Huhiroa.—The seedlings of this variety were very thin and lax, none having made more than eight fans, with leaves twelve to twenty inches in length. The characters of the variety could not be distinguished in any case, all of the plants resembling either *Oue* or *Takaiapu.*

4. *Takaiapu.*—Only a few plants of this have come up true, most of the others being like *Oue* and a few like *Huhiroa.* The growth is pretty fair, most plants having made from ten to twelve fans, with leaves two feet in length.

5. *Korako.*—Nearly all the plants of this variety came up like *Oue,* only a few having a bronze tinge like *Atiraukawa,* none being true. The growth was fair, showing ten fans, the largest leaf being thirty inches.

6. *Atiraukawa.*—Also like *Oue,* and with the same growth as last.

From this it appears that at the age of six months as reported last year, the seedlings show no difference of character, but after being planted out for twelve months longer they begin to show irregular variation, in which a few of the best known varieties are represented, but that these occur indiscriminately among the seedlings from every variety, none of the seedlings coming up true.

As every care has been taken throughout the experiment to secure accuracy, this sporting must be due to the inoculation of the flowers of the different varieties by insects and birds before the setting of the seed.

As a rule all the varieties have shown a marked tendency to revert to one form, which is nearest to that of *Oue,* which has a narrow olive green leaf with orange coloured keel and edge. This variety, according to the best authorities, is the typical *Tihore,* or cultivated fibre plant of the Natives.

Rooted Plants.

1. *Parekoritawa,* or varigated flax.—The year's growth from a single fan root of this variety is six fans, the longest leaf being two feet and a half.

2. *Atewhiki.*—Bronzed flax with red keel, had made two to three fans, with leaves three feet six inches.

3. *Tutaiwiki,*—Bronzed flax with black keel. No fresh fans have been formed in any of the plants of this variety, but the growth of the leaves is very vigorous, the longest being five feet, and there being seven to nine to each plant.

4. *Ngutunui.*—Has made very little height, but has thrown out many small fans, so that there is good promise for next year.

6. *Atiraukawa.*—Nine to ten fans, with leaves four feet long. This variety has made most progress of any.

A plant of *Ngutunui* was lifted and examined. The original stock had entirely rotted away, leaving only the decayed leaves and a hard fibrous root mass. From this there had been four distinct root sprouts, two of which had four fans, one three, and one only one fan, giving a total of fifty-six leaves, the last formed fan having five leaves, the second pair being two feet in length, and the largest of any on the plant. From these root-masses long orange coloured rootlets were given off for two feet, maintaining a thickness of one-third of an inch in diameter, and from these towards the base short root fibres ramify. The weight of leaves on this plant after removing the butts was thirty-six ounces, which yielded on boiling with soap 15½ per cent of pure fibre, which therefore represents the produce in the first year after transplanting, but only one-third of which would be available as outside leaves fit for cutting.

II. New Plymouth.—Mr. Hulke to Dr. Hector.

I have the honor to make the following Report, being the first Annual Report of the present state of the Experimental Nursery for the Cultivation of *Phormium tenax,* established by the order of the General Government in this Province.

The number of different varieties of *Phormium* now in cultivation has been increased by the addition of three hitherto unprocurable—*Korako,* from near Hawera; *Ngutu parara,* from Oeo; *Te puna,* from near Waitara. Of these *Te puna* is by far the largest variety of *Phormium* I have yet seen, the leaves being from seven to eight inches broad, and nine feet long; it requires rich soil and a sheltered position. *Korako* is highly spoken of by the Natives as producing a good fibre fit for many purposes. I am unable to speak as to its growth from the short time I have had the plants.

Among the other varieties in cultivation, I have no hesitation in confirming the high opinion formed by all Natives of the general value of *Atiraukawa* this in the Nursery has outgrown the rest, and will, I have little doubt be largely planted, should the cultivation of *Phormium tenax* ever be proceeded with. *Huhiroa* is second only to *Atiraukawa,* in quality and growth, and is one of the few varieties worth planting. I would also include among the quick growing varieties *Ngutunui, Taiore, Tito-o-moe-wai, Raumoa, Tutaiwheke, Manunu.* All these thrive most luxuriantly in the common soil of the Nursery, and offer many fans fit for cutting at the present time. From their growth and general appearance I conclude that *Oue* and *Tihore* are the same. *Paretorihawa,* although throwing out a large number of fans, is slow growing, and never will be cultivated for other than ornamental purposes. *Tarariki* is very dwarf, and not profitable for manufacture. *Atewheke* I include among the ornamental varieties. *Rataroa* is at present very dwarf, with strong growth, and promises to be valuable for fibre.

All the above mentioned varieties of *Phormium* have now arrived at a stage of growth sufficiently matured to enable them to be classified under their respective names; many of them have greatly altered in their markings since first planted, shewing quite a different habit.

Among the many thousand seedlings raised in the Nursery in 1870 I have selected three varieties, showing distinct forms of variegated foliage to any I have yet seen, one promising to be a very fine variety. The difference in the growth of the seedlings is also very remarkable, the seed being sown the same day, some on the surface of an old hotbed, and some in the ordinary soil of the garden, the former being quite a twelve month's growth in advance of the latter.