

go into the creamery business and meet the market, whether we are to retain our prestige or lose it.

The stock now held over in Montreal is estimated at 12,000 packages; and the demand from the lower ports or provinces will in all likelihood be "nil," for the American shippers have crowded into the Maritime Provinces all the butter that they can take.

In conclusion, we need hardly say that the butter product of the world in 1877 was unusually poor, and the handling of the article has resulted in serious loss in Europe as well as America, and should our dairymen refuse to sell in 1878 at whatever price foreign markets will warrant, we predict the loss this year will fall on the makers instead of the merchants. A burnt child knows how hot the fire is, and is likely to act accordingly.

#### Light and Heavy Soils.

It is an important matter for the farmer to know what crops are best adapted to the farm on which his lot may be cast for life. There is a difference between the agriculture of a country having a temperate climate, such as that of the British Isles, and one subject to the extremes of heat and cold of a North American climate, and the difference between the cultivation of light and heavy soils, between the rotation of their crops, and their ploughing and seeding is scarcely less than between the farming of the old and new world. The heavy soil when thoroughly tilled is well called the wheat soil. Its yield is greater, the berry is plumper and heavier, and it gives more barrels of flour. The lighter soil requires less labour, it produces more quarters of barley of better quality, and brighter color, and in a favorable season is sure to command the highest prices, if passed through skilled hands. A soil neither too light nor yet too heavy, would doubtless be preferable to either, but such a farm is not always to be had; and whether the light or heavy soil be prepared, it must depend on circumstances, such as the locality of the farm and the means of the possessor. A heavy soil can be brought into a higher state of fertility than very light land, and will retain that fertility much longer. It will, when in good condition, bear a severe rotation of crops without being impoverished, and will give a greater return in successive years than any light soil is capable of giving. But on the other hand the expense of cultivation is greater than a lighter soil requires. It may need under-draining—a costly operation. Horses or men cannot perform as great a quantity of work in a given time. The soil is not in condition to receive the seed as early, and, consequently, the crop cannot be early sowed. The difference in the modes of cultivation and in the variety of crops generally sown and planted in different sections of the country, though caused in some measure by a variation of climate, is also owing to a difference of soil; so we find in the country, around the Bay of Quinte, more barley grown than in any other part of the Dominion. Some who sow it there may never question why it is so, but that they have sown the grain best suited to the soil is proved by the fact that the barley of the Bay of Quinte is the best grown in America. Their soil would not produce wheat of equal quality. It is essentially a barley soil. Barley may be grown on heavy soils; on such we have grown good barley crops. It may also be grown on light loam soils, but on neither heavy nor on mucky lands can it be raised so profitably as on barley soil. To ensure the greatest profit from our labour we should pursue such a system of agriculture, and adopt a rotation most suitable to the soil—light or heavy. A light soil is well adapted for soiling. On it peas, oats, grasses, clover, corn, for cutting green, can be sown in seven or eight months of the twelve; it can be tilled and seeded at times when heavy land is too wet for any labour. It is a good

soil for growing potatoes, turnips and almost all root crops. It is easily cultivated, but easily impoverished. It needs frequent applications of manure. Having in itself, less fertility than heavier soil; the crop must imbibe a great proportion of its food from the manure applied. And also while the heavy soil retains the unconsumed remaining part of the manure, the light soil wanting that retentive property, permits the oozing away of manurial elements with the water. We have here, as in many places, soils varying greatly, some very heavy, and some light. Each requires different treatment. All cannot be brought profitably under one system. Each soil must be treated for itself.

#### Sowing Grass Seeds.

A subscriber of Huron County writes to know if it will be too late to sow grass seeds early in May, and to have some directions for sowing. He "would have sown earlier but could not have got the ground in good tilth till now."

In this country grass seeds are generally sown in the early fall or early spring. If the sowing be deferred till spring it is considered better to sow when the snow has partly gone. Sown at that time, the freezing and thawing of the earth cover it sufficiently, and the earliest returning spring heat causes it to germinate early in the soil that is moistened with the thawed snow and well prepared for its reception; and receives nourishment from the ammonia that is always present in the snow. The objection to sow in Canada as late as May, so favorable a time for sowing grass seeds in Britain, is owing to the difference of the climate. In Britain the farmer has seldom occasion to complain of drought in the early summer months. There April and May showers bring forth early grass, as well as flowers, and provoke the early germination of seed. Here we have to prepare for an early drought, and one of long continuance. There, as J. K., in his letter says, there is no better time for sowing grass seeds.

A good catch is, however, sometimes obtained by sowing seed as late as May, if it be a dropping season, and the soil be in good condition, so that the seed may germinate at once, and the roots have taken good hold while the moisture continues. Very much depends on the preparation of the seed bed. For grass and clover especially it is necessary that the seed bed be in the very best condition. Every farmer knows how much the fine tilth contributes to the early germination of seed, and the healthy luxurious growth of the young plants. Moisture, air and warmth are necessary to promote germination, and these are better secured by the fineness of the mould covering the seed, and of the bed into which it sends its tender, radicle to seek its liquid food. The fine earth covering the seed admits the necessary air and heat, and prevents the too great escape of each by evaporation. The variety of grasses to be sown must depend partially on the soil and the system of agriculture the farmer intends to pursue, as well as the adaptation of the land. If the grass land is designed to be broken up after one, two, three or more years, the variety of seed must be selected accordingly. Such grasses as ripen at the same time should be sown together, as for instance orchard grass, June grass and red clover. For most soils when well prepared for grass seeds, they will form an excellent mixture for mowing the first crop and afterwards for pasture. For pasture, white clover should form a part of any formula. When sheep are part of the stock to be pastured white clover is especially valuable. The seed must not be buried deep; a light covering to secure the moisture to the seed is all that is required. A too great depth would exclude the air

and prevent germination. A light seed harrow, should be used. By many a bush harrow is used, that is thorn twigs plaited between the "bulls" of the harrow, to prevent the tires sinking deep and burying the seed. Rolling is always serviceable after the harrow; is indispensable for sowing as late as May. It serves to make the surface of the ground more compact, so that the young root, when first started, will have more substance to feed on, and it will endure the succeeding dry weather, better than it would, if the surface were porous and light. A great object to be obtained, in so late sowing, is to prevent the drying up of the plant before it has sufficiently established its root to sustain life during the drought. This can only be done by making the soil so compact as to prevent the evaporation of the necessary moisture. Not only does rolling make the surface compact and thereby ensure moisture. Its pressure also makes the earth fine enough—that is made up of particles smaller in size than the seed it covers, so that the moistened particles may entirely enclose each seed, and that there be no hindrance to the swelling of the seed, the sprouting of its germ, and the striking down into the earth of its root.

The drought of our early summers generally makes late sowing precarious work. It may succeed with due care, but some have been successful in obtaining "a good catch" while many have lost their seed and labor.

#### Some Queries Concerning Potato Culture Answered.

"Muskoka" desires some information through the FARMER'S ADVOCATE about potato culture. The contradictory opinions and reports he has met with have fairly puzzled him. He asks, 1st, What is the best soil for a potato crop, and the best mode of cultivation? 2nd, Are the best crops obtained from seed whole or cut, large or small—the rose or stem end?

SOIL.—Any soil, if well prepared, will in ordinary seasons yield a good crop; there is, however, some soil better adapted for potatoes than other. Heavy clay soil will produce a good crop if under-drained and well manured. Rich, mucky soil will produce heavier crops than any other in dry seasons, but the soil best adapted for potatoes is light dry land, and if it be a limestone soil, so much the better. On such soil the crop is most certain, and the potatoes of the best quality.

PREPARATION OF THE SOIL.—If it be intended to manure with farm-yard manure, let it be done in the early fall, and the manure plowed in. The plowing should be deep and strong, well cut and ridged up, that it may receive the full benefit of the winter storms. Let the furrows and water cuts be free for the running off of any water. Stagnant water is poison to land. With a second plowing immediately before planting, the soil will be in excellent condition, dry, mellow and free from living weeds. Open the drills 24 to 30 inches apart, and drop the seed 8 to 12 inches asunder, according to the variety of potatoes and the fertility of the soil. Potatoes such as the Early Rose require less space than the Peach Blow and others that have luxuriant haulms and grow their tubers far from the stem on every side. Too much crowding is a means of having small tubers, free air and light being essential to a healthy growth in vegetables as well as animals. Keep the space between the drills cultivated, but not so as to injure the roots.

SEED POTATOES.—The small potatoes in a hill are inferior in every respect to the larger ones—not so good for table use, less matured and less healthy. A writer has made the following experiment: He selected two of the finest of potatoes received from England, weight 18 ozs., and cut them into 13