

and a like extent planted out, and I think the object cannot be too steadily kept in view, as it could not fail to bring in a large revenue, without impoverishing the forests, or, so to speak, trenching on the capital in timber.

Mr. Grant Thomson considers that the sale of thinnings, grazing dues, &c., should suffice not only to pay the establishments employed (including his own salary) and the working expenditure for the nursery planting, fencing, &c., but also the rental of the land, which of course is very low, leaving all the proceeds from actual clearing, or what is known as a "clean cut," as clear profit.

The woodlands are divided into three districts, known as Grantown, Abernethy, and Duthil, each under the immediate charge of a forester, who is responsible to Mr. Thomson for all the work of his district.

Abernethy is by far the largest district, and Mr. Sampson, the forester there, is highly spoken of by Mr. Thomson, and appears particularly intelligent and zealous in the performance of his duties, which include the charge of the nurseries, floating timber down the Nethy, and the management of extensive planting and thinning operations.

The nurseries cover a space of about 13 acres, of which from 10 to 11 acres are at present under crop, principally Scotch fir.

The nursery management differs in no material respect from that in force at Messrs. Lawson and Co., excepting that here, as a rule, the young trees are received as purchased from market nurseries, as one or two years seedlings, or one year seedlings and one year bedded. They are then kept a year, or sometimes two, in the Abernethy nursery previous to planting out for good.

It is doubtful whether the nursery would not have been better situated near Mr. Thomson's house at Grantown, which is more central and not so exposed; but the healthy condition of the young trees, and neatness of the Abernethy nursery, speak volumes for Mr. Sampson's care and the system in force.

I saw three lines of Scotch firs lifted and tied in bundles for planting out.

This is done very expeditiously by two men, with the "grape," or five-pronged fork, digging out the young trees in the lines, which are then lifted in bunches by the women, the loose earth shaken off, and the plants tied in bundles of convenient size. The average number of young trees in each row is previously ascertained, and now and then a row is counted as dug up, as a check; but Mr. Thomson informed me that, after a little experience, a workman or woman could tell by touch, to within one or two, the number in a bundle or bunch.

As a rule, the young trees are lifted one day, conveyed to the ground early the next, and planted out before that evening, so as to obviate, as much as possible, any risk of loss, such as has been known to occur, when a number of plants are *sheughed* (i.e., stored, with a coating of earth round their roots, in a sheltered corner) on the ground ready for planting, and operations suspended by snow so long that almost all were destroyed by rot.

I saw a couple of beds in the nursery which had been sown by the candidates selected for the Indian Forest Department, who were here last year. The seedlings were coming up well, but a little too thickly, which is generally the case with amateur sowing.

The nursery contains specimens of *Wellingtonia gigantea*, *Cupressus torulosa*, *Araucaria imbricata*, &c., and is conveniently situated close to the forester's house.

*Plantations.*—I inspected nine plantations, varying in extent from 300 to 1,200 acres, and had thus the opportunity of seeing the young trees at all ages and under the most varied circumstances as to soil; altitude, and exposure.

The bulk of the plantations consist of Scotch fir, with a comparatively small number of spruce and larch. On an average, particularly in the portions planted out since Mr. Thomson has been in charge, the proportions are 2,000 Scotch fir to 500 larch to the imperial acre, but in some exposed situations there may be 3,000 plants to the acre.

I do not include under this head any trees over 15 years of age, which I shall notice briefly under the head of woods.

The oldest plantations which I visited were Tulquhonie, in the Dutch district, extending over 600 or 700 acres, and Tulchan (400 to 500 acres), in the Abernethy district, of which about 100 acres have been planted 11 or 12 years ago. In both, particularly the former, the Scotch firs are very healthy and regular on the ground, with an average height, in favourable situations, of from 10 to 12 feet, and in the most unfavourable spots reaching to six or eight feet. The spruce is not frequent, and its growth contrasts unfavourably with the fir, whilst the larch, in some very sheltered spots, surpasses it in growth, but in no case presents so healthy and robust an appearance.

In the Duthil Hill Plantation, extending over 600 or 700 acres, where the plants average six years since first put out, their average height is from five to six feet.

In Deshar Plantation, 1,100 acres, enclosed seven years ago, and planted gradually since, the young Scotch firs average from four to five feet in favourable localities, with fine shoots for this year of 16 to 22 inches in length; but there is a marked difference in the exposed situations, where the young trees have not "come away" well and do not average two feet high.

The larch in this plantation is not doing at all well. The same remarks apply to the Sluemore Plantation, in the Abernethy district, 500 to 600 acres, planted about five years ago, where the average height is three feet, and the plants are very healthy, particularly the fir.

In the Revack Plantation, of 700 acres, the young trees planted from three to four years ago are doing well, with the notable exception of some 10 acres on the westerly side, which was planted, against Mr. Thomson's judgment, the year after the ground had been cleared of a former crop of trees, which had proved an entire failure, scarcely a single tree being left of those planted out. Mr. Thomson has found this the case in other instances, and considers that it may be laid down as an axiom that, in Strathspey at least, the land should be left barren and untouched, after it is cleared of trees, until the natural herbage, whether heather, grass, or moss, which existed before the trees grew, recovers; and that if planted before this takes place, failure will result. No definite time can be laid down for this operation of nature, but the fact is fully borne out by observations of the natural or self-sown tracts to be noticed further on in this report.