

## FLAX GROWING AND MILLING.

Where the Flax Industry Pays;  
Where it Fails.

A "Right" Property is Worth a Waihi,  
an "Impossible" one spells ruin.

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WHAT THE BOOM DID

The year 1907 will be memorable with flax men for the sensational prices realised for fibre. As much as £38 a ton was given for the best. It would have been better for the industry, however, if such inflated values had never been reached, for it induced scores of people to rush into the business who subsequently were badly knocked out. They fell into the boom and took up quite "impossible" properties. Mills were erected everywhere and anywhere so long as there were "koraris" and flax leaf in sight, and those who had the leaf growing on their properties reaped a great harvest. From 20s. to 30s. a ton royalty was paid in many cases for the green leaf, and fibre of all sorts and conditions was turned out by men, who in the majority of cases knew very little about the industry. This is very clearly shown by the statistics for the year as published by the Government. They are as follows:—

	Good Fair.	Fair.	Common.	Condemd.
Auckland	10,987	28,520	9,527	1,205
Wellington	24,644	36,930	2,697	288

The large proportion of common and condemned flax turned out in the Auckland province shows to what extent the amateur was at work. When prices receded to their normal level, those inexperienced with the market saw in the fall what they considered a slump, and were seized with panic. They were completely knocked out now so far as prices were concerned, and for the sake of the industry it were better so. The throwing upon the market of a large amount of very inferior and badly manufactured fibre not only tended to glut the market, but had much to do with causing a great set-back in market values. The amount of fibre required, like kauri gum, has its limitations, and over-production must quickly tell its tale.

THE FUTURE.

The future of the flax industry is, notwithstanding, absolutely assured so long as those who embark in it do so on practical lines, and not in the "crazy" way so many people went into it in 1907. The industry is essentially one requiring the command of capital, and must on that account in the future fall almost exclusively into the hands of strong companies and men of capital. The fibre must be manufactured economically, and this can only be done with the aid of the "efficiency of capital." To put the matter in a nutshell, it means this, that the fibre must be manufactured at a profit (to meet all possible fluctuations as to price) at £20 a ton; and to do this the manufacturer must possess his own flax field, so that (1) he has no royalty to pay, and (2) can place his mill in the centre or alongside of the area of raw material to avoid the great loss entailed by long haulage. Under those conditions flax can be made to pay handsomely at even £20 a ton, but where a miller is dependent on the owners of the green leaf, has to pay a heavy royalty, and then pay heavy haulage expenses, the business is "impossible," and it is almost suicidal to touch it on such lines. A few figures will demonstrate the absolute absurdity of attempting to establish the business on these lines:—It takes nine tons on an average of green leaf to make one of fibre, and where royalty, cutting, and haulage have to be paid on it, the raw material may cost, say, at the mill, £2 per ton, so that £18 goes straight for green leaf. Then the cost of manufacturing into fibre will not be less than £7 10s per ton, exclusive of management. Thus the cost is brought up to £25 10s per ton at the mill, and unless the mill is under skilful management, a considerable portion of the fibre may be turned out of inferior grade, and the green leaf which has cost so much be practically wasted. It goes without saying that every man who runs a flax mill is not a skilful miller; in fact, it is notorious that the number of good millers to-day is not large. This, however, will be changed with time, for flax milling is in its infancy, everything used in connection with it is crude, and in a short time we may expect to find this industry revolutionised, and as great changes effected as have occurred in the butter and other industries.

NEW MACHINERY.

At the present time there are several inventions under trial for converting the leaf into fibre by automatic machinery, and whether these now prove perfect or not, there can be no room for doubt that it is merely a matter of time when the machinery will be made to do the work. Speaking on this matter, an expert, writing recently to the *N.Z. Times*, says:—

"The native flax industry of this country, important as it is in its present stage of development, is a crude undertaking to what it must ultimately become. In the method—or absence of method—of cultivation and fibre production, the work is being conducted, in the great majority of cases, on the most primitive of principles; and the milling is a process which must rapidly become out-of-date when modern ideas are brought to bear on its perfection. From a simple procedure of stripping, scutching, and paddocking—depending on the whims of nature to take up the work where man leaves off—it must in time be revolutionised to a process which will take up the raw material at one end of a machine and pass it out at the other end a high-grade commercial commodity. Then we will have, with scientific methods of cultivation and treatment, a product of such quality that it will be suitable for the production of superior fabrics and the better qualities of cordage, returning to the producer and to the Dominion at large much greater profits than are now enjoyed."

WHAT CAN BE DONE.

Now, looking at the business from another point of view, that of a man or company, who owns his or their own flax fields, the result is very different. There is no royalty to pay, and the mill adjoins the flax area, the cost in this case will be:—Cutting (from 6s. to 8s. per ton), say 8s., hauling by tram say 2s. 6d. per ton, total cost of leaf delivered to mill, 10s. 6d. per ton, cost of nine tons to make one of fibre, £4 14s. 6d. Add to this cost of milling a ton of fibre, namely £7 10s., and we find the cost of the ton of made fibre is £12 4s. 6d. We have yet to add to this the value of the green leaf which has to be charged as interest on capital. Assuming that the flax field cost (with mill and everything thrown in) £10,000, and we charge up five per cent. on that for the green leaf to run a mill for a season, we shall have to charge up the leaf at 5s. per ton, and nine tons of this for one of fibre will cost £2 5s., which, added to the price above, will bring the total cost of the fibre at the mill to £14 9s. 6d. This is the actual price at which fibre can be produced either by day labour or by contract, where the right conditions obtain. From these figures it will be seen, that even if a large margin is allowed for possible contingencies, there is in flax an assured and handsome profit where the business is conducted on practical lines. And what makes the business thoroughly sound is this, that the flax areas of the Dominion having the requisite conditions such as those indicated, are very limited. Practically they are as rare as a good gold-producing mine, and, when found, are just as valuable—even more so, because they will be permanent producers. There are any number of small scattered areas of flax here and there which may possibly be worked at a profit, but the properties of any size, the large swamps, which are drainable and afford the other conditions required as to means of transit, etc., are strictly limited. In fact, we can call to mind one gentleman who, for the last six months, has been looking for such a property in the Auckland province, and has not found it yet. Such properties are closely held, and are not for sale. In the Manawatu district there are plenty of these properties on the big swamp, but they never come into the market, and they are variously stated to be worth prices ranging from £25 to £40 an acre. The last known sale was of a property of 430 acres at Kereru, which realised £32 10s. per acre, and 100 acres of this was waste land. This property had been let on royalty and had produced as much as £1750 a year.

ACTUAL COST.

We recapitulate here the figures we give above as to the cost of growing and milling flax (the prices are from actual working as shown us and verified for as obtaining on the Northern Wairoa River):—

Cutting 9 tons green leaf at 8/-	£3 12 0
Hauling to Mill at 2/6	1 2 6
*Milling one ton Fibre	7 5 0
†Nine tons of leaf charged at 5/-, equal to five per cent. on capital value of property	2 5 0
Cost of Fibre at Mill	£14 4 0

\*This is reducible, as is shown later on.

†On T. Hallett's property this item stands at 2s. 5d. per ton, or £1 1s 9d. less for the 9 tons.

A one-stripper mill, for which the above figures are shown, should turn out 220 tons of fibre in the season, and it should be noted that in this calculation nothing is allowed for the tow, as the manager who furnished the above figures considered it a safe thing to let the value of the tow (say £300 a year) go against repairs to and up-keep of mill, etc. In the above estimates, the only item that would be cheaper on the Wairoa than most places in New Zealand would be coal, which can be landed at the mill at 20s per ton, the timber vessels returning from Australia bringing in Newcastle coal cheap as return freight. The cost of freight of fibre from mill to Auckland is 16s. 6d. This term will, of course, vary at different places. The cost of milling flax on the Manawatu is said to be somewhat higher than the above, but these are the figures which obtain on the Northern Wairoa. We know of only three other properties in the Auckland province where these maximum results can be obtained.

THE BEST FLAX LAND.

The rich kahikatea or white pine swamp seems to be the natural soil for flax, though the plant will be found growing everywhere more or less, on high and low land alike. But the great areas of flax which at one time covered whole districts have disappeared, for it was always the richest land where the flax grew strongest, and the farmer got rid of the "weed" to make room for grass. There is very little flax to-day, and those who want flax must take up the big swamps and drain them, and it is really marvellous how little draining will bring the flax on where it already exists. There is one patch on the Wairoa which, since it has been drained, has cut eighty tons of leaf to the acre over a solid ten acres. The Wairoa is the home of the flax, and nowhere does it do better than here. Flax swamps (undrained) are worth anything from £3 to £12 an acre according to situation, and should cost never more than 10s. an acre to drain. The mistake is often made of over-draining a flax swamp. It is merely the stagnant water that wants removing at first, and the flax immediately starts to grow; if the draining is made too deep and the water taken from the roots of the flax, the plant stops growing and a negative result is obtained; or if grown flax is over-drained, the leaf will be found to turn tough and leathery, and the cutters will want considerably more for cutting, while the leaf will be harder to strip. Shallow draining is insisted upon by practical flax men, but the drains may be deepened in after years. Swamps which flood two or three times a year are preferred to those that do not flood. The flood waters deposit silt, scatter the flax seed over barren patches, and keep down insect life and prevent the worm from getting at the leaf. On the Manawatu swamp there is a considerable amount of tall fescue and toi toi grass, both of which are very unwelcome on a flax swamp, not only occupying the ground, but they make the cutting of the flax cost more. They should be carefully kept out of new country. Though there is a great difference of opinion as to how long flax takes to grow from seed till millable, a Wairoa man declares it will be ready to cut in that district in three years. Flax is certainly more precocious on the Wairoa than in other parts of the Dominion, for it is a common practice to cut it here every second year, the climate probably having much to do with this. When cut like this, it naturally makes more tow, and ten tons of leaf may be taken to the ton of fibre; while five-year-old flax may run 6 to 6½ tons of green to one of fibre.

PLANTING AND CULTIVATING.

Five hundred acres of good "scattered" flax will easily run a one-stripper mill, and less will do if the flax is anything like close. If all titree and rubbish is cut out and the bare places planted with roots, flax land can be made to produce anything from 20 to 80 tons to the acre. Some people have started cultivating it on poor land with good results. Mr. Allen Bell, of Te Rapa, Waikato, some five years ago, moved some hundreds of flax roots, the bulbs being cut off about nine inches in height from his swamp, and planted them on light, dry, sandy soil, not knowing whether the flax would thrive under the altered conditions. The flax is now being cut, a large proportion of it having attained a height of ten feet or more and with apparently a heavy percentage of fibre, with very little vegetation. Mr. Bell informs us that about half of it was planted with a spade in trenches, the remainder being planted in the furrow after the plough. About three-fourths of the patch had a liberal dressing of bones and superphosphate, and the remainder was planted with stable manure, and by far the most satisfactory results. On this portion there was an extremely rank growth, with wide blades, of a deep green colour and averaging about two feet in length more than that portion treated with artificial manure. The result is the more interesting as the flax was taken out of a wet, undrained