

Rose, 28 of Prolific, 9 of Garnet Chili, and smaller numbers of Champion, Jackson White, Andrews, Early Bucks, Blues, Trophy, Flourball, Dunman, Early Ohio, Calico and Chicago Market. But the variety of potato that especially attracted my attention was the Cape Breton Black, of which there were no fewer than 37 half-bushel samples, besides smaller quantities in collections. This is evidently a very superior potato and well adapted for general culture here, the samples presenting remarkable uniformity, more so than any other variety. I am told it is a good table potato. It must also be a profitable potato for stock, and might be largely grown and largely used for dairy cows, for which no food is more suitable in the winter season. But this potato appears to be known only in Cape Breton, where, I believe, it has been grown since the early part of the present century. When new and unknown potatoes are being commonly sold at \$4 or \$5, or even \$10 or \$20 a bushel, it may be worth while for some enterprising potato grower to introduce the Cape Breton Black to the rest of the world, at a suitable price. The yearly increasing difficulty of growing potatoes in most other countries should greatly encourage their production in Nova Scotia, where they suffer so little from the potato disease, and not at all from the Colorado beetle, if we except sporadic cases of its apparent introduction temporarily in grain. With respect to the potato disease, we know enough of its character to enable us to greatly mitigate its effects, if not to avoid it, even in the worst seasons. The disease is caused by a minute fungus that grows as a parasite upon the potato. It first forms brown and afterwards black spots or blotches on the leaves, the fungus there yielding myriads of microscopic seeds or spores. These fall upon the tubers that are exposed, and upon the soil, and are washed down to the buried tubers; they grow and penetrate the skin of the potato and thus set up the disease in the tuber. Mr. Janson, a European experimentalist, has based, upon these facts, first fully observed by himself, a simple method of cultivation which is said to effectually prevent disease in the tuber. He moulds up the drills to such an extent (in the late period of growth) that the tubers nearest the surface are covered to the depth of a few inches; the spores are thus not able to penetrate to the potatoes, or, if they do by heavy autumn rains, they have not the power to germinate and grow when excluded (as they are at such a depth) from air. Then, in regard to lifting, the potatoes are not dug till two or three weeks after the complete withering of the leaves in the field. If taken out earlier they will be covered

with millions of spores from the potato tops, and about a week after lifting they will show the disease, for it takes the spores that time to germinate and develop the disease at a temperature of 62°. With a temperature of 72° it is developed in five days. With lower temperature it takes a longer time. Rainy weather favors the disease, because it washes down the spores and they adhere more readily to the wet potatoes. Potatoes with a thin skin allow the spores to penetrate easily and are thus more liable to disease. Thick skinned potatoes are less permeable, and thus resist the disease better. The Cape Breton Black appears to have a tough, leathery skin in all the samples I have examined except one, and in that sample the skin was very much peeled, showing that the potatoes had been taken up before they were fully ripe. There is always a great loss from early digging, except where the potatoes are very rapidly dried and not stored in quantity. If the potatoes are moulded up at the close of the season to 5 inches, so that the rain causes the earth to settle to a depth of 4 inches above the potatoes nearest the surface, that depth will, it is said, effectually protect the tubers. The cut surface of a tuber is more readily affected, and thus cut potatoes spread the disease. By delaying lifting the weather gets cooler, and the fungus develops less rapidly and energetically. If any one doubts the above facts let him cut a potato, shake diseased tops over it, and leave it under a tumbler for a week; the disease will certainly develop. A cut potato placed under a tumbler without spores shaken upon it will remain sound.

I wish I could correct a false impression that prevails here, that your season is too short for agriculture. I see no evidence of it, for all your crops are as well ripened as anywhere else. But you make your season short by leaving your soil ploughing till spring instead of doing it during your beautiful autumn weather. As regards the cultivation of roots and the growth of hay and pasture, no upland fields on this continent can excel those Cape Breton. This capacity is the real source of agricultural wealth—a mine that everywhere lies within nine inches of the surface. But you are exposed to bleak sea breezes that destroy tender fruits and flowers. Who is to blame for this? I visited Yarmouth last week, and found that there, as around the shores of England, every dwelling and orchard and garden, and many of the farms, are surrounded by sheltering hedges and strips of wood. The white spruces with which nature covered this North Sydney peninsula, forming a most perfect protection, have been cleared away and the land exposed to every wind that blows. Imitate nature, replace the

sheltering spruces, which no sea spray can affect, and you will achieve the same results here as have been reached in Yarmouth and England.

Permit me, in conclusion, to express the great pleasure and satisfaction I have experienced in visiting this Exhibition, and to thank the many friends whose kindnesses have, in so many ways, conduced to make my visit so thoroughly enjoyable.

MANITOBA STOCK-RAISING.

PRIZES OFFERED BY THE BOARD OF AGRICULTURE.

To the Editor of the Journal of Agriculture:

SIR,—Allow me to state through your columns that the Board of Agriculture has decided to offer prizes of \$50 and \$25 respectively, or medals of equal value, at the option of the successful competitors, for the best and second best essays on the capabilities of Manitoba for stock-raising. The stock to be treated of are horses, cattle, sheep and pigs, and any other animals which competitors may think worth considering from an agricultural standpoint.

Competitors, while at liberty to use their own discretion to a large extent, will be expected to deal particularly with the following points:

1. The adaptability of the Province generally for stock-raising.
2. The peculiarities of different sections and their special adaptability to particular animals.
3. The various breeds of the different animals mentioned above, and their respective adaptability to the Province.
4. A history of stock-raising in the Province from 1870 to the present time, with a general enumeration of animals and breeds thereof already introduced, and their freedom from disease.
5. The best method of wintering stock.
6. Cost of production.
7. Profit realized from home and foreign sale, with special reference to future exportation.

The greatest possible conciseness compatible with explicitness is expected. Each essay must be marked in the left hand upper corner of the first page with a distinctive motto. The same motto, together with the writer's name must be enclosed in a sealed envelope, and forwarded with the essay. This envelope will not be opened until after the award of prizes. Essays will be received by me up to 6 p. m. on Saturday, December 30th, 1882.

Yours, etc.,

ACTON BURROWS,
Sec.-Treas. Board of Agriculture.
Winnipeg, Oct. 2, 1882.