mr. Burke, Mr. W. T. H. Brown, Mr. Bradley, Mr. W. Best, Mr. Archer, Mr. McWilliams, Mr. Von Stieglitz (Mover).

Days of Meeting.—Thursday, 18th July, 1895; Thursday, 25th July, 1895; Friday, 9th August, 1895; Thursday, 15th August, 1895; Friday, 23rd August, 1895.

REPORT.

YOUR Committee have the honour to report to your honourable House that they have given most careful consideration to the question remitted to them. They have received and perused much valuable and documentary evidence from the most reliable sources available, and have come to the conclusion that it is feasible to establish the industry in Tasmania. They are also of opinion that the soil and climate is eminently suitable for the growth of the root to perfection. The only difficulty in establishing the industry is, in the opinion of your Committee, that of bringing the grower and the manufacturer together. As the establishing of this industry is a national one, and will be of very great benefit to the whole colony, your Committee recommend that the Government put in the supplementary estimates for 1895 the sum of £100 to be expended in procuring an expert to instruct the farmers in growing the root, and for giving rewards to those who grow areas of the crop to perfection. If this be done, your Committee are of opinion that in a short time there will be a sufficient number of farmers competent to grow the root to induce capitalists to erect a mill or mills in Tasmania.

Committee-room, Friday, 23rd August, 1895.

J. C. VON STIEGLITZ, Chairman.

MINUTES OF PROCEEDINGS.

No. 1.—THURSDAY, 18TH JULY, 1895.

THE Committee met at 11 a.m.

Present: Mr. W. T. H. Brown, Mr. Archer, Mr. Bradley, Mr. Best, and Mr. Von Stieglitz (Mover).

Mr. Von Stieglitz was voted to the chair.

Ordered, That the Government Analyst, the Secretary Board of Agriculture, Mr. G. E. Piesse, and the Hon. William Crosby be summoned to attend and give evidence before the Committee on Thursday, the 25th July.

The Committee deliberated.

The Committee adjourned at 11.30 o'clock until 11 a.m. on Thursday, the 25th July, 1895.

No. 2.—THURSDAY, 25TH JULY, 1895.

The Committee met at 11 a.m.

Present: Mr. Best, Mr. Burke, Mr. Archer, Mr. McWilliams, and Mr. Von Stieglitz (Chairman).

The minutes of the last meeting were read and confirmed.

Ordered, That the following questions be forwarded to the Hon. W. Crosby; the Secretary to the Board of Agriculture, Hobart; the Secretary, Board of Agriculture, Westbury; and Mr. G. E. Piesse, President of the Council of Agriculture: (1.) In your opinion, is it possible to establish the sugar-beet industry in Tasmania? (2.) Do you think the soil and climate of Tasmania is suitable for growing beet-root fit for the manufacture of sugar? (3.) Please state what in your opinion is the best method of establishing the sugar-beet industry in Tasmania—by bonus for suitable crops grown, or otherwise. (4.) Will you please submit any suggestions which you think will aid the Committee in their inquiry?

Ordered, That the following question be forwarded to the Government Analyst: What has been the result of your analysis of sugar-beet—fair, good, or bad—as compared with European results?

Ordered, That the following questions be submitted to Mr. C. Van de Velde, Sugar Expert, Sydney: (1.) Will you erect a mill in Tasmania? (2.) What would be the approximate cost of such mill? (3.) Quantity of beet that such mill would utilise per annum. (4.) Price per ton for beet-root at 14 and 15 per cent. respectively.

The Committee adjourned at 12 noon until a date to be hereafter determined by the Chairman.

NO. 3.—FRIDAY, 9TH AUGUST, 1895.

The Committee met at 11 a.m.

Present: Mr. W. T. H. Brown, Mr. Bradley, Mr. Best, Mr. Archer, and Mr. Von Stieglitz (Chairman).

The minutes of the last meeting were read and confirmed.

The Chairman tabled the following papers: Mr. W. Crosby (Reply to Questions submitted to him, with Lectures, Papers, and Correspondence). Telegram and letter for Mr. C. Van de Velde, Sugar Expert, Sydney. Letters from the Secretary of the Tasmanian Board of Agriculture; the Secretary, Board of Agriculture, Westbury; President of the Council of Agriculture; and the Government Analyst.

The Committee read the above-mentioned papers, and deliberated thereon.

The Committee adjourned at 12.40 p.m. *sine die*.

NO. 4.—THURSDAY, 15TH AUGUST, 1895.

The Committee met at 12 noon.

Present: Mr. Burke, Mr. McWilliams, Mr. Best, Mr. W. T. H. Brown, Mr. Archer, and Mr. Von Stieglitz (Chairman).

The minutes of the last meeting were read and confirmed.

Mr. Mault attended, and discussed the subject of sugar-beet industry with the Committee.

The Committee adjourned at 1 p.m. *sine die*.

NO. 5.—FRIDAY, 23RD AUGUST, 1895.

The Committee met at 11.30 a.m.

Present: Mr. Archer, Mr. Burke, Mr. Bradley, Mr. Best, and Mr. Von Stieglitz (Chairman).

The minutes of the last meeting were read and confirmed.

The Chairman tabled letters from Mr. Van de Velde, Sugar Expert, Sydney, and Mr. Mault, Hobart. Mr. Burke supplied an analysis of sugar-beet grown at Westbury.

The draft report was read and agreed to.

The Committee adjourned *sine die*.

APPENDIX.

DEAR SIR,—

Wynyard Buildings, Sydney, 26th February, 1895.

I have sent you a few days ago copy of my pamphlet on the sugar-beet industry, and I would be pleased to know what you think of it, and what, so far, they think of it in your colony.

I take the liberty of forwarding you a bundle of five hundred copies, which I would wish to get distributed to the Tasmanian agricultural societies. I presume the Department of Agriculture will take charge of that, as they do it also here and in Melbourne. So I will simply ask you to kindly hand the parcel over to Mr. Moore and transmit him my request. I hope you will forgive me for the trouble I am giving you. Hoping you are well, I have, &c.,

The Hon. William Crosby, M.L.C., Hobart.

C. VAN DE VELDE.

Enclosed please find shipping receipt. I have received none of the newspapers referring to my pamphlet. Could you send me the number of the *Mercury*?

DEAR SIR,—

26th June, 1895.

I beg to thank you, and also to congratulate you, for having brought up the question of the beet-sugar industry at the meeting of the Agricultural Society. I have the matter under consideration, and I will write you again within a day or two.

The Hon. William Crosby, Hobart,

I have, &c.,

C. VAN DE VELDE.

DEAR SIR,—

Wynyard Buildings, Sydney, 1st July, 1895.

I have forwarded to-day a letter on the sugar-beet question to the *Mercury*. I hope they will insert it, and that you will approve of its contents. I am very pleased to see the great interest you take in this question. The establishment of this industry would change the face of your colony.

I suppose you are aware that your Council of Agriculture has sold to the New South Wales Government all the seed they had imported and not used, therefore it is impossible to get your farmers to take it up this season.

But what could and ought to be done is the ploughing, under proper supervision, of an acre of sugar-beet in the two or three districts of Tasmania which are suitable for the erection of factories. The result being good, the experiments would attract great attention from all public men and farmers as well, and immense progress would be done in a short time. The season after, the cultivation could be taken up by a large number of farmers, who would then feel encouraged to do so. This is mostly what has been done in Victoria and New South Wales, where the introduction of the industry is already in an advanced state. I am quite confident that companies will be successfully floated in these colonies after the coming season.

I do not suppose there is anybody in Tasmania who has the required experience in the cultivation of this crop to guide those trials, but, if your Government will undertake to pay my actual expenses, I am ready to undertake the thing, provided two or three farmers are found willing to grow the acre under my supervision. There will be no difficulty in getting the seed for those few acres, as there will be some available in Victoria. This would necessitate three trips to Tasmania; but I do not think my expenses would exceed £50.

Your farmers will never take this matter up until they are themselves taken in hand, and I will be pleased to do it with the assistance of your Government or the Council of Agriculture, as the case may be. I will train your farmers into the proper methods of beet-cultivation, and will find my profit in the formation of the company as soon as the supply of raw material can be guaranteed.

You are at liberty to transmit these proposals to the Government if you think it is advisable. I wish to remark that, if advantage is to be taken of the coming season, a decision ought to be taken without delay, otherwise another year will be lost.

I am, &c.,

The Hon. William Crosby, Hobart.

C. VAN DE VELDE.

DEAR SIR,—

19th July, 1895.

I have allowed your letters of 26th June and 1st July to remain longer unanswered than I intended, but I have been hoping to be able to write something more definite than I can even do now.

The Government financial position just now precludes the possibility of getting even £50 voted for the beet, but it has assented to the appointment of a Select Committee to inquire and report, as per enclosed printed notice of motion tabled by Mr. Von Stieglitz.

The whole question continues to engage the attention of Mr. Moore and the Council of Agriculture, and I hope the Agricultural and Pastoral Society will notify shortly that it will offer a good money prize for the best exhibit of roots at its proposed autumn show, such prize to be awarded on the sugar analysis. When there is anything more likely to interest you I will let you know, and I will be very glad if you will continue to send me newspapers or letters connected with the matter. I sent you a copy of the *Mercury* containing your letter of 1st instant, which appeared on the 11th, and I have to acknowledge with thanks four newspapers from you.

Yours, &c.,

C. Van de Velde, Esq., Wynyard Buildings, Sydney.

W. CROSBY.

DEAR SIR,—

Westbury, 22nd July, 1895.

I have much pleasure in replying to yours of the 18th.

My views most entirely accord with yours, that the first thing to do is to induce farmers to grow the root in small allotments, cultivating it on the absolutely necessary scientific system that alone will insure the production of the largest percentage of sugar. With that view in mind, I gave away small quantities of the best varieties of seed from Germany to several farmers I knew, and who I thought would gladly give it a fair trial, but I regret to say that I was much disappointed. I gave them detailed instructions, and impressed on them the absolute necessity of deep ploughing, drainage, and using well-decomposed stable-manure at the proper season (autumn preferably) so as to get the land in good condition for the sowing in October, pointing out to them that, though there was not at present a market for this root, they would be very valuable as cattle-feed. Some, I found, gave it as fair a trial as they could, others simply put the seed in the ground without manure and but little subsequent attention, whilst others were very indifferent, and did not care to take the trouble to make the trial.

The minimum percentage at which the mills in Germany will purchase by analysis is 9 per cent. of crystallizable sugar.

That beets will flourish in this colony with a most satisfactory percentage of sugar is now an established fact, the Government Analyst having given the percentage of crystallizable sugar in roots grown by Messrs. Allen and Woolnough in this district at 13 and 15 per cent. respectively. I have myself analysed others, not grown with nearly so much care as these, at over 9 per cent., sufficient for a mill to purchase. Such satisfactory results must, I take it, be owing to the soil and climate being well adapted to the requirements of this root, the sugar, as we know, being to a great extent formed in the root through the leaves, with the assistance of the sun and atmosphere.

In reference to a bonus to be given by the Government, it will no doubt stimulate many to grow it on small pieces of land, an acre as you suggest, because that could be easily cultivated by the farmer and his family, so that with the bonus, and the use or sale of the crop as cattle-food, he would make a good profit out of his acre. What I fear is (from my experience) many who might attempt it would not take the trouble to bestow the necessary labour, because, if such a thing should be done, the conditions should fix a minimum percentage of crystallizable sugar on analysis, and not less than a certain number of tons to the acre. Looking at the small quantity of seed sold by the Council of Agriculture, I certainly have great misgivings.

Then, again, comes the question of the money—Is the Government in a position to do such a thing? If not, when will they be? Might not the Government, as they do in Queensland, assist in the erection of a mill, or erect one entirely, by borrowing on special debentures at a good rate of interest, say, £50,000, to erect a 300-ton mill, and out of the profit pay the interest, investing the surplus for repairs and as a sinking fund to redeem the debentures, so that at the end of a few years the Government would own a valuable property, which they could either continue or sell to a joint-stock company.

The following figures have been supplied to me by a friend interested in the mill, working 300 tons per day, in Germany:—

	<i>Expenditure.</i>				Marks or Shillings.
30,000 tons roots, at 16s.	480,000
6,600 tons coal, at 20s.	132,000
Salaries and wages	100,000
Materials (used in the mill)	96,000
Rates, taxes, &c.	60,000
					<u>868,000</u>
<i>Returns.</i>					
9 per cent. white granulated sugar, 48,900 cwt., at 20s.	978,000
1·67 per cent. yellow crystals, 8,700 cwt., at 15s.	130,500
2 per cent. molasses, 10,900 cwt., at 1s.	10,900
					<u>1,119,400</u>
					868,000
					<u>251,400</u>
Profit	<u>£12,570</u>

These figures are to be relied on.

The large mills pay very much better than the small ones. The North German Beet-sugar Mill, a very large mill, pays large dividends. The mill above referred to did not cost anything like £50,000, because that sum includes careful packing, freight, and numerous incidental expenses not incurred when delivered in Germany. The actual cost of a 300-ton mill as furnished to me by the constructors in Germany is £27,721—a 200-ton mill costing £20,773: note the difference. Notwithstanding the difficulties that now present themselves, I fully believe the time is not far distant when this root will be extensively cultivated in this colony. I shall watch with much interest the progress of the Commission on this subject.

J. C. Von Steiglitz, Esq.

I am, &c.,

FRED. L. T. BOWDEN.

The Anglo-Australian Guano Company, Launceston,
23rd July, 1895.

DEAR SIR,—

Yours of the 18th to hand, and should have been replied to earlier, but I was away in the country, but am afraid I shall be able to give you very little information *re* sugar-beet, as I only saw a large acreage of it growing in California. On inquiry found it was cultivated by the Spreckel Brothers, who are also large growers of cane in Honolulu. The soil in which the beet was growing was very similar to the chocolate soils so often found in this country, and grown in drills, and as there were large irrigation-works in the vicinity supposed it was in connection, and on asking why they were growing beet found that the insect-pest was so bad in Honolulu they had gone into it to keep their large refining factories at work. Workmen engaged were Chinese and Portugese, and a large number at work weeding. Their wages were about the same as here.

I think your suggestion is a good one to get the farmer to grow a small quantity in the different neighbourhoods, and to test the soils to find out which is the best; and as a large quantity of the land is unfitted for wheat through growing it year after year would grow the root, and the cultivation required would clean it and bring it back into a good condition, especially if they used manures. Only to-day Mr. Bennell, who has grown some very fair roots from seed obtained last year from the Council of Agriculture, called to know if I could give him any information, so gave him the name of the Secretary, and he has promised to write to him. As they are grown in the Piper River district would be worth analysing, as I do not know of anybody else growing any so far north, and if they consent to do it he will forward any quantity required.

Several farmers have spoken to me in connection with cow-feeding, as they find it does not produce the disagreeable taste that mangolds do in the milk, so that they could consume by cow-feeding any surplus not required.

Hoping you may succeed in getting this industry successfully started, as I feel sure it will be for the good of the farmers, and will employ many who are hardly able to exist.

Yours, &c.

J. C. Von Steiglitz, Esq.

HENRY S. GLEADOW.

SIR,—

House of Assembly, Hobart, 25th July, 1895.

By direction of the Select Committee appointed to inquire into the feasibility of establishing the sugar-beet industry in Tasmania, I have the honour to submit to you the following questions, and to request that you will be good enough to aid them in their investigation by replying thereto at your earliest convenience :—

1. In your opinion, is it possible to establish the sugar-beet industry in Tasmania?—Yes.
2. Do you think the soil and climate of Tasmania is suitable for growing beet-root fit for the manufacture of sugar?—Longford and other places.
3. Please state what, in your opinion, is the best way to establish the sugar-beet industry in this colony.—By inducing several farmers to simultaneously cultivate small areas of not less than an acre each.
4. Kindly submit any suggestions which you think will aid the Committee in the inquiry.—Apart from sugar is the great importance of winter fodder. Beet, mixed with chaff, &c., would tend to fattening of stock, causing crops to be more profitably consumed on the farm, instead of being sold at low prices in town.

The Hon. William Crosby, M.L.C.

I have, &c.,
HENRY T. MANING, Clerk of the House.

SIR,—

Government Laboratories, Hobart, 25th July, 1895.

In answer to your inquiry of yesterday's date, I have the honour to inform you that I have determined the percentage of sugar in several sugar-beets, the mean result being 13·6 per cent.—the highest 15·66 per cent., and lowest 12 per cent. The results, supposing the bulk of the crop to be about equal to the sample examined, are distinctly good as compared with any European results which I have been able to obtain.

I have, &c.,

W. F. WARD, Government Analyst.

J. C. VON STIEGLITZ, Esq., M.H.A., Parliament House.

SIRS,—

Green Point, Bridgewater, 30th July, 1895.

Re Establishment of Sugar-beet Industry.

My reply to questions submitted *re* above industry is as follows :—

Question 1.—It is possible to establish the sugar-beet industry in Tasmania.

Question 2.—I am confident that many portions of the soil of the colony are suitable for the production of sugar-beet.

Question 3.—Though the bonus system has pushed production ahead in Victoria, I should not recommend it here for any industry. We have only to look at our butter industry to see that production can be fostered without such aid, the coming season it is quite probable we shall export to England 250 tons. I think that communication should be opened with a firm of standing, with the view to ascertain what quantity of roots they would require to be produced to get them to come over to Tasmania and start a factory, the price they would be prepared to pay delivered at the factory, and also if they could recommend a good practical man to instruct the farmers of this colony in growing sugar-beet, and at what cost to the colony. I think he should be resident in Tasmania for a season, so that he could go from district to district all through the planting, growing, and gathering of the crop, because very few of us know much about the practice of growing this very valuable root. I may also add, I believe, the growing of this root properly will go a long way towards bringing about a better state of farming in Tasmania, in that we should have a much better rotation of crops.

I have, &c.,

GEO. E. PIESSE,

To the Select Committee on Sugar-beet Industry.

President, Council of Agriculture.

SIR,—

Westbury, 31st July, 1895.

In reply to yours of the 25th instant respecting your inquiries as to the feasibility of establishing the sugar-beet industry in Tasmania, I have the honour to submit the following answers to your questions :—

1. Yes, quite possible.
2. Yes, decidedly (unsurpassed); and this is backed up by the opinion of Mr. Van de Velde, of Sydney, an expert, and is also shown by an analysis of beets grown in this district examined by Mr. Ward, Government Analyst (a copy of which I attach); and, further, we have all that is necessary, such as limestone, coal, &c., used for working refinery.
3. By moderate bonuses to growers, and the Government employing an expert, whose duty should be to supervise and instruct the farmers in the proper manner of cultivating and harvesting the beet-root.
5. Mr. A. N. Pearson, Government Analyst of Victoria, is trying to improve an evaporator, which, if successful, will simplify the manufacture of beet-root into dried sugar-beet juice, which, being portable, could readily be conveyed to a central refinery, thus lessening the expense of manufacturing the sugar.

I have, &c.,

H. G. J. DREW,

Honorary Secretary, Board of Agriculture, Westbury.

Henry T. Maning, Esq., Clerk of the House of Assembly, Hobart.

DEAR SIR,—

Bushy Park, 1st August, 1895.

In reply to yours asking for information about sugar-beet. I have always thought highly of it as a valuable industry, and calculated to be of great benefit to Tasmania. Difficult to find words sufficiently expressive enough. I think you will find in the records of the House that Hon. T. D. Chapman took great interest in it and there is a bonus of £2,000 for the makers of tons. The Hon. W. Crosby can tell you a lot about it and my moving in the matter. We have a fine crop, and all stocks do well on it. If you can only get the people to unite and carry it out. Mr. Gill can give you a lot of valuable information.

J. C. Von Stieglitz, Esq., M.H.A.

Yours truly,

EBENEZER SHOORBRIDGE.

SIR,—

Sydney, 15th August, 1895.

I have the honour to acknowledge the receipt of your letter of 25th ultimo, which I have been unable to answer at an earlier date, owing to my absence in Queensland, from where I have just returned.

In reference to your questions *re* the sugar industry, I find I can only answer them in a very incomplete manner; to do otherwise would mean the writing of a very lengthy report. Verbal evidence would have been more useful to the object in view, as it would have allowed me to enlighten your Committee on the whole question submitted to them.

I will now answer your questions in the order they are put to me:—

1. Will you erect a mill in Tasmania?—A company will erect a large mill in Tasmania on the following conditions: (a.) That the full supply of suitable roots will be guaranteed from the first season. (b.) That the Government will allow the free importation of the manufacturing plant. (c.) That the present price of sugar shall not seriously decline in the meantime. (d.) That the farmers themselves subscribe 20 per cent. of the capital of the company, as I consider it an essential condition of success that the farmers should have a serious interest in the concern; however, every facility would be given to them to acquire that interest, which would be paid principally with their supply of roots, and divided over a suitable period.

2. What would be the approximate cost of such mill?—I reckon that the cost of the factory would not be less than £75,000. In reference to this matter, I beg to observe that beet-sugar manufacturing plant suitable to Australian conditions must be designed on totally different lines from even the most perfect establishments of Europe. The small population of these colonies and a return to prosperity may cause at a certain moment a scarcity of labour which must be foreseen. The economy in labour must be carried on much further than has ever been done before, and I have designed a plan of a factory to meet that necessity. The drawback of the proposed innovations is that they will increase the cost of the plant; however, compensation would be found for it if the Government will allow the free importation of the plant.

3. Quantity of beet such mill would utilise per annum?—About 45,000 tons.

4. Price per ton for beet at 14 and 15 per cent.?—At the present price of sugar the 14-per-cent. roots would be worth £14 a ton delivered at the factory, and 1s. 6d. would be paid for every degree above. The same amounts would be deducted for every degree below 14 per cent., and the manufacturer would have the option of refusing roots below 12 per cent. The price paid for the roots would increase with the price of sugar.

I have, &c.,

C. VAN DE VELDE.

Henry T. Maning, Esq., Clerk of the House, Hobart.

DEAR SIR,—

Holbrook Place, Hobart, 15th August, 1895.

As you requested, I give you in writing the substance of our conversation of this morning on the subject of the sugar-beet industry in France.

I lived from 1875 to 1882 in the midst of some of the best beet-growing country in France on the confines of the Departments of the Aisne and the Oise, and in the neighbourhood of some large beet-sugar factories. The beet grown on my property I used to sell to one of these factories. The usual plan was to make contracts to plant an area of land with a fixed maximum and minimum of acreage for a given number of years with a named sort of beet, or with seed provided by the factory, all the produce of which is to be taken. A standard price was fixed for beet of a given richness or percentage of saccharine matter, and the price actually paid varied as the beet proved richer or poorer than the standard. The seller could have the analyses made checked if he wished. He had to deliver the roots to the factory, and to take the pulp back from it. He was restricted in the use of manures to those deriving their nitrogenous constituents from nitrate of soda and not from sulphate of ammonia, as the latter interferes with the success of some of the processes in sugar-making. I do not remember any other conditions as to cultivation.

The country generally in my neighbourhood overlaid sandstone grit and oolite. The soils preferred for beet-growing were medium quality, comparatively porous, and well-drained land. This was—at least, occasionally—very deeply ploughed. As you are aware, the saccharine matter is chiefly found in the buried part of the root, but it does not do to earth over the whole of the root, as a considerable part must be exposed to the action of the sun and air to develop or ripen the sugar.

I have seen much land in Tasmania which to all appearance is well adapted for beet-growing. As for climate, beet needs sufficient moisture in its early stages to develop it, and for the last six weeks a good deal of sun to ripen the sugar. At this time a frosty morning followed by a fine day does anything but harm.

As for the location of a factory, it is of the utmost importance that there are good roads to it. You must remember that the cartage of the roots is very heavy, and that it has to be done at the end of autumn and beginning of winter, when roads are soft. In the hilly parts of Aisne and Oise, to avoid as much carting as possible, crushing-mills were dotted about the valleys, whence the beet-juice was pumped through miles of pipes to the central factory.

With regard to the financial aspect of the question, there is no doubt that the establishment of a beet-sugar factory in a district is of enormous advantage to the farmers. What is received from the factory, less the cost of cartage of roots and pulp, may be said to be almost all profit, as the pulp when properly stored is as good or better for feeding growing stock than the whole root. But, with respect to the factory-owners, I am bound to say that sugar-making by itself was not profitable when I knew it, and in our part of the country could eventually only be carried on by the great cultivators and sugar-refiners taking it in hand in connection with their farms and refineries—that is, carrying it on for the sake of the profits attending beet-cultivation on the one hand and sugar-refining on the other. I may mention in this connection that my friend, M. Henri Waddington, found beet-cultivation in connection with distillation still more profitable than in connection with sugar-making. Another great reason for neighbouring cultivators themselves being connected with the undertaking is that the sugar season only lasts a few months, so some other work must be found for the ordinary hands for the rest of the year, or otherwise a proper staff could not be counted on for the factory when absolutely needed.

I have, &c.,

J. C. Von Stieglitz, Esq., M.H.A., Chairman of the

A. MAULT.

Beet-sugar Inquiry Committee of the House of Assembly.

COPY of BEET-ROOT ANALYSIS by Mr. WARD, Government Analyst, dated 21st June, 1895.

					Per cent.
1. Specific gravity of juice	...	...	...	1,082·5	...
Total sugar...	...	...	...	...	13·17
Mineral matter (ash) ...	...	...	...	...	1·15
Water lost at 212° Fahr.	...	...	...	...	78·70
2. Specific gravity of juice	...	...	...	1,091·7	...
Total sugar...	...	...	...	...	15·66
Mineral matter (ash)...	...	...	...	...	0·69
Water lost at 212° Fahr.	...	...	...	...	74·10

The juice has been taken as 90 per cent. of the beets.

NOTE.—No. 2 beet was grown Westbury Township. No. 1 grown about 4 miles distant from No. 2.

W. F. WARD, Government Analyst.

Approximate Cost of Paper.—Preparation, not given; printing (1,400 copies), 28 ls. 6d.

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