

In general the muskeg of this country is not so wet as that encountered in the summer of 1910 along the line of the Hudson Bay railway. This is evidenced by the fact that black spruce predominates upon the area instead of tamarack. The spruce is, however, so small in size that the amount of pulpwood which could be cut to four inches diameter is negligible.

There are altogether some 2,000 square miles of muskeg in the 6,700 square miles of country examined, or approximately 30 per cent of the whole. This includes the percentage of muskeg in the height-of-land, summit-plateau and other types.

POPULAR TYPE.

The poplar type covers an area of some 925,000 acres altogether, located as follows:

Athabaska river valley,	60,000 acres,
Martin mountain country,	194,000 "
Narrows creeks,	102,000 "
North slopes,	360,000 "
Ottawain River country,	45,000 "
Upper Sauleux,	132,000 "
Lower Freeman,	60,000 "

This type is generally a mixture of many species, but aspen predominates.

The species on an average will run in mixture as follows:—

Aspen, 80 per cent; balsam poplar, 15 per cent; birch, 4 per cent; spruce, 1 per cent. In some localities jack or lodgepole pine also occurs in the mixture.

The aspen in this country as elsewhere is very susceptible to the attacks of the heart-rot (*Polyporus igniarius*). Studies showed that approximately forty three per cent of the total stand is so defective as to be useless. Of the remainder, only twenty per cent is entirely sound, eighty per cent being more or less discoloured, although the fibre of the wood has not as yet been destroyed.

The average yield in pulpwood to four inches diameter over this area is approximately twenty cords per acre of aspen and balsam poplar. The other species may be neglected. At this estimate we have, of really sound aspen, 3.2 cords per acre; of discoloured wood, 12.8 cords per acre; the total available is thus 16 cords per acre.

The balsam poplar is also subject to grave defects, 50 per cent being useless through frost-crack and other causes. There will remain about four cords of material of pulpwood size per acre. Therefore, there are found of absolutely sound wood per acre:

Aspen,	3.2 cords
Balsam poplar	7.0 "
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	7.2 "
	—
Of discoloured wood,	12.8 "

Figuring at this estimate over the whole area we have, of perfectly sound wood at 7.2 cords, 6,750,000 cords. Adding defective, but not destroyed, wood at 12.8 cords per acre, 11,840,000 cords; total, 18,590,000 cords. Aspen in the poplar type grows at an average rate of one inch in nine years. The average age is 72 years, and the average diameter at breast-height, 8 inches.* Balsam poplar in the poplar-type country has about the same rate of growth.

*Breast-height, a term frequently used in this bulletin and in forestry literature generally, is understood to be four and a half (4½) feet above the ground. For the sake of uniformity and to afford a basis for accurate comparison, measurements of the diameter of trees are invariably taken at this height for forestry purposes. 'This point is above the root-swelling and is the natural place to caliper a standing tree.' (H. S. Graves, *Forest Mensuration*.) The expression 'diameter at breast-height' is frequently abbreviated, especially in tables, to D.B.H.