

obtained. Some very strong opinions have been expressed on this point. Mr. Luke Nattrass, of Nelson, says:—

“Firstly, Nothing but chemical preparation is likely, as a rule, to secure its safe arrival after a long passage through extremes of heat, cold, and moisture, or to establish the export of it as a staple of the Colony.

“Secondly, The smallest particle of mechanically prepared fibre contains its proportion of objectionable matter, and is the cause of its ultimately turning black and becoming rotten, particularly if exposed to sea water.

“Thirdly, My data gives one of merchantable fibre from four of fresh-cut green leaf.

“Fourthly, From the time of cutting the leaf, it can be put into condition for packing in twenty-four hours.

“Fifthly, All the fibre of the green leaf is saved; scutching and hackling unnecessary; there is therefore no tow, no waste, with no labour, and no expense in suffering a loss. Where scutching is used, there will be no end to mill conflagrations. This is proved by the fires that have lately occurred, and some of them attributed to incendiarism.

“Sixthly, In September last, the fibre of one leaf prepared by me here and taken to Wellington, was valued at £27 per ton, cash price, for any quantity. What it may be in England, at the present moment, I do not conjecture. Since that date (September) such has been worth in England £52, which since then has declined to about £40. Should mine be worth now there £30, the encouragement to manufacture would be very great; but as I have previously said, ‘the mill must be constructed before only one bushel of wheat can be converted into flour.’”

Dr. Florance, already referred to, after long consideration of the subject, says, in a letter which will be found in the Appendix, No. VI., “You will see by this that my views run counter to what is called the successful ‘dry process,’ as recently adopted by some parties in the North Island. Exposure to the air, which the dry process implies, must effectually fix the gum into the fibre, and so defeat its own ends;” and the writer in the *Press* says that the gum, by the action of the stripper, is driven into and among the fibres as they are partially separated, and carries with it a certain amount of the other substances which help to bind up the structure of the leaf, and causes them firmly to adhere to the fibres, also at the same time occasioning the fibres themselves to cohere to one another, forming a harsh brittle mass that would require a very lengthened immersion to loosen and separate. And he goes on to show that either maceration or chemical appliances must be used to obtain fibre of a fine quality.

It is therefore probable that the machinery now in use will not produce fibre of a quality to compete successfully with Manilla and Russian hemp for the manufacture of some articles of commerce in extensive use, unless it is subjected to subsequent operations which will have the effect of removing the greater portion of the gummy matter which is found to be so detrimental; but if such subsequent operations are successfully achieved, or if the appliances now on trial shall realize expectation, then it will be found that the New Zealand flax is capable of being used not only for making rope, matting, &c., but also in the manufacture of many textile fabrics, and when so used will command a remunerative return; and if so, it is clearly the duty of this Colony to leave no means untested that may be recommended for this purpose. Hence it is that the Commissioners suggest the appointment of a Commission with power and means to test every suggestion that is calculated to accomplish the object in view.

The Commissioners here beg to express their thanks to Dr. Hector, for the readiness, zeal, and skill with which he carried out their wishes in regard to these experiments. Samples of flax prepared in all the modes alluded to in this Report will be found in the Colonial Museum, and a careful examination of these is requested by all who have an opportunity of doing so.

The Commissioners have thought that it would be very useful to republish two articles that appear in the Transactions of the Proceedings of the Colonial Museum:—1. Captain Hutton; App., No. VIII. 2. Mr. Nottidge; App., No. VII. 3. A Letter by Mr. Bust is also published, No. IX.

Since the Commissioners commenced their inquiries several very valuable and instructive papers have been published, bearing directly on the object for which the Commission was appointed. These it was thought desirable should be preserved and read along with this Report; and accordingly they are printed in the Appendix hereto. The Commissioners might have incorporated the information afforded by these papers in this Report; but such a course would scarcely have been fair to their authors, and they therefore prefer to give the papers entire, or nearly so.

These papers are,—

An Article from the *Press* (App., No. X), in which the different modes of dressing the various kinds of fibre now used in the preparation of flax for the market are fully and clearly explained. The defects in the present systems of preparing flax are also pointed out. The writer in this article, however, is decidedly wrong in saying that New Zealand flax, even as at present prepared by several manufacturers, is unsuited for rope. In the Appendix, alongside his own remarks, will be found strong evidence that the reverse is the case; and the Commissioners know that no difficulty is experienced in selling rope made entirely of New Zealand flax, even where Manilla is alongside of it.

Dr. Williams, of Nelson, in a lecture which he delivered before the Scientific Association there, gives some very useful information regarding the uses and value of the New Zealand flax; and in the Appendix, No. XIII., will be found several lengthened excerpts therefrom.

Mr. Thomas Mackay, senior, also of Nelson, has favoured the Commissioners with a copy of an address which he delivered before the Association already named; and as that address contains a description of his own mode of preparing flax, as well as other useful information, it has been printed in the Appendix, No. XIV.

Mr. Mackay has also in preparation a more perfect machine than the one now in use by him; but as it was not completed when he sent his address, no description of it has been given. This is to be regretted; but the investigation into the merits of that machine will be one of the duties of the Commissioners, should they be appointed during the ensuing year.

In the Appendix, No. XV, will be found a letter from Mr. Bromfield, relative to the employment