

for good plants. The growing and selling of plants should thus defray the cost of this part of the work.

Luther Burbank says that no one can estimate the great possibilities of a wild plant before it is taken into cultivation. Our *Phormium tenax* is claimed to yield more fibre from a given area than any other known fibre-plant. So far these investigations show that there are great possibilities if the plant is cultivated like other farm crops. The estimates are based on its wild state in the swamp and give striking indications. Assuming that a certain area yields 100 tons of fibre every four years under the present ordinary cutting method and the present average state of phormium swamps, I estimate that similar areas under improved conditions are capable of yielding as follows:—

Condition of Area.	Yield by Present Method of Cutting.	Yield by Side-leaf Cutting.
	Tons.	Tons.
Average phormium area	100	300
Area freed of weeds	120	360
Area planted wholly in best varieties and kept clean of weeds	180	540

The highest average yield of phormium-leaf from 1,000 acres in the Makerua Swamp was 28 tons per acre in four years, or 7,000 tons per annum. It takes slightly over 8 tons of leaf to produce 1 ton of fibre, consequently the fibre-production of 1,000 acres under the old methods would be 870 tons yearly. By cleaning the weed-growth out of the swamp the fibre percentage of the phormium would be increased to the extent that the yield of this same area would be 1,064 tons of fibre. By planting the same area in the best selected varieties only the yield would be 1,219 tons. But by employing the side-leaf cutting method the yield in each case would be trebled. Then 1,000 acres in the present state would give 2,610 tons of fibre; if cleaned of weed-growth 3,192 tons; and if the best varieties only were planted on that area the production would reach the remarkable total of 3,657 tons of fibre per year. By selecting and growing the present best varieties on a 1,000-acre area, and keeping the plants clean of weeds, when the phormium was fully developed it would yield, by cutting side leaves every year, in ten years, according to the foregoing estimate, $3,657 \times 10 = 36,570$ tons of fibre. A similar area of the present average phormium cut by the old method would not yield as much in forty years. While, of course, there is an element of theory in these calculations, there is strong evidence that such yields may be readily attained in practice.

CONCLUSION.

In concluding this account I have to express my thanks to all those who have so kindly given plants and seed for experimental purposes; also to Messrs. M. Campbell, Carkeek, Greedy, and H. A. Seifert, of the Miranui mill, and especially to Mr. Alfred Seifert, for their kind help and co-operation in the work of investigation. If the phormium-fibre industry is put on a really profitable basis it will be greatly due to Mr. A. Seifert's efforts to ascertain the commercial possibilities of the side-leaf-cutting method, this being a matter of prime importance.