

1904.

NEW ZEALAND.

DURABILITY OF NEW ZEALAND TIMBERS

(IN RELATION TO THEIR USE FOR TELEGRAPH-POLES).

Presented to both Houses of the General Assembly by Command of His Excellency.

A SUMMARY of the observations of the Telegraph Inspectors upon the above subject is appended.

Dark-red Totara.—When grown upon hilly country this timber is more lasting than when grown upon flat or damp ground. The nature of the soil in which it is erected also materially affects its life. In limestone, dry, or sandy soils it becomes affected with dry-rot below ground, and its usefulness or life is lessened by quite a half. Dry-rot would appear to be a communicable disease, as a new telegraph-pole placed in the same hole as one affected soon becomes diseased, or if a diseased pole is stacked with poles free from dry-rot they, too, soon begin to show signs of decay. The durability of poles which have been seasoned before erection, or cut from partially dead trees, is not so great as that of those cut from vigorous growing trees. The question as to whether trees cut in winter or summer have the more lasting qualities is not definitely settled; but, so far as can be judged, in the case of totara, which is evergreen, it is immaterial when the timber is felled. Some poles of totara erected in damp ground as far back as 1868, and others in pumice soil thirty years ago, are found to be in perfect condition at the present time.

Light-coloured Totara.—There is a light-coloured totara, which, owing to its short life, is quite unsuited for telegraph-poles.

The charring of totara before erection reduces the life of the poles to quite, or even less than, one-half.

Silver-pine.—This is also a splendid timber for telegraph-poles. Its durability in some respects is equal to, if not greater than, totara; but its use is limited, owing to the fact that longer lengths than about 20 ft. are not obtainable. Although it grows almost invariably in wet ground, the soil in which it is afterwards used does not appear to affect its durability to any appreciable extent. It possesses two superior qualities—viz., it does not contract dry-rot, and it hardens considerably in the ground. A board cut in 1898 from the stump of a pole erected in 1870 or 1871 is still in a perfect state of preservation after being in the ground twenty-eight years.

Kauri.—This timber, as is well known, grows almost exclusively in the northern portion of the North Island, and its use is practically restricted to that locality. While it has a distinct advantage in being obtainable in almost any length required, it is somewhat short-lived generally, and is affected by the nature of the soil in which it is placed to a far greater extent than totara or silver-pine. In pumice the life of a kauri pole is rarely more than fifteen years, and frequent renewals at lesser periods have to be made. In clay swamps continuously wet the usefulness of this timber is doubled; while in sandy limestone or rough gravel its life is intermediate between the two extremes.

Kawaka (or New Zealand Cedar).—This is also a very durable wood; but the supply is limited, as it grows on high ground only. It is very tough, and free from knots and shakes; but, like totara, it becomes affected with dry-rot in certain ground. Poles erected in the “seventies” in the vicinity of Tophouse, 2,400 ft. above sea-level, are still in use. If the timber were grown in larger quantities, it would be a particularly useful wood for telegraph-poles or fencing-posts, as it will not burn. Attempts to fire it only result in its being charred.

Black-pine, or Matai.—A considerable number of black-pine poles were erected previous to 1875; but generally their life was short, ten or twelve years being about the average, although there have been some exceptions. The timber is very subject to dry-rot and the wood-maggot.

Black-birch.—This timber is quite unsuitable for telegraph-poles, as it lasts but a very short time.

Puriri.—This timber has a high reputation; but it cannot be obtained in lengths suitable for telegraph-poles.

GENERAL REMARKS.

There is some diversity of opinion as to the relative merits of totara and silver-pine timbers. Although silver-pine has its advocates, the fact that it is practically unobtainable in longer lengths than 20 ft. renders it less useful than totara. Silver-pine, though a short-grained wood, lasts well in the ground; but, generally speaking, the experience of the Post and Telegraph Department is that totara is the best New Zealand timber for telegraph-poles, and it is almost exclusively used. If the pole, to begin with, is free from symptoms of dry-rot, and the sap entirely removed, its life is a very long one—say, up to thirty years in the ground. It is, however, a very weak timber for standing a strain, and unless the pole is a very large one it is liable to snap in a gale of wind or by a sudden jar of any kind. This weakness requires that for a line carrying a few wires a fairly large pole must be used. The quality of the soil is a factor in the durability of a totara pole, and probably of any other class of pole. In the Otago District limestone country is the worst.

Kawaka (New Zealand cedar) is also a very good timber, having an advantage peculiarly its own, in that it will not burn.

Black-pine has been found durable in some cases; but it is liable, in certain soils, to be eaten into by a large worm.

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