Stock.

Meat Production for Foreign Markets—3.

BY M. MILES.

As the manure produced on the average eastern farm constitutes an important element in estimating the profits of cattle feeding, it will be well to consider the method of determining the actual value of the manure obtained from the different articles of feed in common use.

The amount of nitrogen, phosphoric acid and potash contained in barn-yard manure may be assumed to represent its value as a fertilizer, as all other contained substances that have a commercial value are too small in amount to require consideration from a practical stand-point.

According to the experiments of Lawes and Tillent, but about seven per cent. of the nitrogen and two per cent. of the phosphoric acid and potash contained in the food is retained in the system of animals that are being pastured, while the rest appears in the manure.

In his report on commercial fertilizers made to the Conn. State Bd. of Agr., in 1869, Prof. Johnson estimated the value of these substances as follows :—

Potash	4	cents per lb.
Insoluble phosphoric acid	4½	"
Soluble "	12½	"
Nitrogen	17	"

Taking these prices, which are by many thought to be too low, as the measure of value, and making allowance for the percentage of these substances retained in the system of fattening animals in the experiments referred to, we shall obtain the following results :—

Crop.	Value of manure obtained by feeding 1 ton.	Estimated yield of crop per acre.	Value of manure from feeding 1 acre.	
Indian corn....	$ 6 09	50 bush.	$ 8 53	total—$16 09
Stalks	3 36	2¼ tons.	7 56	
Oats....	7 16	45 bush.	5 16	" 8 01
Straw	2 28	1¼ tons.	2 85	
Wheat....	8 69	25 bush.	6 82	"$2 14, wheat
Straw	1 71	1¼ tons.	2 14	being sold.
Peas....	13 33	25 bush.	10 00	total—$14 67
Straw	4 67	1 ton.	4 67	
Beans...	15 47	25 bush.	11 60	" 19 37
Straw	7 77	1 ton.	7 77	
Swedes.....	1 18	20 tons.	23 63	" 32 64
Tops	1 50	6 "	9 01	
Clover Hay....	9 10	2½ "	22 74	
Timothy Hay..	6 07	1½ "	9 10	

In the third column of the table an estimated yield of the crop is given on which the figures in the fourth column are based, showing the results per acre.

It will be observed that there is a great difference in the value of the manure obtained from feeding grain and clover hay, and that obtain d from feeding straw and timothy hay.

As a rule, the articles that have the greatest feeding value give the largest return in manure, so that the best results in the production of both meat and manure will be secured by a system of high feeding, which we have also shown to be the most profitable on other grounds.

It may appear to those who have not given the subject particular attention that the value of the manure per acre given in the fourth column of the table is too high, and that estimates of the results of feeding made on such a basis would tend to mislead the farmer in regard to his real profits. The same amount of nitrogen, phosphoric acid and potash in the form of commercial fertilizers would, however, cost considerably more than their assumed value in the form of barn-yard manure, which is, even at the values given in the table, the cheapest fertilizer that the farmer can obtain.

The new market for meat of the best quality that is now opened to American farmers must enable them to give greater attention to the feeding of live stock with a good prospect of remunerative results. The full advantages of this improved system can only be secured by keeping animals that mature early, fatten rapidly and furnish the best vuality of flesh when slaughtered, and by high feeding from the time of birth, which will ensure the greatest return for feed consumed and the largest supply of manure to increase the fertility of the farm.

The Rivalry of Breeds of Cattle.

Several symtoms lately go to show that the long accepted supremacy of the shorthorn is likely to be disputed in a more direct and energtic fashion than has hitherto been the case. Our columns have recorded on several occasions the affirmation of a well-known "Hereford" auctioneer respecting the intrinsic superiority of his favorite breed; and only last week, at the meeting of the Long Horn Society, Mr. Muntz referred to the milking capabilities of Bakewell's old breed, and averred that the "shorthorn men " were "entirely neglecting" this invaluable property of a profitable animal. The fact that prime Scots beef usually tops the market has long been known. And it is remarkable that even the less popular breeds are becoming much more diffused, so that of the fourteen prize Devons shown at Islington this week, only three are natives of their district, the remainder coming from various other localities in the United Kingdom. The question thus presented is an interesting and very practical one; and as year by year Birmingham and Islington bring it before us, it is natural to give it a brief consideration.

Directly we do this it is seen that the question of what breed is most profitable is not a simple, but a complicated one. It is difficult to say what might have been made of Bakewell's Longhorns by this time, if they had been cultivated with the enthusiasm and to the extent of the shorthorn; on the other hand it is easy to say—as was said the other day—that four Herefords can be fed for the cost of three shorthorns. If the three shorthorns, however, come to maturity earlier than the four Herefords, the balance may yet be on their side; and the belief is pretty general that they do. The question is, whether that belief is right or wrong? The experience of even the Northern feeders, again, seems to show that a shorthorn cross upon their favorite breeds greatly increases their feeding value; and such a fact is a strong testimony. Even were the pure Scot the most profitable beast in his own locality, it does not follow he would be so generally ; but when we find a shothorn cross even there regarded with so much favor it is plain there must be "something in it."

Yet we may glean a few facts from Smithfield which are not without interest. Taking the champion cup for best ox or steer for the sixteen years it has been given, we find the trophy now credited six times to shorthorns, thrice to Devons, thrice to Scots, twice to Herefords, twice to cross-breeds. Taking the similar cup for cows or heifers, this has gone twelve times to shorthorns, twice to Devons (once of the twice on this occasion to the Prince of Wales' high-class but small animal), once to a Hereford, once to a Scot. And the champion prize of all for best beast, long discontinued—since 1844 we believe—has now again, as at Birmingham, gone to a shorthorn. These figures are rather remarkable, and especially so as regards the oxen or steers, since it is a notorious fact tha in shorthorns far less than the ordinary proportion of the finer animals are steered at all, being kept for bulls. Some other figures are also instructive. Thus, the cup Scotch heifer—an almost perfect model, too ; *more* perfect than the shorthorn in our opinion—scales 2 lb. less than the champion lady, though three months older. And going to the oxen or steers, the following table is interesting :—

BREED.	AGE.	WEIGHT.
Devon	3 yrs., 2 mos.	14 cwt., 2 qrs., 10 lbs.
Hereford	4 " 2 "	20 " 2 " 10 "
Highland	5 " 9 "	20 " 0 " 0 "
Cross-bred	3 " 10 "	22 " 2 " 0 "

The shorthorns themselves can hardly be fairly compared, being this year confessedly inferior in quality. Yet a shorthorn is the heaviest beast in the show, and it can be seen that neither the Highland nor the Hereford will compare for weight combined with age with the cross-bred, which is the produce of an Aberdeen cow by a shorthorn bull.

On the whole, it seems to us that the shorthorn still holds its own, especially as regards its value for crossing; but, undoubtedly, other breeds are advancing, and the field is more "open" than it was some years ago. What seems imperatively wanted is more exact and actual knowledge as to the product in beef of different races upon a weighed and measured allowance of food. Such figures as the above are instructive, but they fail so far as they do not give the quantity and cost of the food consumed ; and it really seems strange that feeders should be content to leave so much to mere supposition. Profit is no such matter of mere supposition, but depends upon actual figures; and we should welcome any such bearing upon the matter in question, from any quarter, with more satisfaction than almost any other contributions to these columns. It seems forgotten by our breeders that, according to his own account at least, Mr. Bates himself based his selection of the most valuable strain of cattle ever known upon matter-of-fact experiment in weighing food, and the increase thereby of certain cows. We want similar experiments carried out more widely to-day, both as regards flesh and milk ; but the last is a separate question, closely connected with another relating to the true type of shorthorn, or other breed, which we must reserve for some other occasion.—*London Live Stock Journal.*

Water for Sheep.

It is a great mistake, and the cause of much suffering and loss, not to supply sheep with water, especially milk giving ewes. During the drought of 1868 many flocks were ruined by want of water. I know of a striking instance where the animals wasted and were sent to Chemsford market in evil condition, the owner being ignorant of the cause. The dealer who bought them "for a song," first examined the whites of their eyes, thinking they must have the rot or jaundice; but, seeing all right so far, he found that a supply of water was the only restorative required. Grass in a succulent state contains seventy per cent, of moisture but, when dried, very much less. The same remark holds good for clover, &c., When we give cake, corn, maltcombs, bran, &c., which we always do, it becomes absolutely necessary to provide water, or the animals will not thrive. Give the opportunity of judging for themselves by an always available supply, and they will exercise a proper discretion in the matter. An iron watercart is on most farms an indispensable requisite. When food is too wet and sloppy, dry cotton-cake or grain is a good profitable regulator. Turnips and mangels are disproporationately watery as food for animals ; hence the losses occasioned by them, especially with breeding sheep. They contain fully nine pints of water to one pint of dry food. Ninety per cent. of water is too much; sixty-five to seventy-six per cent. in pasture grass is the more natural and proper proportion. The human of animal frame has seventy-five per cent. of water, just as good grass holds. Meat is dear as food, because it contains, in the lean portions seventy-six per cent. of water. No wonder that bread and cheese are found far more economical.—*Mark Lane Express.*

Feeding for Meat.

The Boston *Journal of Chimistry* says poor animals consits of about two-thirds water, while fat ones only one-half, in the total weight, and compares poor animals to bog meadows. It adds, that when the fattening procss begins, water commences disappear, and fat or suet takes its place; and the increase in bulk during the process is largely of adipose matter. It is a curious circumstance that, during the fattening, the proteids or nitrogenous compounds, increases only about 7 per cent. and the bone material, or inorganic substance, only 1½ per cent.

The cost to a farmer fattening an ox is much greater at the close of the process than at the commencement; that is, increase in bulk or dry weight at that period is much more costly. If it cost 3 cents a pound for bulk for the first month after a poor animal is put in the fattening stall, it will cost 5 cents the last month. If, then, a farmer consult his money interests, he will not carry the increase in fat beyond a certain point, provided he can turn his partially fattened animals to fair advantage. Farmers have, perhaps, learned this fact from experience and observation, and hence comparatively lean beef abounds in our markets.