

APPENDIX No. 4

ago, on the 15th April, 1792, where Sir Alexander Mackenzie wintered, at the mouth of the Smoky river, he got the prairie anemone, which the farmer calls the crocus, in full flower. At St. John's, the same anemone was in flower on 22nd April, 1873. I was there in 1872. That was in the river valley sloping towards the south. Dunvegan itself is in latitude $56^{\circ} 56'$. It is 1,395 feet, at the water, above the sea. Mr. Horetzki measured the banks of the river from the water up to the level prairie, and made it 687 feet. The general level of the country above Dunvegan would be from 2,000 to 2,300 feet.

Q. Is there much of a snowfall there?

A. In some years; in another year it is light.

Q. Do they have the chinook?

A. The chinook winds are not noticed there, as far as I know; but now that you mention it, I may say that they are noticed here, on the line of the Grand Trunk Pacific Railway. Up through the Yellow Head pass and on the west side of the mountains the chinook is found.

I will not enter at any detail into explanations of the cause, because the time is short. I have made this general statement, gentlemen, and I will now answer any questions that you may submit.

Q. Is not the quality of the wheat improved a great deal in that northern district on account of the long days and the greater amount of sunshine?

A. I have not the slightest doubt, that the length of the day and the greater amount of sunlight has all to do with it. I am satisfied that it is the long day and the clear sunlight that has to do with our wonderful wheat in the Northwest. I have studied the whole matter, and we who know the Northwest know perfectly that a rain-storm will come on, and it is gone and as soon as it has gone, in no time, the sun is out again; and the long days, eighteen hours and sometimes away farther north there is no darkness whatever—there is not the slightest doubt that all these things combined are the reasons we have such wonderful wheat in the west.

By Mr. Thompson:

Q. Do you think the amount of sunshine you get in the early summer will make up for the difference in the latitude between Winnipeg and Dunvegan in the growth of wheat?

A. Yes. The growth in the north, as I discovered up at Dawson, the growth never ceases. When you come down to the Mackenzie basin, which is in latitude 61° , Mr. Stewart, of the Forestry Department, went down the Mackenzie this year, as far down as latitude 61° , and found any amount of vegetables growing in the most wonderful luxuriance, and it all came from the long day and bright sunshine.

Q. This anemone you speak of grows in Dawson in great profusion, we get it in April. But the point we are getting at is will wheat ripen in the Peace river valley on account of the early fall and northern altitude?

A. I am glad you brought that out. Altitude is the bane of ripening. It is not latitude that is the bane, it is altitude. The plateau of the Peace River country runs up to 2,500 feet and more. If you put a thousand feet upon the top of King's mountain here, it would not be as high as that is, and this is only latitude 44. You would not think of growing wheat away up in the air that way even at this latitude. When you get down to Peace river, at Dunvegan, the wheat that is growing there is growing down in the valley, in a trench with the big banks towering up 700 feet above, and when you come down from here at this point (indicating on map) the banks keep falling away, and when you get around here, at Vermilion, it is only 960 feet above the sea. Whereas the river bottom at Dunvegan is 1,305 feet above the level of the sea. So that you see, at once, the difference, the change of the conditions. After you come down to Vermilion the whole country is suited for wheat growing and there is no difficulty about it whatever.

Q. Even although it is so much farther north?

A. It does not matter, it is altitude, not latitude, that counts.