

would appear that on the high lands above the river the climate is somewhat different from what it is at Fort Dunvegan, which is situated on the river bank. But the general knowledge of the country possessed by the witness would lead him to suppose that taking the three summer months, from the first of June to the end of September, the isothermal line of fifty-seven and one-half degrees, which he considers is about the lowest which is the boundary of what might be considered absolutely successful agriculture, would extend from almost the foot of the Rocky mountains, run almost north, following the mountains, and extend certainly beyond Lake Athabaska, down half way across Lake Athabaska, thence north of Lake Manitoba. There is not sufficient knowledge of the southern part of Keewatin to trace that line 57·5 further, but it probably continues to a point south of James bay. In other words, this particular isothermal line would run from a point further south than James bay in a northwesterly direction, passing west of Slave lake to a point northwest of that. As you go northwesterly you are getting further and further away from Hudson bay. The witness questioned very much whether the country lying between Great Slave lake and Hudson bay is a country in which agriculture would be thoroughly successful. He did not, however, mean to say that there might not be at times good seasons.

Mr. Stupart explained that the practice is to draw the isothermal lines every five degrees, and he considered 55 too low a temperature for assuredly successful agriculture. A temperature of 57·5 degrees, provided that remains for two months, is perfectly safe for agriculture. Without doubt the summer temperature is what settles the question of vegetation altogether. He was not prepared to say there might not be some kind of mixed farming carried on in the district north of the isothermal line 57·5, but he would be rather inclined to doubt whether you could depend on ripening wheat, for instance. The ripening of wheat depends largely on the sunshine.

The witness explained that he did not want to be dogmatic on that 57·5 isothermal line, but from what study he had given to the subject that was his impression. He did not know for a fact that wheat would not grow beyond that line; that had not been demonstrated as yet.

In reply to a question, the witness stated that the summer temperature of 57·5 would be about that of England.

Manitoba and the southern parts of Saskatchewan and Alberta are, if anything, warmer in the summer than England.

The temperature at Dawson, in the Yukon, occasionally, in some seasons, rises above 90 degrees, and a summer never goes by without the temperature for many days going considerably above 80. The length of the day is a very important factor. The length of the day makes up for the loss of the sun's intensity; so that putting the two together, the climate in the northwest for the purposes of vegetation is as good as in the south of England. Occasionally they record frost in June in England, but the witness had his doubts as to whether it was ever recorded as early as the end of August. The temperature of the two countries is absolutely different. While the summer temperature over all the southern parts of our western provinces is comparable with England, and perhaps the north and western coasts of France, after about August 20, the downward trend of the temperature curve in Canada is very rapid, whereas in Great Britain and France it is very slow. Of course as one goes north in Alberta and Saskatchewan, the downward trend of this temperature curve becomes very rapid indeed.

THE CLIMATE NEAR HUDSON BAY.

Asked by the Honourable Mr. Power as to the temperature at Fort Churchill, Mr. Stupart replied that Churchill is a cold place. The mean temperature of the month of May is only a trifle above the freezing point, namely, 32·5. June is 42·3, July 55·5, August 52·6, September 42·3, and October is winter, namely, 27.

He had also a record of the lowest temperature in each of those months. He was very sorry to say it was an imperfect statement, because he had not very much faith in