

First Steps in Farming—Young Man's Department.

FEEDING MILCH-COWS—CONTINUED.

HAY.—I don't like hay for cattle. What I mean to say is, that as a food it is costly compared with other kinds of stuffs. Still, it is a convenient thing, and we can't all grow straw enough to supply our beasts. Horses must have hay, and I suppose we shall have to go on making it every summer, though I confess I grudge the time devoted to it, which, in my opinion, had much better be given to hoeing corn, mangels, and turnips, on light land, and fallow-making on heavy. I shall not stop to prove that clover-hay, cut when just in full bloom, and well made, that is, with all the leaves on the stem (not on the ground), is the best of all hay. The following simple statement is proof enough.

Clover-hay.	IN 100 LBS.	DIGESTIBLE	IN 2000 LBS.
Albuminoids	15.3	10.7	214 lbs.
Carbohydrates	35.8	37.6	752 "
Crude Fibre	22.2		
Fat	3.2	2.1	42 "
			1008 "
AVERAGE MEADOW HAY.			
Albuminoids	9.7	5.4	108 "
Carbohydrates	41.6	41.0	820 "
Crude fibre	21.9		
Fat	2.5	1.0	20 "
			948 "

I need hardly say that the large quantity of digestible albuminoids contained in the clover very much exceeds in value the 3½ pounds extra of digestible carbohydrates in the meadow hay. Indeed, if you will look thoroughly at the point, you will see that meadow hay is moderate stuff; in fact, compared with really well made clover, it is quite inferior, in spite of the mixture of different grasses in it. A food quite equal to meadow-hay may be made with a mixture of one ton of clover and one ton of good oat-straw :

OAT STRAW.	DIGESTIBLE.	IN 2000 LBS.
Albuminoids	14	28 lbs
Carbohydrates	401	802 "
Crude fibre		
Fat	7	14 "
		844 "

Now, adding these constituents to the albuminoids, &c., contained in a ton clover, we have :

214 + 28 = 242 lbs of albuminoids, which divided by 2 = 121
 844 + 752 = 1596 lbs of carbohydrates " " " " = 798
 42 + 14 = 56 lbs of fat " " " " = 28

947

which does not vary very much from the composition of meadow-hay, Albuminoids 108
 Carbohydrates 820
 Fat 20

948

Thus, you see that the mixture is decidedly the more profitable of the two foods. So, if you please, we will give each of our cows 5 lbs of clover-hay, and 5 lbs of good oat-straw—cut when barely ripe—a day, in addition to the ration of corn,

pease, and linseed. What shall we do for the rest of the allowance? for as yet, we have only a 15 lb ration, and that won't fill the belly of a cow. We must be careful, for too much nitrogenous food is not desirable for such delicate creatures. The roots and cabbages will fill up and supply water—enough for fattening beasts, but not for cows—and any other bulky substance, straw, pea-haulm, &c., that can be got cheapest will serve.

Note, that where linseed is given bran is superfluous. I do not think bran ever pays, if bought at \$16.00 a ton and over, except in the obligatory bran-mash for horses every Saturday night—they must stay at home on Sunday if they eat the mash, as it renders them liable to catch cold. (1)

Having settled the amount of food, and its quality, to be given to our cows, let us now see in what condition it is to be put before them. Cooking food for cattle rarely pays: this is an axiom. Milch-cows, however, if the price of their products is fairly high, will pay for boiling a copper-full of water once a day. My own plan has always been to pour lots of water over the linseed (crushed), to let it steep for half an hour, and, then, reduce the thin soup to a thick mush with the peas and corn and as much chaff, hulls, &c., as it will absorb; so that each cow should get about a bushel of the mixture a day. If you are feeding for milk alone, the steeper the mess the better, provided always there is enough dry food given to keep the animals in good health—the dung and your judgement must be your guide in this.

But as we shall have, generally speaking, to grind our linseed up with the other grain, I fear it will be necessary to place it all together in a tub and pour the boiling water on it slowly, stirring until it is all well mixed, and then add the chaff, &c. A small linseed bruiser would be a desirable addition to the farm, and ought not to cost more than \$12.00. A bushel could be done (it only wants cracking) in half an hour, and that would last 20 cows for 2½ days. It is rather risky to send linseed to the mill; at least so says Mr. James Drummond.

Now, honestly speaking, does not this seem a more sensible way of feeding milch cows than giving them as much hay a day as they can eat? Consider for a moment what a complex thing milk is. It contains, as we have seen, all the elements of the body, and the food given to produce it should contain all those elements, too. Besides, where hay alone is given, do we not often see the animals pull one-third of it under their feet?

And don't be led away by charlatans who recommend you to feed only twice a day. Let nature be your guide in this. Cows at pasture make at least five meals in the twenty four hours; do you give yours at least three in the daytime, as, for instance :

Morning mixed ration
Noon straw and clover-hay
Night roots, cabbages, &c.

with a little straw in their racks before leaving them for the night. If the mixed ration is made in the evening, it will not have got cold by morning, if it is covered up with old cloths or sacks. Never give cold roots or cabbages to stock on an empty stomach—particularly to in-calf cows.

And having got so far, let us see what we have gained by our outlay. There is the milk at so much a quart—I can't say what that will come to, as neither quantity nor price is comeatable—and there is one thing we generally forget; viz., the dung. Mr. Horsfall, one of our great London dairymen,

(1) I repeat, for the dozenth time, that with an average of 15 horses in our stables in England we never had a veterinary surgeon called in for eleven years, reason—bran-mash once a week. A. R. J. F.