

ART. LIV.—*Notes on Sorghum Experiment.* By Mr. JUSTICE GILLIES.

[*Read before the Auckland Institute, 8th August, 1881.*]

HAVING received from Commissioner LeDuc, of the Department of Agriculture at Washington, in May, 1880, sufficient seed of the Early Amber and Honduras varieties to sow about $\frac{1}{4}$ of an acre of each, I forwarded them to New Zealand with instructions for sowing and culture. The Commissioner informed me that these two varieties were those most likely to suit the climate of Auckland, which I explained to him. On my arrival in December, 1880, I found that a piece of ground, $1\frac{1}{2}$ acres of light volcanic loam, which had been for several years in grass, had been carefully ploughed and prepared. The seed had been sown on the 28th and 29th of September (a month at least too early I now think) in drills running north and south 2 feet 6 inches apart. Instead, however, of planting in the drills a few seeds at the distance of three feet from each other, the seed had been sown continuously like peas, consequently it did not suffice for the ground prepared and the plants had come up much too thick in the drills. After sowing the weather had been unusually dry until December, so that on my arrival on the 7th December the plants were only about eight inches high. I had them immediately thinned out to a distance of 2 feet 6 inches between each two or three plants, and moist weather coming on the remaining plants began to grow well and litter or throw out 4 to 5 lateral shoots from the roots. The Early Amber covered $\frac{2}{10}$ of an acre; the Honduras exactly half an acre. Between the two varieties the unoccupied space, fully $\frac{1}{2}$ an acre, was in October sown with maize broadcast for green food. By the middle of January the Early Amber was about 2 feet 4 inches high on an average, the Honduras 2 feet high, whilst the maize was 4 feet high. On the 4th of February a good many of the main stalks of Early Amber showed the seed top 5 to 6 feet high, none of Honduras, maize forming cobs. The crop now grew with great rapidity, but my absence from home prevented my recording the various stages of progress. On 1st April commenced cutting the Early Amber which then stood 10 to 12 feet high; weighed the cane and found the produce to be 2 tons 16 cwt. from $\frac{2}{10}$ of an acre; stripped the seed (roughly) and obtained 130 lbs. seed. On 15th April cut the Honduras which then stood about 12 feet high, and obtained from the half acre 3 tons 7 cwt. cane and 170 lbs. seed. The cane was cut about 9 inches from the ground and topped about 2 feet down and weighed immediately after cutting without stripping the leaves. Having no machinery for cleaning the seed, the weight of seed includes the husk.

Being, unfortunately, obliged to be absent from home when the crop was cut, I was unable to carry out my intended experiment of crushing and sugar making, but I hope to do so next year. One of my sons crushed a few stalks through a clothes-mangle, and boiled the juice down to the consistence of syrup, forming, when cold, a stiff toffy (to the delight of himself and his schoolfellows), showing the large amount of *saccharine matter* in the juice. This was from the *Early Amber* cane, which is much sweeter to the taste on chewing it than the *Honduras*.

I purpose planting one acre of *Early Amber* and half an acre of *Honduras* about the beginning of November next, and any person desiring to experiment on its growth in different soils and situations can have seed of each variety by applying to Mr. Lavers, seedsman, Queen-street.

ART. LV.—*On an abnormal Growth of New Zealand Flax.*

By the Rev. PHILIP WALSH, of Waitara.

[Read before the Wellington Philosophical Society, 21st January, 1882.]

ON the 8th of August last, I found a very remarkable abnormal growth on a flax-bush (*Phormium tenax*). On one of the flower-stalks, of which there were three, the terminal bud had developed a perfect fan of leaves about two feet long, which at the date mentioned were quite green and fresh, the fan containing nine fully formed leaves, with a young leaf just shooting up in the centre.

The six uppermost lateral flower-buds had made the same abnormal growth, though in a lesser degree; two of them having formed small fans six inches and four inches in length respectively, and the other four having apparently done the same, though the leaves had fallen off, the greatly elongated stalks only being left.

The lower buds had flowered and seeded, some of the seed-pods still remaining.

The whole of the stalk was still green, in spite of the lateness of the season—August being a month in which, it is almost superfluous to state, all ordinary flax-stalks are dead and dry.

The two remaining stalks had made a similar growth to that described. They were, however, dead and withered when I found them.

The bush was one of a considerable patch of ordinary flax growing on the bank of the Papatiki, a small stream in northern Taranaki. It was growing in a clayey soil, about 300 or 400 yards from the sea beach.
