

during the summer drought or the dead time of winter, yet there was a very vast difference, even among the cultivated bushes, as to length, proportion, and colour of fibre, as well as to the readiness with which it could be torn from the leaf. After satisfying myself that one particular bush growing by itself in an old deserted cultivation up the Wanganui gully was better than any other I could find, I, when winter arrived, brought a few fans of it and planted them in my garden here, where they are still growing, though now getting decrepid with age. They are of the *Tihore* species, and of the particular variety called by Waitotara natives *Wharariki* (little fellow), from the bushes seldom exceeding five feet in height. The leaves, when the bush is in its prime, are fully four inches broad, and will yield a ribbon of fibre from three feet to three feet six inches long by two inches wide, from each half of the leaf.

I enclose you some samples:—

No. 1 is two small fans which I thought you might like to have to plant out.

No. 2 is a specimen of the fibre, as torn by hand from the leaf.

No. 3 is the refuse of the leaf from which the last was torn. You will see that it contains a great deal more fibre than that which the tearing out process, as practised by the Maori, extracts, and that this is so lightly attached to the woody matter as to be readily separable by such simple means as merely scraping with the finger-nail.

No. 4 is the fibre of a similar leaf, after the woody matter has been removed by a few strokes of a clothes brush.

This is the kind of flax from which the Maoris make their very best mats, but for this purpose they soak the fibre in running water for a night, and then beat it between stones, by which means the fibre such as I now send are subdivided into filaments as fine and soft as silk, and of a dazzling whiteness. I fancy, however, that the Natives higher up the Waitotara River have flax even superior to this, as some persons who had been many years in the Colony, and who formed part of the force which lately went up that river, were so struck with the appearance of some hanks of fibre prepared for weaving which they came across, that they brought a sample away with them, and I think it is superior to any I have ever before seen. I may be mistaken in this, as it is now some years since I saw any fibre that had been so prepared; but still my impression is that the sample I mention is finer and whiter than any I have seen before, and the colour struck me as being of a bluer or more silvery white than I remembered to have noticed previously. I tried the other day to get a piece to send you, but the owner would not spare it, as he had given away so much to one or another as to have very little left.

I am strongly of opinion that though the machines now in use are probably the best that could be employed for dealing with such raw material as now comes to the hands of the manufacturer, yet as I know that fibre now being exported is vastly inferior to what some varieties, such as that which I send, will yield, when those varieties come to be cultivated, and probably improved upon, other machinery (probably a combination of scrapers and brushes) will have to be made use of to produce an article of far higher commercial value. This, I conceive, is the direction in which our attention must be turned, not only because the freight on good and bad would be the same,—every increase in the marketable value of the fibre is a direct gain to the Colony,—but because I am satisfied, from fifteen years experience in growing flax, that it will not pay to cultivate in any quantity at the prices which the manufacturers are giving for the leaves. I gave Hutchison, a few days ago, some memoranda respecting the cultivation and probable yield of flax, for an article he purposed inserting in his paper, and when it appears I will desire him to send you a copy. You will see by it that my estimate of the probable proceeds falls very far short of that lately given in some of the Auckland papers, and which I think must have been based on the yield from previously untouched flax swamps, and not from cultivated land. At all events, my own experience does not lead me to anticipate nearly so quick or large a return from flax cultivation in this part of the Colony.

HENRY FIELD.

The Hon. John Hall,

No. VI.

Dr. FLORANCE to T. H. POTTS, Esq., M.H.R.

Caledonian Road, Christchurch, Canterbury,

New Zealand, 11th May, 1870.

DEAR SIR,—

I have to acknowledge receipt of your communication relative to the flax question and the enclosed Interim Report. It is little, if any, more suggestive, notwithstanding its additional queries, than what has been published in the Official Report, which you are familiar with, called the "Jurors' Reports" for 1865. The queries are doubtless to the point, relative to the commercial aspects of the question; but they are not so satisfactory relative to the chemistry of the Report. This is perfectly excusable, for there is no subject more intricate in its nature than that of vegetable chemical analysis. Truly has the memory of the celebrated Danish chemist, Chevalier Claussen, known as the Camberwell flax lunatic, who died, it is said, with the words "flax-cotton" on his lips, been cited as corroborative of the truth of this remark.

I have turned many a leisure hour to the study of this topic, ranging over a period of not far from twelve years; and so deep an interest do I still take in this question that, at intervals from professional duties, I frequently indulge myself in experiments bearing on this subject, and all the more readily finding as we do that public attention is daily more drawn to the importance of these matters. It must now be about ten years ago that I discovered the best and only true solvent for the so-called flax-gum. I say so because I have tested every other re-agent and found all more or less objectionable or faulty on some point or other until I resorted to the solvent which I claim the right of having originated, and, therefore, designate it after my own name, "Florance Flax-gum Solvent," at the risk of being styled egotistical.

The process adopted by me may be properly designated the chemico-mechanical, because of the