

and five months. Sir George McPherson Grant, of Ballindallock, took the 2nd and 3rd prizes, and another of his animals was commended. In 2-year-old heifers there were also some excellent beasts. Of ten year-old heifers Mr. McCombe showed three, one of which took the first prize, and another was commended.

Of Galloway cattle there was only a modicum show, but among the exhibitors were most of the well-known breeders of that class. Prominent among the prize-takers was the Duke of Buccleuch, whose Drumlanrig estates are suitable for this class.

Ayshires were numerous and of fair quality. For the best bull, Sir Michael Shaw Stewart carried off the prize. In the second class, the Duke of Buccleuch came in for the second premium.

There was also a good representation of Highland cattle, which have a grand appearance on their native hills, but seem out of place in a showyard. Some animals of great size were exhibited as extra stock.

The show of horses was good, and of Clydesdales in particular there was a splendid show. Mr. David Riddell, Kilbowie, Duntocher, Dumfriesshire, was the most successful exhibitor, and in the first class showed a noble animal, "Prince of Wales," which has on all occasions distanced all competitors. It is a magnificent horse, and has splendid action. It is a brown horse, six years old, bred by Mr. Fleming, Knockdon, Maybole.

MANURES.

We find in the *Truro Sun* of the 8th of August, a suggestive and useful article on the subject of Manures, from the hand of a gentleman who writes under the name of "Cloverdale." His communication is specially intended for the farmers of Colchester, but contains so much common sense in addition to its special suggestions, that we have no doubt many of our readers in other Counties will be glad to peruse it:—

In previous articles I have endeavored to draw the attention of your readers to the quality of the soil in this part of the Province, and to the necessity and method of thorough drainage. I hope they will at this time accompany me in an examination into the nature of ordinary farm manures. I wish to point out to them, that by the most certain laws of nature, our best manures are liable to wholesale waste, and are continually wasted, through undue access of air and water; and that these, although chief agents in producing vegetation, become, to the neglectful farmer, subtle and unscrupulous thieves, that hourly bear away his property into the ambient atmosphere, or by drain, brook, and river, to the hungry ocean.

A book might very well be written to our farmers, about their manures; I, however, intend writing only an article or two on the subject for this paper. I shall not trouble the farmers with many statements about making manures—only about saving what they do make. Nor shall I ask them to read tabular lists of

chemical constituents, or bother them with the abstractions of science, or ask them to do what they cannot do, or to do any more than they now do, or to understand any difficult thing, or, above all, lay out any money.

When our forefathers came to this country they found the dykes and marshes pretty much as the French had left them. By a very short inference they found that the intervals, if cleared, would yield grass; and many strips of what they called meadow through the country also yielded grass supposed to be proper food for cattle. Then, by squatting about in such districts as these, they cut what grass naturally grew, fed their cattle in such shape as generally enabled them to exist, and, with such a residuum of manure as they found behind their barns in the spring of the year, they raised crop enough to exist in a homely and primitive manner. Some of them went a fishing.

The uplands during this time have been worked about as well as the people knew how to work them. The Highlanders cultivated these lands after their manner, the Dutch after theirs. And perhaps the Nova Scotia people at present know as much about farming as they did in Europe fifty years ago.

But within a century the science of chemistry has grown from infancy to its present stature. Within fifty years it has been applied to farming generally throughout some parts of Western Europe and some parts of America. But in Nova Scotia people do not yet much understand scientific farming. With the most of them upland is still upland in its originally wet and uncultivated state; the farmers still struggle to exist on the old water-grass farms of fifty or a hundred years ago; and they still endeavor to raise crops with the manure as they find it behind their barns in the spring of the year.

Young, Dawson, and others, have written on the subject of manures, but to little purpose. Our farmers are pretty well up in the importation and exchange of seeds and breeds. They have done creditably in fruit. They are A 1 in politics. But they don't save their manures.

Natural manures, as they are produced on the farm, are very perishable. Our business is to arrest them, that is to arrest them from perishing. To perish means that they become transformed into something else, or they are carried off not wholly changed. Further, our business is not to allow them to lie in stagnation, as some parts of them will do under certain circumstances.

Our natural barn and house manure we find in two forms—the solid and the liquid. The solid manure loses only a minor proportion by sun, air and water in the course of a single season, if retained in a heap. The liquid manure is destroyed very quickly and almost wholly, if unprotected from

the elements here mentioned, and the most valuable part of the manure is the liquid. In order, then, to save, preserve, retain, or arrest the liquid manure, we must have some means of either enclosing or absorbing it, and getting it mixed with the soil with as little loss as possible. It must be understood here, however, that the urine is to undergo certain chemical changes, requiring the presence of perhaps, sun, air, and water, which, if my opportunities of observation have been fully useful to me, will be provided for in a simple process of absorption that I shall describe.

In Britain, they have a method of collecting the urine in tanks under the stable, afterwards carrying out and mixing with a larger quantity of water, and applying it to the soil. An objection to such a method in this country would be the interference of frost. Again, the retaining vats would require to be very skillfully contrived, to ensure against loss by evaporation; for, where air comes in, water will evaporate, and take with it ammonia and carbonic acid, and other constituents, in the form of gas—in fact nearly all the valuable portion of the manure.

What I imagine now to be most necessary to present to the attention of the farmer, and which I think goes nearly all the way towards remedying the great loss of liquid manure, is the application of an absorbing medium. And in making this suggestion I know that I address principally the farmers of Colchester, whose circumstances are of this character that an absorbing material can be easily obtained by most of them, the most of them are in very bad need of the like, and a good absorbent would very completely answer their purpose.

The best absorbents I know of in this country are two—black swamp muck, and earth containing a large portion of clay. Having seen them both tried, I know them both to answer well, at least so far as I observed their operation. Some farmers have their buildings on sandy or gravelly ground, and have no convenient access either to clay or swamp muck. I should think they ought to try the British method, on some scale or other. I have been told that it is used to some extent in Nova Scotia, and very successfully.

When a farmer works mostly clay soil, some evidence leads to the belief that if he has the right kind of swamp muck convenient, he can make the best combination by its use. When dry, and placed as a receiver directly under all parts of the stable, or, as some are in the habit, used as bedding for the cattle, pigs and sheep, the capillary structure of it seems as it were to drink in the liquid, with all its richness; and the original muck is to a more or less extent itself a fertilizer, especially on clay ground. But I am not prepared to say that the muck is quite as