

not judge so accurately, and our plan would be to make a special test before coming to any conclusion about the fertilizers required to be used.

Plots 33 to 39 explain themselves. They are intended to show the results of different methods of planting and different quantities of seed per acre. It will be seen that heavy seeding (57 bushels per acre) without fertilizers has produced about as good results as the best fertilizers where only 30 bushels per acre were planted. By an easy calculation, based upon the relative prices of potatoes and fertilizers, the farmer can find out whether it is more profitable to seed heavy or purchase fertilizers. In plot 39, with a liberal dressing and heavy seeding, by far the best results were obtained. Undoubtedly the best and cheapest method of raising potatoes is to go into their cultivation as intensively as possible.

Although our soil is well adapted for profitable results in the use of concentrated fertilizers, yet the dry season operated against the action of the fertilizers. In many instances they produced paying results, and we have also the satisfaction of knowing that quite a large percentage of the fertilizers applied will benefit succeeding crops.

We have several other interesting experiments, especially with vegetables and small fruits, which we shall describe in future issues of the *ADVOCATE*.

#### Farming as a Profession and a Business — The Farmer's Condition.

There is no occupation which requires so many accomplishments as farming, and yet it is vulgarly supposed that a man who is fit for no business, trade or profession, will do well enough for a farmer. This is a reason why farming is held in such disrepute, and why so many ambitious youths make for the so-called learned professions. The asserted respectability of the learned professions is largely acquired, or rather purchased, at the public expense. Why should the farmer permit himself to be taxed for the purpose of adding profit and respectability to other professions, thereby degrading his own? Our education authorities enjoy their innings—that's the reason—and the Chinese wall constructed around their profession is the cause of a great deal of degradation amongst other classes of the community. The "higher education" boom at the public expense is a most mischievous and dangerous weapon in our social affairs, one part of the community being educated into nineties, while another part does not enjoy an education befitting for good citizenship and industrial avocations. The condition is somewhat akin to a pack of landlords who control legislation in subservience to their own ends, the result in both instances being a widening of the gap between the masses and the classes; the one party sucks their happiness from the vitals of society mainly in the form of "filthy lucre," and the other mainly in the form of "respectability."

Let us for a moment cast an extra ray of light on the picture. Let everybody be permitted to enter law, medicine, or the teaching profession just with the same liberty as he enjoys with reference to agriculture, and what will then become of that respectability occasioned by exclusiveness? Compel a man to fag through a long curriculum of study and pass brain-wrecking examinations before he is permitted to enter the practice of farming, and then agriculture may become a

popular and respectable profession. It cannot be legislated or talked into so-called respectability.

It has been urged, however, that there is something grand and lofty to be learned in the "learned professions"—that they are sort of exact sciences, as it were. When this comes to be true, the part will become greater than the whole. Where is there a science that has not its foundation in agriculture? What, in relation to our social well-being, is not traceable to the soil or to natural opportunities? Advanced thinkers of the day have pronounced the drug to be a farce; law has dwindled into the farce of interpreting legislative acts passed for the robbing of the masses, or the respectable toilers who produce the wealth of the world—the outcome of our political party systems. Does the business of our country suffer because our merchants are not educated at the public expense, or are their methods less exact on this account? Are our business teachers less useful because they are not dignified by the name of professor? Have our agricultural professors, by feeding out of the public crib, added dignity to agricultural erudition?

To sum up, there is more useful study in agriculture than in all the learned professions combined, and we do not run any risk of contradiction when we also add the studies of the accountant. We question if there is a business accountant in the country who could keep accurate farm accounts, giving the farmer a correct balance-sheet of the profits and losses on each of the products of his industry—including, of course, the proper debits and credits belonging to the manures, the fertilizers, and the plant foods extracted from the soil. All the agricultural professors on this continent, including both the genuine and the bogus ones, have proved disastrous failures in the preparation of the farm balance-sheet.

The condition of our farmers can only be bettered in one way. Squandering public money will prove more or less futile so long as we remain uneducated as to the most useful and practical methods of employing these expenditures. The movement, to be effective, must be spontaneous on the part of our farmers. They must feel convinced that they are being despoiled of the products of their honest toil, which will continue to keep a majority of them in a state of abject poverty and slavery so long as they fail to rouse themselves to a comprehension of the magnitude of the dangers which are kept in the haze by the despoilers of their hard-earned property. They must dispel the terrible gloom of party politics, seize that deadly weapon, the ballot, with heroic grasp, and make an organized effort to vanquish their common foe—the organized foes of society and humanity.

#### PRIZE ESSAY.

##### Winter Care of Cattle.

BY THOS. MACMILLAN, CONSTANCE, ONT.

This is a subject which earnestly demands the study and attention of every stock farmer; and, living in a country possessed of the climate of Ontario, where we have to contend against such severe winters, it is doubly important that every farmer should understand and practice the most comfortable and economical way of feeding cattle.

The first requisite in the winter care of stock is to have good stabling, where the cattle can be tied. I would recommend bank barns, with stone stabling underneath (where you can have all the fodder stored in the building above); but they must be kept clean, thoroughly ventilated, and require to be white-washed with lime every summer, and when cattle are housed dur-

ing the summer season, they should be white-washed both in the spring and fall.

It is, then, of the utmost necessity that cattle should be housed at nights before it is too late in the season; whenever we begin to have a succession of night frosts, I consider every farmer is losing money by leaving his stock out; and as it approaches winter, it only does the cattle harm to allow them to rove round the fields, even in the middle of the day, grazing on frozen grass, as by this treatment they will lose flesh.

It is a settled principle in stock raising that an animal should be kept growing steadily from the time it is dropped till it comes to maturity; and it is specially important that at this season of the year we ought to bear this principle in mind, and feed liberally until the animal is accustomed to its changed condition, remembering that for every pound of flesh the animal loses it requires the price of two pounds to replace it.

When your cattle are stalled, don't follow the general practice, in perhaps throwing them anything that is handy for the first two or three days or a week, until the feed and buildings are got in proper order; but have everything in proper order when you begin, as every farmer ought to know about when he should commence, and understand something of the general method he intends to pursue in wintering his stock.

Next comes the course of feeding, the essentials of which are straw, hay, grain, roots and water. While threshing the grain, the chaff should be separated from the straw as well as possible, in order to have the chaffy straw for feeding whole, and the long straw to cut up with hay. I would feed grain and a few roots once a day all winter; and in the fall and spring, roots are an essential food in aiding to change the animal from the grass to dry feed, and back to the grass again in spring.

Feed the stock three times a day; but bear in mind, don't feed three times between 8 or 9 o'clock in the forenoon and 4 or 5 in the afternoon, as every feeder ought to be in the stables not later than 6 in the morning to be able to finish at the darkening at night. My daily method would be roots and straw in the morning; turn out for water at noon; clean out stables, and feed cut straw and hay mixed, with a little meal sprinkled over it (say about 1½ lbs. mixture, peas, oats, barley and bran); also a little salt, as I consider salt a good appetizer, as it causes the animals to both feed and drink better; let them in whenever they want to come, which time will of course be regulated by the state of the weather; and feed hay for the night ration. My reason for feeding roots in the morning is to give the animals an appetite for their straw; I would feed straw in the morning, because I want the refuse for bedding at noon; feed the cut feed and meal at noon, that the animals may come in readily, and be fed easily; and feed hay at night, as they will fill themselves, and have plenty of time for ruminating and digesting it before morning. In the feeding process, with perhaps the exception of the straw, feed just what they will lick up clean, and observe regularity in feeding.

As spring approaches, and the time has come for turning the cattle to pasture again, turn them out by degrees, and as I said before, feed liberally on roots, as the great care is to prevent scouring too much in making the change.

There is another great requisite in the treatment of stock, namely, to be kind and gentle with the animals, as the actions of the profitable stock feeder are characterized by the pat of the hand in the stable, and in giving them the padded path in the yard.