

man wishes an evidence of what you are in energy, and what you are capable of in action, let him come to Syracuse, and look around him. It was brought as an accusation against the ancient Romans, that they made a country desolate, and called that peace. It is the nobler praise of the great modern Republic, that you find a country desolate, and cover it with people—a wilderness, and you plant it with fertile farms—furnished with rare wigwam encampments, and you strew it over with splendid palaces and great cities. Energy, discernment, constructive talent and administrative skill, must all be united to accomplish such results, so rapidly, so safely, so securely. I thank you for inviting me to come among you, that I might see all this, and might enjoy the gratification which the sight of progress of such a kind imparts. It will be to me a source of future satisfaction, if I shall be able, on reflection, to believe that my visit to your country has in any way contributed to the further or more safe advancement among you of that pursuit, which is the surest support of nations—whether in the Old World or in the New.

ROOT CROPS—BREEDS OF CATTLE, AND CHEESE MAKING IN NEW-BRUNSWICK.

The Directors, thinking it might be of service to obtain the opinion of Mr. Robert Gray, a practical farmer, recently from Scotland, on various points of husbandry, the following is his reply to their application:—

OAK PARK, Fredericton, Oct. 24, 1849.*

To the President of the St. John Agricultural Society:

Sir,—In answer to your request to furnish you with my mode of cultivating turnips, my opinion of what kind of cows are best adapted for dairy purposes, what rotation of crops I think would be most suitable in this country, and the way in which "Dunlop" cheese is made, I beg to submit the following:—

THE CULTIVATION OF TURNIPS.

Land intended for turnips should be ploughed in the fall, especially if it has any portion of clay in its composition. It has thus the benefit of the winter's frost, which renders it friable and easier worked in the spring. The number of spring ploughings and harrowings will depend on the nature of the soil, which must be thoroughly pulverised and cleansed, every clod broken, and every weed gathered off.—It is then drilled up into ridges of from 26 to 30 inches, according as the land is level and clear of stones or otherwise. Well prepared manure is then put into the drills, and seed sown (at the rate of 3lbs. per acre) as soon after as possible.

It is of great importance that the operations of drilling, manuring, covering the manure, and sowing, should be carried on in as rapid succession as possible. Seed sown on the evening of the day that the manure is applied and covered, will vegetate under the most unfavourable circumstances, whilst, if it is delayed for only twelve hours it will either not vegetate at all or so partially and feebly as to render it useless as a crop. So soon as the young plants show their rows distinctly, the grubber or cultivator should be passed between the rows, and the stripe of surface left between its operation and the line of plants should be taken off by the hand hoe. This gives an effectual check to the first growth of weeds, and renders the subsequent weedings comparatively easy. When the plants have got to some size, and begin to crowd each other, they should be singled out to a distance of from ten to fourteen inches, according as the crop is likely to be, a bulky one or otherwise. Moist weather is the best for this operation, but it should not be delayed more than eight days beyond the proper stage, even though the weather should be unfavourable. While the thinning is going on, the earth should be removed from

the roots of the plants left, so that only the taproot shall have a hold of the soil. At least one hand hoeing will be necessary after this, and as much cultivation between the rows as there is leisure for, up to the time that the plants begin to meet their leaves across the drill, when the drill plough may be passed lightly between the rows so as to form a channel for the surface water to run off, but without putting any earth up to the bulbs.

MANGOLD WURTZEL.

The culture of mangold wurtzel is much the same as for turnips, only the seed requires to be sown by the hand, and slightly covered with a rake or shovel. It is chiefly valuable as food for milch cows, as it does not, like turnips, taste the milk. In other respects I think it inferior to turnips, and being easily damaged by frost should not, in my opinion, be grown to any great extent in this Province.

CARROTS.

Land intended for carrots should have the manure ploughed in in the fall, and by as deep a furrow as possible. The seed should be thoroughly separated, mixed up with moist earth and sand, and placed in a rather warm situation, such as a kitchen, and turned over repeatedly for say forty-eight hours before sowing. This will cause the seed to germinate and insure an early braird. The rest of the treatment is similar to that for turnips, only in thinning out the distance between the plants should be from four to six inches.

BREEDS OF CATTLE.

From my experience in the matter, I give a decided preference to Ayrshire cows for the dairy.

I believe they will yield a greater quantity of milk in proportion to the food they consume than any other breed. Besides this, they are docile and hardy, and will thrive on pasture and with a description of keep when such breeds as the Short Horns would starve. They also possess more than average feeding qualities of their own, and when crossed with the Short Horn or Durham Bull, the produce is an animal remarkable for early maturity and a disposition to fatten. If proof were wanting of the excellence of the breed, it would be found in the circumstance that they are carried to almost every quarter of the globe. Large droves are every year taken to England, and during the last ten years, considerable numbers have been shipped to the Cape, the Isle of France, to Sweden, Denmark, Belgium, and the United States.

ROTATION OF CROPS.

The same rotation will not answer equally well on all soils and under all circumstances. The one I consider most generally applicable, and which I have myself adopted, is the following:

First year (and when the ground has been broken up from grass) oats or buck-wheat; second year, drilled green crop, properly cleaned and manured; third year, wheat, barley or other grain, with grass seeds; and fourth, fifth, sixth, and perhaps seventh year, grass made into hay or pastured.

METHOD OF MAKING DUNLOP CHEESE.

When more than the produce of one milking is used, the old milk must be heated to the same temperature as that newly drawn from the cows, or a little above it. This is best done by putting the milk, after taking off the cream, into a tin pan, and that again into boiling water. When the milk is properly heated, it is (together with the cream previously drawn off,) and the new milk, put into a tub and well stirred together, and the steep applied. When the milk has coagulated, which will be in about twenty minutes, the whole should be stirred up and thoroughly broken by the hand. In ten minutes afterwards the whey should be taken off, and