house, and the result is—No. 1 vegetated in 17 days; No. 2 in 19 days; No. 3 in 21 days;" and he adds, "I found that nearly all the seed vegetated, including that which did not sink in the water. I cannot observe any difference in the growth of the plants."

Mr. Duncan, of Christchurch, has also been successful in rearing plants from seed, and so has Mr. Armstrong, of the Government Gardens there. And Mr. Francis Williamson, of St. John's Nursery, Wanganui, says, under date 29th June last:—"Having seen various methods of sowing the seeds of the *Phormium tenax* in different papers, I was induced to obtain a small quantity of it, to satisfy myself with regard to the difficulty of raising it. I have now the satisfaction of communicating to you the result. On the 4th of last March I prepared a piece of ground in the usual manner as if for onions, and pared a thin portion of it off, about three-quarters of an inch in depth, the width of a spade, on which I sowed the seed, and again returned the surface-earth equally over the seed. I then gave it a gentle patting to compact it, thus completing the operation. I had the pleasure of seeing, on the 14th of the present month, the young plants coming boldly through the ground; and I have no hesitation in stating that seed gathered directly from the plants when ripe, and sown as herein described, will be certain to vegetate. If sown in the spring, it would probably come sooner than autumn sowing."

While, therefore, it is thus clearly established that flax seed will germinate and grow, it is equally clear that the process adopted by Mr. Ludlam is much the best, as it saves nearly three months. Parties wishing to grow from seed have now reliable data to go by, and may safely go on with its cultivation where they cannot easily get roots. The Natives, however, never adopt this course, but always transplant it; because it takes at least three years to mature flax from seed, while, by transplanting, it may be ready in two years, especially if planted in suitable soil.

I.—GROWTH AND CULTURE.

The seed should be pulled as the pods begin to open. This occurs in February and March, and it should be sown at once according to one Return, or in spring according to others; but the general impression is that the seed should be tested before being sown, and various modes have been suggested for this purpose.

1. Steep the seed in water of about 110° heat for about five hours, or till it falls to the bottom. What then floats may be considered bad or non-productive.

2. Put seed in a bag and deposit it for about three hours in a bed of refuse of the flax, which heats very much. Then put it in water, as above, to test its vitality.

The seed should be sown in beds or boxes, for convenience, where it remains till it grows to two or three inches in height, when it should be transplanted into nursery beds. When the plants are a year old, they should be planted out in their permanent locality.

Flax will grow in almost any soil, but the more suitable the soil the finer the quality. One Return says it grows best on light rich soil, by the sides of rivers and brooks, where sheltered from the wind.

Another says it grows best on rich, dry, but not deep, clay soil, having yellow clay subsoil, with plenty of light and air. The same authority also says that deep alluvial soil is very suitable, but the greatest crops are reared on high volcanic soil.

Another Return says that a well-drained swamp gives largest returns, and this fact has been verified by observation in the Upper Waikato and elsewhere.

Stagnant marshes are prejudicial to the growth of flax; but as soon as they are drained and the water sweetened, the same flax will grow rapidly. The drains should be open, and the water therein should flow about 12 inches below the surface. If practicable, swamp land should be ploughed as soon as it is dry enough for the purpose, and allowed to remain all summer, or till March, when it should be again ploughed, and planted immediately thereafter. The soil will be well pulverized by that time. Should the land become very dry in summer, the drains might be stopped, so as to irrigate the soil; for any land that is periodically inundated is very suitable for promoting rapid growth. Alluvial soil should also be ploughed in winter or spring, and allowed to dry till autumn, when it should again be ploughed and planted out, that is, in March or April, or as soon as the autumn rains arrive—in fact, the earlier the better, for the plants make roots all winter, and are ready to come away with a vigorous growth in spring.

One Return recommends trenching and subsoil ploughing, but it is thought that at present either process would be too expensive, and might kill the plant by depriving it of the impermeable substratum that retains the water necessary for the rapid development of the flax. If, however, the experiment is wished to be tried, the process is this:—Select a piece of open ground, well sheltered from sweeping winds, near a creek or river; in extent, according to the supply required; dig it two feet deep, and in the course of digging mix plenty of two-year-old manure thoroughly with the soil. As soon as the seed is matured, sow in drills two feet apart. When the plants are large enough to handle, thin them out to four inches apart. In the course of the season water the plants liberally, and keep them free from weeds. If seedlings are used, a crop of cabbages, cauliflowers, mangold, turnips, carrots, or any crop deemed desirable, may be grown alternately with the flax during the first two years; but the suggestor of this plan has evidently never put it to the practical test, or he must have found the expense of the process fatal to its success.

Reverting to the method of cultivating by transplanting, the plants should be sown in rows, and in the same way as trees are planted; but the Returns differ as to the distance from row to row, and from each plant in a row. It seems to be overlooked that planted flax will not be allowed to grow into large bushes, as it does in the uncultivated state. On the contrary, the constant cutting which will be carried on will confine it within a comparatively limited space. The roots thrown out by the first plants will undoubtedly spread around it, but still it will always be practicable to keep the bunches within a small space. With this view the rows might only be four feet apart, and only three feet between each plant in a row. At all events, the quantity of soil that would be saved in this way would justify the experiment on a small scale. In this case, the roots should be planted across the lines in rows. Six