

APPENDIX TO REPORT OF FLAX COMMISSIONERS, 1871-72.

I.—GENERAL CORRESPONDENCE.

(No. 181.k)—Dr. HECTOR to the COLONIAL SECRETARY.—28th, November, 1871.

I have the honor to call your attention to the fourth of a series of resolutions of the House of Representatives, passed on 10th September, 1870, which says :—"That properly-qualified officers (if possible in connection with the Customs) should be appointed at each port, who, on application by shippers, should sample the various bales of *Phormium*, and place an official brand thereon, showing its quality as compared with standard samples issued to them by the Commissioners, such classification to be similar to the manner in which foreign grown hemp or flax is classified, viz. :—First, second, and third qualities ;" and to inform you that classified samples of *Phormium* fibre are now ready for distribution, and to request that you will inform me to whom they are to be issued.

(208.)—Dr. HECTOR to Messrs. STONYER and Co., Kaiapoi.—22nd February, 1872.

Mr. Kebbell informs me that the experiment with the last of the oiled lines (No. 247), which you forwarded to the Commissioners through Colonel Haultain, is still going on, and has already proved of great importance, as will be seen from the accompanying table with which he has favoured me, comparing it with other lines that have been experimented on.

The oiled rope, running dry, came down very unexpectedly after only forty-six days, and on examination the fibre appeared to have been injured in the manufacture. The label describes it as having been "boiled in oil," which, if the oil was heated to anywhere near the boiling point, would sufficiently account for the fibre having been injured. If tested with reference to breaking strain it is probable that it would not have borne more than half the weight that should be expected of it.

The oiled line, running wet, has not yet broken ;* and, although the fibre has been injured, it has run nearly three times as long as any other, thus proving the economy of oiling the rope. Mr. Kebbell points out that another saving in the manufacture of fibre for oiled rope will be that thorough bleaching is unnecessary, and a less amount of scutching required, as the colour need not be so uniform. This will admit of a great reduction of labour in the drying process, and perhaps allow artificial means to be used ; and so prevent the weather limiting the production of fibre to the same extent as at present.

On the other hand, Mr. Kebbell points out that the line has a dirty appearance, which might be prejudicial to its sale in a foreign market. In order to overcome this the rope should be manufactured here, and be disposed of in the New Zealand or Australian markets, where appearance is not so much looked to ; and, having once got a footing there, its cheapness and exceeding durability will soon force for it a way into the markets of the world.

In order to complete the experiments with oiled ropes, which Mr. Kebbell thinks of the greatest importance, before the end of the next session of Assembly. it will be necessary that the two pulleys which are at present standing vacant should be filled up immediately. He also thinks that the oil used should be heated to the least possible degree. I should, therefore, be obliged by your sending me sixty feet of rope, which allows for a spare line and re-splicing in case of accident happening to one of the two under experiment.

TABLE OF EXPERIMENTS.†

Description of Rope.	Run Wet and Dry with Salt-water.	Dry.	Greatest Shrinkage after Wetting.
	Days.	Days.	Inches.
<i>Phormium</i> .—Hand-dressed by Natives, and hand-made	22	57	7
„ Machine dressed and machine made... ..	22	63	6 $\frac{3}{4}$
„ Tarred	3	4	Fibre too much injured for experiment
<i>Manilla</i> .—Free from adulteration	30	39	8 $\frac{1}{4}$
<i>Phormium</i> .—Oiled	135	92	2 $\frac{1}{2}$

All the lines were sixteen feet long at commencement. The shrinkage was taken from the centre of the lower pully to the floor, consequently the amount of shrinkage for the whole line will be double that given.

The small amount of shrinkage of the oiled line is remarkable, showing the protection afforded by the oil, and the value of the rope for braces and running gear.

* Broke in April.

† Brought up to date of Report.