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The Rural Canadian.

TORONTO, NOVEMBER 1st, 1882.

INVESTMENTS FOR THE FARMER'S SURPLUS CASH.

The good crops of the last four years have largely added to the wealth of the country. Farmers especially have been made comfortable in a financial sense. Their surplus of grain and live stock has been converted into cash, embarrassing debts have been cleared off, and bank deposits have been largely increased. It is a good thing for the farmer, as well as for the business man, to stand well with the banks; but in the case of the farmer there are more ways of establishing credit than by keeping a deposit book. There are ways, too, in which he may get more liberal returns. He may add to the comforts of home, making it more attractive for the boys, and so keep them from drifting into business, or the professions, or into mischief. He may provide better outbuildings, or renovate the old ones, and so make his cattle and horses snug for the winter. He may improve his live stock by introducing new blood, or better breeds; or he may increase the productive capacity of his land by putting more manure on it, and thoroughly underdraining it.

All these are valuable ways of investing the farmer's surplus; indeed it is almost indispensable to profitable farming that the great bulk of the cash proceeds of crops and stock should be invested at home. What is a paltry four per cent. rate of interest paid by the banks to the return made by permanent improvements on the land the farmer tills? Or what farmer with any feeling of pride in his occupation would care to be known as a mere money-grubber? The farm is the farmer's best bank!

There is much that might be said on the several forms of investment we have indicated, and especially on underdrainage. This is now a live subject with the farmers of Ontario, and we purposely select it for a few practical remarks. The need as well as the benefits of underdraining has been well illustrated by the vicissitudes of the present season, as every observant farmer knows. The uprooting of wheat and clover by spring frosts was very general, but everywhere the greatest damage was done on low and undrained lands: where the land was well underdrained, either naturally or artificially, the injury by upheaval was comparatively trifling. The cold weather and the frequent rains in April and May not only delayed seeding operations, but checked the growth of the grain when sown. Where the land was underdrained, ploughing might be commenced as soon as the frost was out of the ground, and the soil being dry and warm, vegetation was promoted. In a great many instances reported to us, seed corn either rotted in the hill, or the blade perished from "cold and exposure"—it died of "too much drink," as some farmers phrase it. The rainy spell at harvest time made it difficult in many places to use a reaper, for the ground being soaked with water, the machine could not be drawn over it. Then the drouth of this fall greatly retarded the seeding

of wheat, especially on clay land, which was baked so hard that the plough turned it up in lumps. The same land properly underdrained would be readily workable in the driest season.

Every farmer has doubtless observed these results, and we feel confident that the lesson they teach will not be lost. We know that in many sections of Ontario, and especially throughout the western counties, great progress has been made in underdraining this year. The chief difficulty has been to obtain tile in sufficient quantities, for the supply has not been commensurate with the demand. But this can be only a temporary drawback; let the demand continue and the tile-makers are sure to respond to the call.

There is no better opening for an investment of the farmer's surplus cash than the tile-drain on his own farm! It will pay a liberal dividend in the improved crops of the first year, and, be the season wet or dry, the tile-drained land will produce the largest yield of grain, grass or roots.

SILOS AND ENSILAGE.

There is a wide diversity of opinion among farmers on the value of ensilaged fodder for cattle. Some denounce it as useless and baneful; others maintain that there is no better or healthier food, and none that gives such large results for so little money. It is well to guard against extravagant statements on either side, at any rate until the silo system has been given a fair trial at the hands of intelligent men. And that trial should extend over a series of years.

One of the latest contributions to the study of the subject is a special Report published by the United States Department of Agriculture, being a record of practical tests in the United States and Canada. The experience of ninety farmers is given in response to inquiries of the Department, dealing with the cost and construction of silos, the crops used for ensilage, the manner of preparing and storing it, and its value as fodder for milch cows and other farm stock.

There is, according to this Report, no uniform plan of construction, and the cost depends on the farmer's ideas of economy. It may be only a trench in the ground, a room in a bank-barn, a cheap structure of planks or boards, or a solid structure of stone, brick or concrete. What is important is that the floor should be dry, that the walls should keep out frost, and that the roof should shed rain. For convenience in feeding stock it should be built near the stables. The cost of construction ranges from fifty cents per ton of capacity for the simplest wooden silo to \$5 per ton for walls of brick or stone.

The crops grown for ensilage are corn, rye, oats, Hungarian grass, peas and clover, but corn is more in favour than any of the others, for the reason that it produces more fodder per acre. Its average yield when sown in drills is about twenty tons, while some of the other crops will not yield more than four or five tons. If grown near the silo the labour and cost of drawing in may be kept down to a minimum.

The usual practice is to cut and store the crop in the green state, and before ripening begins. It is drawn to the silo as soon as reaped, run through a cutting box driven by horse or steam power, packed away, covered with rough boards and subjected to a pressure of 100 to 200 lbs. per square foot; stones or sand in barrels may be used for weights. If cut in half-inch pieces it is easily pressed, and it must be borne in mind that exclusion of air is the main secret in the ensilaging of fodder. It is fit for use as soon as it has cooled, which may be in three or four weeks.

Ensilage does not appear to be a safe food for

horses, for several cases are reported where it was believed to have caused death. But for sheep and cattle, and especially for milch cows, the testimony of the ninety farmers reporting to Dr. Loring, is unquestionably favourable. A few say that no effects were visible, or that the milk supply failed, and cattle fell off in flesh; but seventy-five out of the ninety say that cattle fed with it improved in health and flesh, and that the flow of milk increased. "Cows always gain unless in full flow of milk." "Cows doubled quantity of milk in two weeks." "Increases quantity and quality of milk." "Cows in better flesh than when taken from pasture." "I never had stock do as well on any other feed." "Exceedingly profitable." "They look sleek, drink less, and are happy." "Juicy, palatable food for stock in winter." "Never saw cattle fatten as fast on anything else." "Twice as many cattle can be kept on the same acreage." "The cheapest feed for cattle." "Better than root crops." "The butter is like June butter." "The enormous crop which can be raised per acre settles the whole question." These remarks, taken at random from the Report, indicate the general drift of opinion on the value of ensilage as food. It should be added, however, that the prevailing practice is to mix with it a small quantity of bran or corn-meal each day. Occasionally, too, some hay or oat straw is given.

The value of corn ensilage as compared with hay, is thus stated by Mr. Sprague, of Vermont:

"It is a good grass crop that will yield two and a half tons of hay per acre. This would all be required here, with six months' feeding, to winter one cow. Five tons of ensilage winters the same animal in better condition; but with thirty tons per acre, an acre of land will winter six cows, and produce ten per cent. more milk."

If this is true, the importance of the silo system cannot be over-estimated. It means more milk, more cheese, more butter, and (better than all these) a bigger manure heap for the farmer, richer fields, more bountiful crops, and a more abundant supply of mutton, pork and beef.

We hope to see the system receive a fair trial in Ontario, and more particularly by farmers in the great dairy centres. June milk and butter in midwinter would be a treat indeed. The farmers who supply the Toronto market with these commodities should be the first to make the experiment. If successful it would be a boon to their customers, and a source of profit to themselves. And if it is true that the turnip has doubled the grain crop of England, may it not prove true that ensilage will treble the grain crop of Ontario? We advise caution; but the experiment ought to be made, and it need not cost much.

CLOVER AND MANURE.

It may seem to some that frequent cropping with clover and grain, instead of renovating the soil, will exhaust it. Experience, however, proves the contrary. Clover, it is believed, in some way draws its nitrogen from the air. How this is done is not well settled. Some have held that the leaves had power to gather the nitrogen directly from the air, while others have thought that it drew its nitrogen from the subsoil. It is probable, however, that the leaves either absorb nitrogen from the air, or else the surface soil, kept moist by decaying leaves, absorbs the nitrogen or ammonia from the air and imparts it to the roots of the plant. Experiments have shown that soil on which clover had been grown contained more nitrogen than it did before the growth of the clover, notwithstanding the large amounts removed in the hay. It seems pretty well proved that the clover in some way draws its nitrogen