

ing their entire lower valleys. Back on the hill slope, the type changes to spruce, pine, poplar and birch, while behind, on the height of land and the summit-plateau country, the lodgepole pine is the omnipresent species with large areas of muskegs.

### THE FOREST GROWTH.

It is not believed necessary to report at length on the forest growth. Mr. D. R. Cameron, in his report on Timber Conditions around Lesser Slave Lake (Forestry Branch Bulletin No. 29) has fully developed that aspect. Practically the same region is here dealt with, so it is quite natural that the same species are found.

The different types given in Bulletin No. 29 have been found here presenting about the same character. However, owing probably, to a better drainage of the soil, and less frequent fires in remote period, resulting in less difference in the quality of the soil, the different types occupying the western section of the Swan Hills were found in better conditions as regards health, density and yield. This is particularly remarkable for the lodgepole pine and poplar. The white spruce does not present any difference. The muskeg type is always the same wherever it is met. The jackpine was found in very small quantity.

The balsam fir loses here the importance that it was given in the height of land type. As a fact, it is a very inferior species considered from a commercial point of view.

The different species with which we have to deal are:—

1. Lodgepole pine.
2. White spruce.
3. Poplar.
4. Tamarack.
5. Black spruce.
6. Birch.
7. Balsam fir.
8. Jack Pine.

1. The lodgepole pine (*Pinus Murrayana*) is an omnipresent species in the western section of the Swan Hills. It is frequent on the lower north slope of the Athabaska river; it occupies, in pure stand or in admixture with the black spruce, the upper north slope of this river and the summit-plateau country across the Swan Hills, and extends from the Swan Hills to the Rockies. The growth in the Athabaska and McLeod River district, south of the Athabaska river, includes over 60 per cent of lodgepole pine. Under ordinary conditions, on slopes or well drained lands, this species reaches a merchantable size at about 100 years old, with a diameter of eight to twenty inches at breast-height. Its average height varies from 70 to 100 feet. It matures early, at the approximate age of 125 years.

The lodgepole pine is found in pure stand on the height of land, on slopes in admixture with spruce and poplar, and with the black spruce forming the summit-plateau type.

2. The white spruce (*Picea canadensis*) occurs in pure stand (or practically so) on river flats, characterized usually by the presence of large cottonwood, and on well drained upland as remnant patches of the virgin forest. In these conditions, white spruce of 150 years old may run from 10,000 to 35,000 feet, board measure, per acre. The white spruce is also found mixed with lodgepole pine and poplar on high slopes and scattered amongst poplar in the poplar type. Wherever white spruce is found in admixture with other species it rapidly outgrows them, and, as it is the longest-lived species, it is bound to replace the others. This has been observed on many occasions.