

think it expedient to offer prizes for such a class of sheep as those referred to, we can, of course, say nothing. At the first Provincial Exhibition there were but three classes of sheep in the list, Leicesters, Southdowns and Merinos. The classes, like every other department of the exhibition, have been subdivided from time to time, and at the last exhibition prizes were offered for six separate classes of sheep. The subdivision of the fine-wooled classes has hardly kept pace with that of the long-wooled, as in fact the latter are more popular and more numerous in this country. We may state here that the long-wooled class for other breeds than the Leicesters, Cotswolds, and Cheviots, was not created altogether for the crossbreeds, as our correspondent seems to suppose; but was meant to include any other pure long-wooled breeds which might be exhibited, such as the Lincolns or others.—We think it highly probable that a further classification of the fine and medium wools will take place at another exhibition, although we are not so well satisfied that will be in the precise direction desired by our correspondent.]

Root Culture.

EDITOR OF THE AGRICULTURIST.—Seeing an article on Root crops in the January number of the Agriculturist, and being urged by several of my neighbors to publish a statement of my crop of Swede Turnips of last season, in accordance with your request to subscribers to furnish any facts in their possession of general interest relating to Farming, I send you the following: Having for some time been increasing the quantity of land under turnips, I sowed last season six and a half acres of purple top Swedes; land, sandy loam, one main drain through the field four and a half feet deep, sowed first week in June, land drilled and manured at time of sowing. Stored of said quantity 7000 bushels, or about thirty two tons per acre, at 60 lbs per bushel. This statement to many may seem large, but it is under, not over the quantity. Four turnips brought out of the field (not out of the garden as is too common) to a neighboring exhibition, tops included, weighed together ninety eight and three fourths pounds. Not wishing to trespass on your columns from a point so far North, in giving details of the crops in the various stages of growth, process of cultivation, storing, items of expense pro and con, &c., as it would make this article longer than intended,

I remain, &c.,

R. CARSS.

Township of Fitzroy, Co. Carlton, Feb. 1861.

Observations on the Physical Geology of the Western Districts of Canada.

BY CHARLES ROBB, C. E., HAMILTON, C. W.

From The Journal of the Canadian Institute.

(Continued from page 72.)

General Inferences.—In order to account for all the phenomena I have thus briefly sketched, we are irresistibly impelled to the conclusion that subsequently to this region having acquired its present geological configuration, so far as relates to the outline of the older rocks, the land was submerged under the sea to a moderate depth, and that large ice-islands were driven by currents from the north, charged with mud and boulders, which, as they grounded on the bottom, pushed along all loose materials of sand and pebbles, broke off all angular and projecting points of rock, and when fragments of hard stone were frozen into their lower surfaces, scooped out furrows and grooves in the subjacent rocks. When the icebergs melted, the soft and loose insoluble materials which they conveyed subsided into the bottom, filling up valleys in the ancient rocks, covering them under a mass of clay and sand where currents were powerful enough to reduce the deposits to a general level, and forming mounds and hillocks of the same, in places where such currents did not prevail. That this was actually the case is proved by independent evidence, namely, the occurrence of marine shells of recent species, in the drift formation at various heights above the level of the sea in the region drained by the St. Lawrence.

Burlington Beach and Heights.—Of this nature and origin I have no doubt are the remarkable formation of the Burlington Beach and Heights, which seem to have been expressly designed by Providence, the first as a natural rampart and breakwater to protect our magnificent harbour, and the latter as a bridge to facilitate our communications by land. The immense masses of clay and drift which conceal the older formation between Dundas and Copetown render it impossible to say with certainty whether the latter preserve the same precipitous and continuous character round the head of Burlington Bay as along its north and south flanks; but there is the strongest reason to believe that they do. If then we conceive the rocks to have run continuously at the same elevation round the head of the valley, and at the same time imagine the sea to have covered them as explained before, we have here precisely the circumstances which would produce all the phenomena we now behold. A bay or basin would thus be formed entirely sheltered from the currents, and into which large quantities of the floating ice-islands would be driven by the winds; and thus would be produced that irregular, rolling, and deeply indented surface which we find prevailing from the eastern limits of Hamilton to Copetown. A succession of ridges of sand and gravel, no less than seven in number, in