

becomes deposited over the body in the shape of fat.

Here we have an explanation of the fact, that animals well sheltered against cold, consume less food in maintaining a given condition. The animals that are too often to be seen, during the rigours of a Canadian winter, shivering against the sides of a barn, or the corners of a field fence, require all the food they can get to maintain animal heat, and even that in a very insufficient degree, leaving nothing to be converted into milk, flesh or fat. Adequate shelter, with very moderate feeding, would carry stock through the winter in a healthy and comfortable condition, and prevent the sad spectacle of so many living skeletons in the spring; a fact no less inimical to the feelings of humanity, than it is to the real interests of the farmer.

We have been so much pleased with a series of articles on agriculture, now publishing in *The Church*, written evidently by a practical farmer, that we have no hesitation in furnishing our readers with an extract or two in reference to our present subject.

"In feeding straw in the open yard economy is strictly necessary, to the extent of being sure that the supply will hold out till spring; but any further than that it is not required, as the more of it that is converted into manure the better. The ordinary way of feeding, is that of giving it in racks; but there is, perhaps, no better mode than to distribute it about the yard equally in small heaps. Fed in this way, the cattle interfere with each other less in feeding, and the manure formed will be of a more uniform quality. In none of the domestic animals is the domineering propensity so strong as in horned cattle; particular attention is, therefore, required to prevent the strong from injuring the weaker individuals. The master animals will often habitually neglect their own food, for no other purpose than to drive the weaker ones from theirs. These being thus prevented from even taking their food unmolested become dispirited, and scarcely attempt to feed in presence of the others; than which there can be no more unfavourable condition for thriving. And, as they can only venture to take their fodder after the others have done, there is nothing but the coarsest part left for them, when, on the contrary, they should have the best. Much more of the miserable order, in which many of the animals appear in spring, is owing to this cause alone, than is usually suspected by their owners.

"The care of sheep is also an important part of farm management in winter. More complete shelter from the weather than they are usually allowed is necessary to keeping them in good order. They should be kept at night, and in rough weather, under close sheds, open to the south. For food they require the best hay, on which they will thrive very well, though the addition of a few turnips will be of much service to them. It is necessary to the economical use of hay, to give them but a small quantity at a time, and a number of times each day, as they will not eat it after it has remained long before them. Feeding them on grain, is not generally to be recommended, as it causes the wool to

become loose, and is thought by some to render the successful lambing of the ewes uncertain. Pea-straw, however, that has been cut before too ripe, and partially thrashed, makes an excellent fodder, and is much relished by sheep. In this country sheep are not much subject to those diseases which often prove so fatal in some other places. By providing them with proper food and shelter, and avoiding keeping them much in low or wet ground, much need not be apprehended from that source. They frequently suffer, however, very much from ticks. Sheep, especially the spring lambs, will often die in winter from the misery occasioned by these vermin. If found to be troubled in this way, some wash or preparation should be used to destroy the insects. There is, perhaps, nothing better for this purpose than a moderately strong decoction of tobacco poured into the skin, the sheep being laid on its side, and the wool parted in several places, when the operation is performed. Three or four pounds of tobacco will form sufficient liquid for about fifty or sixty sheep. We have often known this remedy applied with complete success."

In drawing this article to a close, we may just observe, that it has been found from experience, in a country so far distant from the sea as Upper Canada, the free use of salt to all domestic animals is indispensable. It not only serves as a healthful condiment, but renders the animals quiet and easily manageable; conditions very necessary to their thriving. We beg to direct the attention of our readers to the plan of a piggery and cooking-house, found on another page. There cannot be a greater mistake, than the common opinion and management of swine, if management it can be called. Swine require vigilant attention to maintain purity of breed; and there is no class of animals that would better repay for the most diligent attention, with regard to feeding, warmth and cleanliness, matters, however, too commonly neglected.

## ON THE APPLICATION OF SCIENCE TO AGRICULTURE.

NO. II.

We come now to consider, whether a knowledge of the physical sciences—such for example as chemistry and geology—is *essential* to the successful prosecution of farming pursuits; or in other words, to the advancement of agriculture as a practical art? In relation to this question there exist many mistakes, and expectations have been held forth by scientific men and amateur farmers, which are never likely to be realised. That there is a connection, near and intimate, between science and agriculture, has been stated and proved in our previous article. It now remains to inquire, whether scientific knowledge, in the sense in which the terms are commonly understood, is an absolutely requisite acquisition to the practical farmer for the further improvement of his important art?