

Where sufficient quantities of each species are purchased to afford a basis for value, as the 20 to 25 foot class, it is seen that spruce is cheapest, then cedar, larch and Douglas fir; the latter most expensive. This in itself would explain the great popularity of cedar, for it gives, for the money, more service than any of the other woods used.

The prices paid for poles range from 79 cents each, for spruce poles, 20 to 25 feet long, to \$6.71 each paid for poles of unspecified species 41 feet long and over.

In every length class nearly all the poles are cedar. Spruce also appears in every class, but neither larch nor Douglas fir are used over 35 feet in length.

Poles 25 feet long or less compose 77.5 per cent of the total number of poles used in Canada. About 86.1 per cent or 308,577 of the poles purchased in 1909 were 20 to 30 foot cedar.

Excepting in the length classes, 36 feet and over, cedar poles are more expensive in Canada than in the United States. The comparative prices paid in 1908 were as stated Table 3.

Even with cedar poles cheaper in the United States many companies have found it economical to give poles, both those of cedar and other species a treatment with a chemical preservative so as to prevent decay and lengthen the life of service received from the pole. 10.6 per cent of the poles used in the United States in 1908, 344,388 altogether, were given such a treatment. The steam railroad companies of the United States treated 30.9 per cent of the poles they purchased in 1908. The electric companies 14.7 per cent and the telephone and telegraph companies, 8.5.

This preservative treatment though hardly in the experimental stage in Canada has become a settled procedure of economy in the United States, where it has been the subject of extensive investigation by the government for many years and where are now in operation 83 commercial plants for the treating of timber.

The treatment consists in the first seasoning of the wood, then thoroughly impregnating it with some preservative. The preservative that has been found to give the best satisfaction is creosote, a heavy oil which is a bye product of the manufacture of coal or petroleum tar.

A thorough creosote treatment costs about \$1.40 a pole, assuming that labour is \$1.75 per day, creosote 8 cents per gallon, and fuel \$15 per cord.* At this rate it pays to treat cedar poles. The annual charge on untreated cedar poles, costing \$9 net in the line, and lasting twelve years, is in the average given by Canadian users 6 per cent. \$1.07 treated cedar pole will cost \$10.39 set in the line, will last twenty years or more, and will thus cost only 91 cents for each year of service. This is an annual saving of \$6.40 on each mile of line.

The preservative treatment of poles has many features to recommend it in Canada. The supply of cedar in Canada is comparatively small; cedar grows so slowly, 175 to 200 years are required to produce a 30-foot pole so that it is by no means reproducing rapidly enough to supply the annual demand. The preservative treatment of the cedar poles used would both save money for the pole users and lessen the annual drain on the forest. Preservative treatment would also render available for efficient pole use cheaper woods such as pine or spruce. These woods can be purchased more cheaply than cedar and when treated give as long and satisfactory service. They are much more plentiful than cedar and for that reason should be used if possible.

* United States Forest Circular 136, by C. Stowell Smith.