

78. Therefore the value of prepared flax at the present time is above the margin?—Yes; but £10 would not leave any profit for the miller, or very little.

79. *The Chairman.*] Outside the assistance that you suggest should be given for improving the machinery, do you know of anything else the Committee could consider in regard to encouraging the industry?—I think the Committee should vote a sum to enable small experiments to be carried out. For instance, an experiment could be tried in the way of testing flax rope and binder-twine as against the manila and other fibres.

80. *Mr. McLean.*] You say that the New Zealand article stretches more than the other?—Yes. If the New Zealand flax were made softer it would spin closer, and I think that would do away with the difficulty. They have all been going in for coarse fibre, but why they are doing so I do not know. I asked a rope-worker in Auckland about this matter, and he said they wanted the stuff as soft as they could get it; but, as I said, the machines are stripped for the coarse article; at present some makers want fine, some soft.

81. *The Chairman.*] I understood you to say that the Committee should direct attention to having scientific experiments conducted, with a view to comparing New Zealand flax with other fibres, and should give the public the benefit of the information secured?—I think that would be a very good thing. If the Government acquired some flax land, and leased a little of it, they would gain in the end, because the amount of money that would be distributed by that means would more than compensate for any loss in the way of interest. Even if the Government paid $3\frac{1}{2}$ per cent. for the land and got only $2\frac{1}{2}$ per cent. from it in return, the money that would be circulated would compensate. This would also use up a good deal of labour that would otherwise be not used and thrown on the country. I think it is for the Government to try and find out the real reason why the New Zealand flax is not used to a greater extent. It would take a private individual years to do so.

TUESDAY, 20TH SEPTEMBER, 1898.

Mr. R. DUNCAN, Chief Inspector of Machinery, examined.

Mr. Duncan said that manila hemp is a product of a species of banana, and is cultivated in certain localities in the Philippine Islands. His information was chiefly procured from the *Engineer*. The plant, called "abaca" by the natives, throws up a cluster of sheathing leaf-stalks to the height of 20 ft. or 30 ft. It is cut down when three years old, and the stalks torn apart and reduced to strips. These strips when fresh are drawn between a knife and a wooden block until by continual scraping by the expert natives the soft cellular matter is removed. The fibre is then hung up to dry in the open air until it is ready for use. Each stalk yields about 1 lb. of fibre, and two natives cutting down and scraping will produce only 25 lb. a day. The whole supply of manila hemp practically comes from the Philippines. In 1897, out of 825,028 bales exported, America took 417,473 bales; Great Britain, 385,182; and the Continent of Europe, 22,372. It is the most valuable of all fibre for cordage. It will take about two hundred men to produce a ton of finished manila fibre. It will require twelve men in New Zealand to cut and clean a ton of fibre, with the aid of an 8-horse-power engine, which is equal to the labour of forty-eight men, so that it requires sixty men to produce the same quantity that takes two hundred in the Philippines. These figures are only approximate. With regard to jute, which is the product of a kind of lime-tree, it takes three weeks for retting, and is then softened by being passed through a mangle, using oil and water, there being four sets of fluted rollers having a slightly lateral motion.

1. *Mr. Symes.*] Does not this break it into bits?—No; pressure can be regulated. It is only cold water and oil that is used.

2. *Mr. McLean.*] Why is it that the manila fibre is so much easier to work?—It is longer and better fibre perhaps. New Zealand is, perhaps, shorter in its make.

3. On the whole, has there not been a considerable improvement in machinery for flax-dressing in New Zealand of recent years?—Not much. It does not pay a man to spend much in machinery in New Zealand, as the market is uncertain. It is the quantity that pays. By the time he had machinery the price may have gone down. The uncertainty of the market accounts for the diminution in the number of flax-mills in some years. One machine examined by the Flax Commissioners, belonging to Mr. Toogood, of Featherston, stripped the flax under water, and then passed it between a series of rollers under water-pressure. The process will save two or three days in the bleaching, and will make a difference in the profit. It is a step in the right direction. It is the best washing-machine I have seen. I have only visited flax-mills in New Zealand as Inspector of Machinery, taking notes. Flax will grow in three years in New Zealand.

4. Do you think it would pay to grow flax now?—I do not know what soil it requires.

5. Do you think it would be profitable for settlers to cultivate?—Settlers would require help from the Government for machinery. We would want a central factory.

6. Do you think the supply of flax would be adequate if they had a market?—I have heard of districts in Taranaki which grow but flax.

7. It must be good land to grow flax, only poor flax grows on poor land?—Clay land grows the best flax.

8. *Mr. Wason.*] Do you know whether manila fibre is cultivated?—I cannot tell you. Mr. Gardener and I recommended that the chemical process should be tried at the agricultural farm at Momohaki. The green leaf is boiled for four hours in arsenicated water, then passed between a pair of smooth rolls.

9. *Mr. Duthie.*] You mentioned that flax takes three years to grow: have you any knowledge of the average crop per acre?—No.