

diameter, with scraping knives projecting, similar to Price's and others, but placed parallel to the axis of the roller. The surface of the rollers between each scraper becomes alternately the bed for scraping on.

Samples of the different varieties of flax prepared by the various processes now in use have been submitted to Dr. Hector for his examination, and his valuable report thereon will be found in the Appendix, No. XIX.

As a rule for the guidance of those intending to engage in this industry, it may be stated that wherever flax cannot be laid down at the port of embarkation at £20, leaving a profit, the manufacture should be discontinued or not commenced; and with a view still further to assist persons engaged in, or wishing to engage in, the manufacture of flax, it may be taken for granted,—(1.) That a man will cut half a ton of green flax a day, though expert cutters will cut a whole ton. This is the only part of the manufacture that should be done by contract—the other parts should be done by day wages. (2.) That six tons of green flax will make one ton of fibre. (3.) That three machines will dress five tons per week. (4.) That the dressing of the flax will cost about £16 per ton of fibre. (5.) That the cost of buildings, machinery, &c., will be, as suggested by Captain Hutton,—

<i>Buildings—</i>				£	s.	d.
Mill, scutch house, and stores	...	...	...	300	0	0
Houses for men	...	...	...	200	0	0
14-horse power portable engine	...	...	...	520	0	0
Four machines	...	...	...	88	0	0
Shafting, pulleys, belts, blocks, &c.	...	...	...	50	0	0
Two scutchers	...	...	...	40	0	0
Press	...	...	...	30	0	0
Poles and wires for drying-ground	...	...	...	40	0	0
Horse and dray	...	...	...	30	0	0
Tools, barrows, &c.	...	...	...	30	0	0
Miscellaneous, clearing ground, fencing, soaking wharf, weighing machine, &c., &c.	...	...	...	120	0	0
				£1,448	0	0

The Weekly Return of—

Five tons of flax, sold at £20 per ton, is	...	...	£	s.	d.
			100	0	0

And the expense of producing the same is stated thus:—

Depreciation of machinery by wear and tear, including oil			£4	0	0
Eight men's wages, at 30s. a week			12	0	0
Engineman			1	15	0
Fourteen lads, at 14s. each			9	16	0
Thirty tons green flax			37	10	0
Packing, baling, &c.			6	5	0
Three tons coal, at 25s.			3	15	0
Freight or cartage, say			7	10	0
				82	11 0
			£17	9	0

This estimate is on the supposition of continuous working, but—

Deduct for stoppages one-fourth, or say	...	...	4	9	0
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Leaving a profit of	...	...	£13	0	0
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per week, or £676 a year; out of which, of course, the interest of the capital must be paid.

Mr. Jenkins estimates the same things at £1,010; but he allows nothing for men's houses, and only £450 for the engine; while his weekly return is £82 3s.

Water-power is, of course, much cheaper, as it saves the expense of engine, engineer, coals, &c. Messrs. Price, of Onehunga, can supply four machines, water-wheel, shafts, pulleys, &c., for a little over £200.

Of course, position and other circumstances will modify or enlarge these figures, but it would not be safe to calculate on a larger return. It will thus be seen what balance there may be at the disposal of the manufacturer to assist in the work of cultivation; and again, extreme caution is urged in commencing operations without a thorough knowledge of the capital and extent of flax land required to carry on three machines, and a smaller number would not pay, except in unusually favourable circumstances.

Mr. Maning thinks that great results cannot be obtained till manufacturers trust entirely to cultivation, by which means an unfailing supply can be obtained; and he suggests planting in alluvial flats, in the vicinity of water-power; and he goes so far as to say that a sufficient quantity should be planted to prevent the necessity of cutting a second time in less than two years from first cutting, though many leaves may be fit for the mill sooner. This is a hint worth taking.

III.—MACHINERY.

The machines used in the Province of Auckland for manufacturing flax are of three kinds, made respectively by Messrs. Fraser and Tinne, of the Phoenix Foundry, Auckland; by Messrs. A. G. Price, of Onehunga; and by Messrs. E. Gibbons and Co., of Onehunga. All these machines are, however, identical in principle, and vary only in details by which the principle is carried out. This principle is, that the flax leaf is held between horizontal feed-rollers, revolving at certain speed, while, as the leaf passes out from them, a drum, armed in its circumference with iron beaters, and revolving more rapidly than