

rall, and does not add weight to the top of the fence. That also is the simplest way of increasing the effectiveness of fences in the woods. A shed will prevent a waste of manure, and a Good Fence is worth acres of pasture. Good grass cannot be had, without good seeds. Sow an early grass for an early bite. Good grass will not grow in water. Nor will bad grass grow under stones. Grass under bushes has not the "salt of the earth" in it. Good butter cannot be made without good grass, and, don't forget White Clover.

JAMES DICKSON,  
Trenholmeville,  
Quebec.

## MONTREAL EXHIBITION, 1896.

(First-Prize)

### Different soils Clover and grasses - Harrowing - Wet meadows - Drainage - Red-top.

#### ON THE BEST METHOD OF IMPROVING MEADOWS.

There are so many different kinds of soil, also different conditions of different fields, that it is difficult to lay down a rule, which under all circumstances is the best. To illustrate, a field may be rich enough so far as the mineral qualities are concerned, but which cannot yield a return equal to its ability, perhaps for the want of drainage, or for the want of reseeding with seed naturally suited to the soil and situation.

Thus, a black mucky soil, requires entirely different treatment, and different seed, from a high upland field. An upland field which has natural drainage is always suitable for the growth of the clovers and timothy hay. Such a meadow in good heart, plough early in the fall, and plough again in the spring, and early in the season before the sun becomes too hot, and the moisture gone from the soil, harrow in not more than three bushels of oats or proper quantities of other grain, and six lbs. of timothy seed, four lbs. of long red clover, and one lb. of red top, per acre.

During the succeeding two or three years, the clover will crowd and overshadow the grasses, but they will thicken the crop, and as the clover runs out, which it generally does in two or three years, the grasses will take its place. Retarding the growth of the grasses in this way allows the roots to get a firm hold, and which finally cover the ground deeper than the land has been ploughed, with a thick mass of roots. This mass of whitened roots can be seen after a heavy rain on a newly ploughed grass field. We have here then a certain amount of the best food for the growth of a new grass field or meadow. It is a well known and incontrovertible fact, that the roots of clover penetrate further into the ground than other plants of the kind, and bring from the subsoil food for itself; and upon the death of the plant, the decomposed roots serve as food for the grasses, and also create channels in the soil, into which air permeates, solubilising the minerals for the growth of plants.

I am here considering a meadow in good heart, that only requires reseeding, and that there is no manure to enrich the land with. If it can be manured, there is no benefit on the extra labour of ploughing in the spring, if it is well cut up with the harrow. The objection in reploughing in the spring, is to get

to the top the mould and humus of the rotten sod (there is of course more roots and humus at the top than at the bottom of the sod) for the purpose of making a seed bed that will stimulate a strong growth of the young plants, and drive the roots down in search of food.

If manure is to be used, it is not so necessary to have the sod well rotted in the spring, and consequently it can be ploughed later in the fall, the manure being worked into the soil in the spring with a disc or spring harrow. Thus the manure starts the plants, and they will soon reach and make use of the sod as it rots, will make a stronger growth, corresponding with the amount of manure, and last longer without reseeding.

A meadow, when the method of rotation of crops is pursued, is supposed to be outside of consideration. Neither do I propose to consider one so barren as not to be able of itself to grow a sod of grass roots, and when there is not a supply of manure to create a sod.

Such a field, under such circumstances, I consider irreclaimable. There is, "It won't pay," as in an animal, so also in a soil, there must be a live body to recuperate. Neither do I occupy space in considering the use of artificial manures in the improvement of meadows. I am considering from the point of view of the vast majority of the farmers of the Province: the improving a meadow from its own resources.

#### A SWALE MEADOW.

Is generally much easier to get into good condition than an upland meadow, for the reason that it is not "run out." The plants which have been produced upon it, require much less, and abstract much less from the soil, of those substances which deteriorate the soil, and which serve as a whole food for animals. For although animals will eat rushes and wild grasses, they are not so complete food in the same way as timothy and clover. The soil is wet, the air cannot penetrate, it is consequently cold, sour, and the continuous solubilisation (call it rotting, if you will) of the soil has not been—going on—consequently much of the original qualities of the soil are intact, requiring only that the superfluous moisture be got rid of.

In considering the surroundings of a swale meadow, it will always be found that an embankment has in some way been created, which prevents the natural drainage from taking place. Sometimes these embankments may have been caused by animals, perhaps ages ago, or, by obstacles, which during freshets have been washed there, and soil washed against them, became perfect dams, and often the water wears its way underneath the embankment to the lower level. Sometimes, however, these swales are caused by the drainage being obstructed originally by a ledge. And very often inspection will discover a bog hole, over which a team cannot be driven. This being the outlet of the drainage of the higher land, and though there is not force sufficient to create a living spring, yet enough water oozes out to spoil a good deal of soft, mucky land. Often these swales are acres in extent, and when reclaimed are very valuable as meadows.

If a ledge is in the way, enough of it to form a ditch must be removed.

If the swale can be ploughed, and few cannot at some time of the year, plant pickets in the lowest places, or runs in the field, not necessarily straight, plough, and with a sharp spade cut the sods, and hauld with a

fork into a cart, and dump into holes in the field. Plough of the necessary width to correspond with the depth of the intended ditch, and after the sod is off, plough the necessary depth for the ditch, and scrape into holes to level the ground. A complete and easy made surface ditch can thus be made, that can be mowed over, or ploughed crosswise with no inconveniences. Many a good swale could be thoroughly drained with a surface ditch, six feet wide at the top and a foot deep in the centre; and in some instances even a plough furrow, or a single spade ditch, would make a great improvement. (I have over half a mile of such ditches on my farm. I found them easily made and several bogholes are now good plough land). There is no use seeding or trying to improve a meadow of this kind until the water is got rid of.

Some may say they cannot underdrain and put in tiles, but in this way of making ditches it is a small undertaking.

After it is dry, in the early spring, sow timothy, alsike in place of clover and red top. Timothy and red top can be sown in August or later, but clovers of any kind rarely grow when sown in autumn on account of the first winter's frost.

It will be observed that I lay great weight on the fact that the clover roots aid in nourishing the succeeding grass roots, and that a good growth of grass roots is as good as a light coating of manure, and that this principle, if often and properly applied, will of itself improve a meadow. It is a fact proven by long experience, that a meadow ploughed and reseeded every six or seven years, not fed in the spring, and not too close in the fall, and a share of manure equal to the hay taken from the field will improve it very fast. But, if the grass roots are pulled up by the stock, if the manure is washed before it reaches the field, if it is bleached by the sun and wind while being applied or if the urine is lost, the result will not be satisfactory.

I also am in favor of sowing some red top grass upon both upland and lowland meadow; this is an excellent grass, which thickens the crops wonderfully, and with either a wet season or a dry one, it is there.

I cannot too forcibly emphasize the necessity and benefit, of sowing clover on the upland meadows and alsike on the lowlands. Alsike lasts longer and will grow well in mucky land, where red clover cannot exist, but not on upland. I am not in favor of sowing the coarser grasses, or fine grasses on meadows. Neither ripen at the same time as timothy and clover, which are, and will continue to be, the meadow grasses of America.

JAMES DICKSON.

#### STORING POTATOES.

Strictly speaking, no one ought ever to store potatoes in the house cellar. But as hundreds of thousands do it every year, and will continue to do so, a word may not prove amiss. And, first, potatoes should be sorted while in the field. It saves the housewife some work, and it saves storage room and the later work of extra handling. Potatoes for the cellar are best barreled, as they are then movable when the accidents of time bring frost or water into the cellar supposed to be proof against both. Above all, potatoes in the cellar should be "kept dark." Canvas sacks make good curtains to set off a

portion of the cellar and good covers for the barrels. Light will ruin the flavor of all potatoes, and half-light will cause them to sprout far in advance of the season.

## THE RAPE FIELD AGAIN.

Questions for Mr. Gibson.

To the Editor FARMER'S ADVOCATE:

SIR,—In your issue of Nov. 2nd, Mr. R. Gibson, in writing on sheep men-doned cabbage as being better than rape for feed. Does he pasture the cabbage or is he speaking of winter feed? I would not think of rape as of any service for winter feeding. Would Mr. Gibson explain how he cultivates cabbage in all its stages of growth and how he feeds them in winter time.

I will give your readers my experience with rape. Three years ago we "ganged" four acres of fall wheat stubble and sowed three pounds of rape seed per acre the first week of August, but we had no rain for six weeks and it came too late to amount to anything. Next year I sowed rape on a field of oats. The season being very dry, it did not do much on the high part of the field, and in the lower portions it grew almost too well, for at harvest a good deal of it was cut with the binder. We had no trouble in curing the oats, owing to good dry weather, but had it turned out a wet season it would have been almost impossible to have got them dry. This season (1896) I sowed 48 pounds on a twelve-acre field of fall wheat just after we had done with the spring seedling. We gave it one run of the harrow. It did splendidly. We always cut fall wheat higher than oats; very little of it reached the knife. In the course of a week or ten days we had the field cleared and I turned on the milk cows. There was a good bite and the milk came freely, but the taste of rape came too; so I put the cows in just after milking in the evening and let them remain on the rape all night. We milked early in the morning, then let them run on the pasture all day. That seemed to work all right; only the faintest taste could be noticed. We had some steers, two and three years old, and put them in along with the cows and they did well. We never had such fall feed. So much for profit. But now comes the loss. One night there was just a faint touch of frost, and one of the three-year-olds turned up his heels. I could hardly believe that it was the rape. Afterwards came a very heavy frost, but cows and steers were all right. The next night just a light rind of frost and my best three-year-old was gone too. That made me look blue, for it took the profit out of the rape pretty well. I then turned all our cattle on in the morning, let them remain until they were well filled, then turned them off until next morning. I have had them on when the plants were nearly covered with snow, and in rain, too. I put them on without any injurious results. I kept the calves and lambs on all the time, but they had the run of a grass field at will and have done splendidly. I intend to see if it will stand the winter (1) and try it next summer for pasture. How would a crop of rape do to plow in on clay land? (2)

Bruce Co., Ont.

"ANTRIM FARM."

(1) We have tried it, and it would not stand.—Ed.

(2) Far better feed it off with sheep.—Ed.