

&c., palings for fences, and shed-roof shingles. One forest of this timber, called "white-heart" by wood-cutters, with small red core, may be termed "immature." Often, owing probably to weakness of soil, the saplings grow hollow and useless; but there are a few scattered areas of mature, well-grown trees which are fitted for any purpose requiring lasting qualities; also a small quantity of stumpy trees, full of knots and twisted grain, much used for furniture. The immature timber noted above is not lasting, and fences made of it rot in about six years; but the heavier totara and the knotty trees are very durable, and are fitted for any purpose requiring durability.

3. *Totara kiri kotukutuku*.—Occurs from the Nelson boundary to Big Bay. Grows chiefly inland, and rarely found immediately adjacent to sea-coast; often found on faces and tops of mountain-spurs up to 2,000 ft. above sea-level; fit for milling, occurs only in small patches and strips, also as isolated trees such as those on limestone ridges east of Greymouth; very little sap-wood, usually termed "red heart." Average size, 35 ft. by 2 ft. 6 in.; largest, 60 ft. by 6 ft. A giant tree grows in Upper Kakapohahi Valley, which is 25 ft. by 9 ft.; and yet another high up the Wanganui River. This timber has an assured character for durability. It is in great demand for buildings, bridges, culverts, sleepers, fencing, and furniture. The bark is also much used by settlers for the roofing of sheds, stacks, &c. Could possibly be used for cotton-reels, pencils, &c.

The above two timbers are intermixed, and information regarding each variety is very conflicting. It is very questionable whether the dwarf totaras immediately bordering the sea-coast and the "grass-line" on the mountains are not each a distinct variety, and therefore not to be classed with either 2 or 3.

4. *Matai*.—Occurs from Nelson boundary down to Cascade River. Never found on hills; always on river-flats, and generally as big trees; grows on good land; only saw one patch (50 acres) of immature trees; small areas occur on the flats of nearly all the rivers, also scattered trees; odd trees in Jackson Valley have a fine crop of berries, which are fed off by wild pigeons and other birds. Known in Westland as "black-pine." Average size 4 ft. to 60 ft. by 3 ft.; also found quite 8 ft. through, with short, bunched trunks dividing into several long heavy branches. Does not taper, but keeps diameter right up. In lieu of better adjacent timber, is used by settlers for fencing. Much of it has a nice wavy grain, and is used for heavy furniture and inside house-fittings, mantelpieces, &c. Reckoned best timber for flooring, as it does not shrink. Also for small bridges, culverts, and firewood. Not considered good lasting wood in ground, but excellent under water, as wharf-piles, &c.

6. *Pahautea, or Cedar*.—Is found from Nelson boundary down to Cascade River. May be termed a mountain timber. Small patches almost invariably occur in the damp mossy saddles between the main and foot hills, and on sides of hills and terraces odd trees are also found nearly all over the district, and in a few instances in patches ranging from 1 to 100 acres, such as in Clearwater Valley, &c., the greatest area being in the Upper Whitcombe Valley, where it constitutes the main forest; but there, as elsewhere amongst the ranges (2,000 ft. above sea-level), it is evidently dying out, there being many dead trees, upright and lying. The dead and green standing trees are usually smothered with a streaming white moss. Generally prefers damp, wettish soil. Fairly extensive areas of stunted and immature trees occur on the thin wet soil which rests upon impacted glacial moraines. Average size, 30 ft. by 18 in.; largest known, 4 ft. diameter, 80 ft. barrel; tapering spars of 70 ft. and 80 ft., 2 ft. and 2 ft. 6 in. in diameter at base, are fairly frequent. Clean straight trunk; branches small and high up; very fine and straight in grain. Splits easily. Sodden and heavy when green, and will not float, but extremely light (cork-like) when seasoned. Will not burn green, and poor firewood when dry. Brittle timber, with soft surface; apt to twist as laths; clean-grained wood does not warp so much as that with "oval" grain. Used for house-building (especially inside fittings), bridges, culverts, telegraph-poles, sleepers, venetian-blind laths (several makers do not use it on account of timbers warping badly), fencing-posts, palings, punts, and sluice-boxes. Bark used for roofing. Good timber for flumes; and much valued for canoe and boat building, on account of its extreme lightness, but must be varnished or otherwise it becomes water-soaked. Makes choice furniture.* Should do for pencils, &c. Much esteemed by settlers and miners, but not in favour by others, for local sawmillers receive few orders for this timber. Very durable, but posts when set in sandy ground along sea-coast are apt to rot, the timber breaking off in small irregular dry cubes.

9. *Westland Pine*.—Grows throughout district. This timber, known locally as "silver-pine" and "white silver-pine," is more plentiful than yellow silver-pine. It grows on the low lands between the main hills and the seaboard, but is not to be found in the inland valleys nor on the mountains. It is very rare south of the Arawata River, but occurs in areas of moderate extent and also as isolated trees almost everywhere else. Flourishes best on the damp oozy soil which overlies the impervious impacted gravels of the terraces and plateaux; also on the margins of swamps, sluggish creeks, and lagoons. It likewise occurs, in its early growth, as scrub, and is frequently associated with manuka scrub. Brittle, short-grained, and will not stand strain; free in grain, and easily worked. Timber whitish in colour; soft thin bark. Is fairly light, and rafts well. Excellent for veneering. The sun has little effect on the sawn timber, and it is not attacked by the borer. Is found on margins of swamps, in standing, dead, sapless sticks, which are the favourite ones for settlers for making gates, wheelbarrows, &c., and never alter. This pine rots slightly on end after lengthened period; also decays around nails in the open. The silver-pines are said to have properties akin to the spruce-woods of America, and to have a similar effect on the health of bushmen living in a silver-pine bush to that obtained by people residing in the American spruce forests. Seedlings rapidly replace this pine. Average size, 20 ft. by 18 in.; largest, 3 ft. 6 in. diameter and 35 ft. barrel. Very large trees to be found in Upper Grey Valley, on plateaux west of Lake Brunner, at Waitaha, Saltwater near Okarito, and Bruce Bay. These extra-big trees are often hollow, or full of "shakes." It is popularly esteemed "imperishable," and deserves the term. Trees are often dug out of swamps with the heartwood unchanged; such logs