get their bottoms puddled by the running water. M. Richard's farm, at Joliette, is, it seems, drained to perfection by what are really water-furrows, dividing the land into ridges, 90 feet wide. Now, in a light sandy soil, like the soil of Joliette, the plan may answer, but we see by the Report of the Dairymen's Association Convention of 1897, that the feeling is that it will serve equally well on heavy land, and we were surprised to see a farmer of stiff soil, M. Timothée Brodeur, of St. Hugues, expressing himself, though with some hesitation, as being in favour of the system's introduction into farms in general.

This is what M. Brodeur said :

"I listened to M. Richard's lecture with much pleasure ; his farm I saw this morning ; a friend had already spoken to me about his 90 foot ridges, and I at once asked him : 'Do you think the plan is a good one?' "Yes, he replied ; after the explanations M. Richard gave me, I do think so ;' and I answered : "As you relate it, it is hardly a wise plan.' Now that I have heard M. Richard himself, and have seen his farm, I say that the plan is far from being a bad one.

"It is not surprising that, at first sight, one is likely to think ill of M. Richard's system. Père Lacasse himself was taken in ; he thought that the ridges in question were the ordinary ones. I saw M. Richard's farm this morning, and I confess that to see it was the chief reason that brought me to Joliette. Well ! I was surprised ; I should have seen the land better had it not been covered with snow, but I was able to perfectly apprehend M. Richard's system, and I think it an admirable one.

"I asked him : "Do you think your plan is suited to heavy land?" He told me that a M. Rivet had tried the experiment, and was quite satisfied with it. However, I will not keep on praising M. Richard's system any longer ; although it may be all very fine, it is not a lesson to be instilled into every one's mind, or that can be brought into practical working at once. I know well that, in farm work, we must always study economy."

Now, some years ago, we saw M. Brodeur's farm. Like St. Hugues' land in general, it was a stiffish clay, and consequently the owner had it all laid up in narrow ridges of some 6 or 7 feet, with water-furrow well drawn out ; in fact, it was as like one of our clay-farms in the Hundreds of Essex, England, as anything we ever saw.

There are those who assert that underdrained clays require no surface drainage, and that, in order, so to speak, to force the water from the sky to make its way into the drains regularly all over the land, it would be a vital error to allow any open furrows at all ; the field, they hold, should be ploughed flat, with a turn-wrest plough, from one side to the other. We remember, some fifty years ago, draining a five-acre piece of land in Kent, England, four feet deep, and, misled by a statement made by one who ought to have known better, we proceeded to lay it flat ; and a pretty sight the fall-wheat was when the thaw came in February ! In this country, especially, we agree with the late Mr. Edward Barnard on this point : "We aim," he said, or rather wrote, in the October Journal of 1891, "at thorough drainage, and in our climate of heavy rains and snow, water-furrows and open ditches prove useful even with the best under-drainage."

Our best heavy land farmers in England have all their land laid up in regular ridges, varying from 6 to 8½ feet in width. All the implements, whether drills, harrows, or rollers are made to fit the ridge, so that, after the ploughing is done, no horse sets its foot on the ridge. The horses in the drill are harnessed *at length*, (1) and walk up the open furrow ; the harrowing horses go one in each furrow, the harrows covering the whole ridge, and the roller is broken in the middle the horse or horses walking up one furrow and the implement rolling one half of the ridges on either side. By this method of working, the land is never "poached," an immense advantage, as the footmarks of horses in clay-soils hold water until evaporation dispels it.

Value of dung.—In Montreal, the usual contract price for the dung of each horse in the stable of any of the large carrier companies is two dollars a year. In one of the bulletins of the New York Experiment-station it is stated that the theoretical value of the manure of 1,000 lbs. of each kind of animal kept on the farm is :

Horses, kept in the stable	$19.12
Horses, at work	11.47
Cows	29.82
Sheep	38.55
Hogs	17.11

The 1,000 lbs. of living swine giving so much

(1) The shafts of the drill are *quartered*, i. e. placed on the side. Ed.