

majority of the stands, however, are immature. Fires have swept over a large proportion of the dry sandy sites and have done much damage. However, as the species reproduces well on burns, the forest condition is satisfactory, except where repeatedly fire-swept. Under such circumstances park-like stands result, with limby, damaged trees, useful only for fuel; in extreme cases open grassland is formed.

The older trees are very widely attacked by a parasitic dwarf mistletoe (*Arceuthobium americanum*), whose presence is indicated by the formation of abnormal bushy masses of branches known as "witches' brooms." These interfere very seriously with wood production, and may in time kill the tree. To prevent spread of the disease it is necessary to eradicate the affected trees. To this end it is highly desirable that the removal of such trees by settlers' permission be favoured by reduced dues. The younger trees suffered unusual destruction by rabbits during the winter of 1912.

The better soil areas are, of course, occupied by open, with white spruce and balsam poplar in the moister places. The occurrence of these, however, is secondary. The drier swampy areas carry black spruce and tamarack, mostly of small size; this is reduced to a border growth in the case of the wetter ones.

These reserves have been largely cut over for tie timber, and for the present they will be of value mostly as a source of local fuel supply, especially in the case of those near Prince Albert. If these are kept out, the future of the forest growth is assured, on account of the persistence of the jack pine. The Pines and the Nisbet well supplied with trails and surrounded by settlements. whose poplar groves are being rapidly cleared up, present scope for improvement cuttings; while the burns which are not restocking offer very favorable opportunity for successful planting.

#### FOREST CONDITIONS ON DOMINION LANDS IN ALBERTA

The spruce forest of Manitoba and Saskatchewan continues across the northern end of the prairie region of Alberta, finally mingling with the Rocky Mountain forest of the western portion of the province. In both these forest regions timber berths and forest reserves are in existence.

##### Timber Berths

Licensed lands in 1912 totaled 2,174 square miles, and lands held under permit, 40 square miles. Probably one-third of the licensed area lies within the Rocky Mountains reserve described below. The other berths are scattered along the North Saskatchewan and its tributaries below Rocky Mountain House, along Athabaska waters, and on Peace River tributaries