

Production of Aeroplane Spruce in B. C.

Success of Spruce Board Told in Rapidly Increasing Totals from November, 1917, to Signing of Armistice—Hearty Co-operation of All Interests.

The January issue of "The Timberman," Portland, contains an interesting and valuable article on the production of aeroplane spruce in British Columbia for the Imperial Munitions Board, and gives great credit to Major Austin C. Taylor H., R. MacMillan, F. R. Pendleton and all those associated with them, together with the loggers, lumbermen and transportation companies who so patriotically supported the efforts of the Spruce Board.

The creation of the Department of Aeronautical Supplies was effected by the Imperial Munitions Board in November, 1917, by the appointment of Major Austin C. Taylor as director, followed by his immediate departure to British Columbia with instructions to take steps necessary to secure an adequate production of spruce for airplane purposes.

The Aircraft Production Board of Great Britain had established the fact that Sitka or "silver" spruce, is the only variety of wood which would meet the demands of the airplane construction requirements. The close grain, straight, long fibre of Sitka spruce possess superior strength, combined with necessary elasticity and resiliency not found in any other wood, making it particularly suitable for aircraft frame work.

British Columbia is the only part of the British Empire where supplies of Sitka spruce exist, and preliminary cruising soon established the fact that Sitka spruce areas were very limited, and confined to the islands of the Pacific and to the fjords of the Pacific Coast. No Sitka spruce is found east of the first range of mountains, where Engelmann spruce, another inferior variety, exists in large quantities, but unsuitable for airplane framework.

Prior to the aeronautic demand for Sitka spruce, no exclusively spruce logging in British Columbia had been carried on, excepting perhaps a small amount of spruce obtained by the pulp and paper mills and box manufacturers. In consequence, at the Federal or Provincial Forestry Departments, very limited information was on file which would aid the Department of Aeronautical Supplies in selecting suitable areas on which to commence logging operations. Therefore, the first activity undertaken by the Board was to gather the readily available information and send cruisers to locate and report on the best stands of Sitka spruce which were to be found on Queen Charlotte Islands. The reports of stands of enormous quantities of airplane spruce on the mainland were found by subsequent cruising operations to be unfounded, and the rate of production attained by the Department of Aeronautical Supplies at the time of signing of the armistice had reached an output which expressed in terms of logging production, would show our readily accessible known supply of Sitka spruce would have been exhausted within another 12 months. From this it readily can be appreciated the supply of this very essential war material was restricted to a limited area and a limited quantity.

The detailed information accumulated by the cruisers comprises a mass of valuable forestry information properly mapped and recorded. It will make a fitting and valuable contribution to the Provincial and Dominion Governments' forestry archives:

Preliminary cruises and investigations.....	5,000 sq. miles
Partial cruises	746 sq. miles
Detailed cruises	365 sq. miles
Cruisers' reports from outside	175 sq. miles
	6,286 sq. miles

In the light of the November record of airplane lumber output, it may be interesting to revert to the problems facing Major Taylor when he arrived in Vancouver, November 5, 1917. Very little definite detailed information was available as to the supply of raw material. No commercial organization existed for the production of exclusively high-grade spruce lumber.

Many owners pressed the board to purchase timber limits and recommended direct board ownership and operation of these limits. The adoption of such a policy would have led the board into the proprietorship of large areas of timber for the sake of securing a relatively small proportion of spruce which grows among the hemlock, cedar and other trees. Also the enormous capital expenditure incident to the acquisition of the limits by purchase would have necessitated a consideration of after-war government logging and sawing operations, and its effect on subsequent commercial lumber trade. Neither speed in production nor financial economy could be effected by direct ownership and operation of timber limits; therefore the board's rejection of this suggestion would appear to be a very wise one.

Essentially a rapid development of the programme of the Imperial Aircraft Board could not be effected without adequate and immediate supplies of airplane lumber; hence in formulating a production policy it became a military necessity to obtain speed above all other consideration in the production of airplane spruce. Also in so far as possible it became the desire of the board to make national necessities clash as little as possible with provincial commercial activities.

Major Taylor's department decided to adopt the following plan:

Cutting rights over suitable timber stands were obtained only for the contained spruce which would meet the requirements of the department. Recognizing the military importance of quickly obtaining a supply of spruce, the Government of the Province of British Columbia passed an Order-in-Council empowering the Government with the right to confiscate cutting rights on spruce areas, the owners of which refused to transfer cutting rights to the board for this military work. A uniform stumpage remuneration was paid for all spruce logs removed. The rate was fixed at \$6 per thousand feet for No. 1 grade munitions board logs, and \$2.50 per thousand for No. 2 grade munitions board logs. This high stumpage was considered fair and equitable remuneration in view of the selective logging process adopted.

In only a few instances was the board obliged to take advantage of the "spruce cutting act." Virtually all the timber limit owners were willing and anxious to place their resources at the disposal of the board for military purposes.

To the loggers of British Columbia is due the grateful appreciation of the nation for the patriotic manner in which they gave up many non-essential operations and placed their equipment and their personal services at the disposal of the board. This resulted in obviating delays in commencing operations, since to manufacture new logging equipment would have taken months of time, and likely would have had a chaotic effect on the after-war lumber trade.

With the organization of a transportation department, contractors' supplies and equipment were dispatched to Queen Charlotte Islands, where cutting operations began with the least possible delay. In a short time the contractors were supplying the board with quantities of logs. This production, which started early in 1918, soon grew to large proportions, equal to an input of 20 million feet of logs per month, an achievement only possible as a result of matured plans and the establishment of administrative main centers on Queen Charlotte Islands, consisting of large and extensive camps, warehouses, stores, hospitals, wireless stations and other essentials. The rapid establishment of these camps is all the more commendable when it is remembered that virtually no settlement or commercial development had taken place at Queen Charlotte Islands, except in the fishing and mining industries.

An idea of the magnitude of the operations supervised by the board is indicated by the fact that 301 separate contracts were awarded for logs, or lumber, of which 40