

the manure, from 90 to 95 per cent in that of the latter. ”

Working animals, as they may be called, i. e., those producing milk, flesh, or wool, yield poorer manure than those at rest ; for a full grown beast, at rest, returns all the manurial contents of its food in its dung and urine. Cows work up about 25 per cent of the plant-food elements in their diet, and of course their manure is not so rich as the manure from fattening steers, which do not retain more than 10 per cent of these constituents.

So we see that :

The value of manure depends upon the quantity of nitrogen, phosphoric acid, and potash it contains.

That the richer the food, the richer the dung.

That the manure of mature animals, *ceteris paribus*, is richer than the manure of young and growing stock.

And it must not be forgotten that, though the more water an animal drinks the less rich will be its urine, still the constituents it contains will be just the same, though of course in a more dilute state.

That animals producing milk, wool, etc., make a greater draft upon their food than fattening stock or those which are mature and at rest or working. The manure of the former will not, consequently, be so rich as that of the latter. .

We have also learnt that of the nitrogen, phosphoric acid and potash in the food supplied, by far the greater part (probably, as a rule, about 80 per cent) is returned in the excrement. Further, that both in nitrogen and potash, urine is much richer than the solid excrement, but the latter contains practically all the phosphoric acid excreted. The greater value of the urine, by reason of the solubility of its plant food, has also been observed. This fact points to the advisability of using a sufficiency of litter or absorbents in the stables, etc., so that the solid and liquid excreta may be applied together to the soil, for the best results are undoubtedly obtained by such a method.

(To be continued).

The Farm.

HEALTHY LIVE STOCK.

There are, perhaps, few departments in our social economy which have exhibited a greater display of perseverance and intelligence than that engaged in the improvement of our domestic animals. The Canadian stock owner claims just pride in his well-bred horses, the purity and renown of his cattle and sheep.

We cannot however, record the same progress or knowledge with respect to crops and land. Mere observation and acute natural intelligence, which have done so much for the improvement of stock, fail to do the same for the land and its crops, yet he is little behind his compeers in other countries in this respect. Soil, under the varied influences of climate, locality, drainage and moisture, as well as constitution, is capable of generating in the crops a nature which may not only render them valueless, but highly injurious as food. By the inelastic spirit of the laws with which the farmer is bound, he dare not exercise his intelligence with the view of improvement. This, and a host of other causes, such as the burden of taxes, state of foreign importations, prices, etc., have a material effect in crushing his spirit, and these, as comparatively modern evils, have stepped in to connect the past age with the present.

Beyond the bare fact that cattle and sheep are grown for sale, the farmer's pocket being enriched thereby, we must take into account the additional circumstance that they are grown too for human food, and the pockets of the farmer can only be permanently lined by the quality of the production. In other words, the health of the stock is of the greatest importance. If this is not good, the quality of the production is inferior; the public health suffers, the commodity is shunned for a time, and the credit of the producer is at stake. It may be thought, and indeed it generally is, that the killing of animals in the throes of death is the best and most humane way, and the sending of the flesh to the nearest butcher equally justifiable. But the public are now beginning to judge the proceeding as not only dishonest but criminal.

Hitherto, the relationship existing between the health of stock and that of the human population has not been properly understood. The depend-

