

## SHELTER CHEAPER THAN FODDER.

NOTWITHSTANDING much that has been written during a few years past, especially in the agricultural Journals, on the true principles of winter protection and feeding of domestic animals, there is still a great amount of costly ignorance on this subject.

Last winter we chanced upon the farm of a man who possessed a fair share of intelligence upon general matters, and we were not a little surprised to find him still clinging to the old opinion that his stock wintered better when exposed to cold than if warmly housed. He kept no account of the amount of food consumed, but his observation had taught him, and truly, that his sheep, for instance, consumed more food in a cold winter than in one of moderate temperature; and he reasoned that if they ate more it indicated better health and a faster growth of flesh and wool, and of course a greater profit.—Following out this opinion, he kept a flock of sheep in an open field, exposed to bleak winds and pelting storms. In this field he had placed a number of small stacks of hay, to one after another of which they had free access, and upon which they made rapid inroads. Their only shelter was afforded by the leeward side of these hay stacks and by the stone walls that surrounded the field, together with a grove upon the northern side that served to break off the wind from that direction, but from entering which they were prevented by the intervening fence. He was quite sure they ate better when thus exposed than if housed or allowed a warm shelter around and under the barn. His other stock were treated in a similar manner. Instead of warm sheds or stables, they fed and slept in a cold open yard. He said it kept them in better "heart," and gave them a sharper appetite. As to the latter, he was doubtless correct.

But he, like thousands of others, had drawn his conclusions from a false theory, which a few careful experiments would have corrected. He should have considered that the profitableness of keeping animals depends not upon the absolute amount of food they consume, but upon the greater or less product of flesh, wool, &c., obtained from a given amount of nutriment. Had he weighed his animals in the fall and divided them, keeping one part in close warm sheds or stalls and the other part in the cold situation, he would have found that the protected animals, while consuming less food, gained more in weight than the others, and in May or June would have been in superior health and heart. In the case referred to it was found necessary to give the sheep a dose of tar, by applying it upon the noses, in the spring, to operate as a tonic, and to counteract the "running at the nose" produced by colds, which sheep "catch" as well as men.

There is a principle or two involved in feeding and nutrition which, if well understood by all who have the care of animals, would render their labor doubly profitable. The food consumed by animals serves a double or treble purpose. It supplies the waste of the system produced by the natural wear of the various organs, and keeps up respiration and the resulting heat. What is left after these ends are served goes to increase the flesh or weight.

The wear depends upon the amount of exercise taken; hence the more quiet animals are kept after allowing just enough exercise to preserve the organs in a healthy state, the less will be the amount of food required to supply the waste.

The heat of the body results from the consumption of carbonaceous food, especially the oily and starchy portions. The union of the carbon in a tallow candle or oil lamp with the surrounding air, producing the heat and the flame, has an exact counterpart in the lungs and blood of the animal, when the air drawn in at respiration unites with the oily or fatty matter in the blood and gives heat to the system.

On a warm day not much heat is removed from the surface of the body, and the animal breathes less rapidly and fully, and less fat is consumed to supply wasted heat.

If the same amount of oily food is consumed and digested as on a cold day, there will be a larger surplus to be stored away as fat.

As a matter of course, the colder the weather, the less surplus fat or profit will be obtained from the food.

Another point usually overlooked is this: In the coarser substances, such as hay and straw, consumed by animals, there is but a small proportion of oily or carbonaceous matter, and to get at this is necessary to digest a prodigious quantity of food.—This over-taxes the digestive organs, and results in more or less debility.

We have here an explanation why a smaller quantity of meal, which supplies oil and starch, (both of which are rich in carbon, the chief heat-producing element,) will keep an animal in so much better health.

The principles above indicated, which are fully established by both scientific theory and oft repeated experiment, lead to the certain conclusion that, for all kinds of animals, whether kept as stock or for fattening, it is most profitable to furnish warm shelter. We repeat, a flock of sheep or a drove of cattle will, without doubt, eat much less food and gain much more weight if kept nearly at summer-heat during winter than if left exposed to our inclement weather.—*N. Y. Times.*