

addressed to him on the subject. The result was a plentiful crop of questions, and these, together with Mr Lloyd's replies, were read with much interest by stock-owners. Several of these queries and replies are worthy of space in this work.

Rations for Cows and Young Stock.

Mr James E. Platt, Bruntwood, Cheadle, Cheshire, submitted for Mr Lloyd's opinion the following calculations of food rations for cows and young stock, based upon Mr Lloyd's tables:—

Mr Platt's Ration for Cows in Full Milk.

		Dry Matter.	Digestible.		
			Albuminoids.	Carbohydrates.	Fat.
		lb.	lb.	lb.	lb.
30	lb. grains	6.66	1.17	3.24	0.24
10	lb. ensilage	2.16	0.22	1.11	0.06
1/2	lb. linseed	0.42	0.13	0.17	0.01
1	lb. bean-flour	0.82	0.23	0.52	0.01
15	lb. hay	11.92	0.81	6.15	0.15
3	lb. cotton-cake (decorticated)	2.46	0.52	0.44	0.01
<hr/>		<hr/>			
59 1/2	lb.	24.44	3.08	11.63	0.48

Ration for Dry Cows.

30	lb. turnips	6.00	0.65	5.30	0.05
18	lb. oat-straw	14.70	0.25	7.21	0.12
1 1/2	lb. cotton-cake (decorticated)	1.21	0.46	0.27	0.18
<hr/>		<hr/>			
69 1/2	lb.	21.91	1.36	12.78	0.35

Ration for Heifers from 6 to 12 months old.

20	lb. turnips	2.40	0.26	2.12	0.02
10	lb. oat-straw	8.17	0.14	4.01	0.07
2	lb. cotton-cake (decorticated)	1.62	0.62	0.36	0.24
<hr/>		<hr/>			
32	lb.	12.19	1.02	6.49	0.33

Ration for Heifers from 12 to 18 months old.

35	lb. turnips	4.20	0.45	3.71	0.03
14	lb. oat-straw	11.43	0.19	5.61	0.09
1 1/2	lb. cotton-cake (decorticated)	1.21	0.46	0.27	0.18
<hr/>		<hr/>			
50 1/2	lb.	16.84	1.10	9.59	0.30

Ration for Heifers from 18 to 24 months old.

45	lb. turnips	5.40	0.58	4.77	0.04
16	lb. oat-straw	13.07	0.22	6.41	0.11
1	lb. cotton-cake (decorticated)	0.81	0.31	0.18	0.12
<hr/>		<hr/>			
62	lb.	19.28	1.11	11.36	0.27

Ration Heavy Milkers are now getting.

30	lb. brewers' grains	6.66	1.17	3.24	0.24
40	lb. swedes	4.80	0.52	4.24	0.04
3 1/2	lb. linseed gruel	3.08	0.50	0.66	1.23
2	lb. bean-flour	1.64	0.46	1.04	0.03
14	lb. hay	11.13	0.75	5.74	0.14
4	lb. cotton-cake (decorticated)	3.24	1.24	0.73	0.49
<hr/>		<hr/>			
		30.55	4.64	15.65	2.17

Mr Platt says: "I should feel very much obliged if you would let me know whether you consider the portions and the rations generally will be right to use in my dairy. I keep about forty cows,

mostly large Shorthorns, and some Guernseys. The Shorthorns are big, heavy-framed beasts, and when in full milk give very often from 20 to 24 quarts a-day. My cows are exception-

ally good ones, every one being a specially heavy milker. To keep the newly calved ones up to such big results requires a large quantity of rations. Therefore, would the ration you lay down for milch cows be sufficient in my case—I mean the proportions of dry matter, albuminoids, carbohydrates, and fat? You will notice I have added at the foot of the list of tables the portions and analysis of what they are now receiving. I am much troubled with cases of abortion, and I consider we have been over-feeding, and have not the food properly apportioned, as the dry matter, albuminoids, carbohydrates, and fat seem ever so much higher than your table. Again, in my proposed table would 10 lb. of ensilage be enough with 30 lb. of brewers' grains?

"I should be much obliged, if not troubling you too much, if you would give me your opinion, and also give me a table for cows about half through their note—say, that have been milking five

to six months, and getting on in calf again. They would want, I should think, something between the highest ration and the ration for dry cows, but with the dry matter, albuminoids, carbohydrates, and fat properly apportioned. Feeding dairy cows is a very delicate process, and is not at all understood by bailiffs and head-cowmen."

To these questions Mr Lloyd replied: "The ration given in the table of standards is for a cow weighing 1000 lb. A ration containing 30 lb. of dry matter would therefore be sufficient for a milch cow weighing 1250 lb. Calculations which I have made from the statements of feeding practices prove that this is practically the same amount as Mr Turnbull and other feeders have found necessary. The quality of this ration will best be studied after placing together the quantities required according to the feeding standard and the quantities which were given by Mr Platt.

	Dry Matter.	Digestible.		
		Albuminoids.	Carbohydrates.	Fat.
Standard ration for milch cow of 1250 lb.	30.00	3.12	15.62	0.50
Mr Platt's ration	30.55	4.64	15.65	2.17

"There is a great waste here of both albuminoids and fat. The former, in fact, would have to be given to counteract the effect of the other.

"Next, as regards the new ration for cows in full milk. The proportions here are fairly well balanced, provided the linseed is not whole linseed, but "extracted," or Cleveland meal. If whole linseed is referred to, the figures given in the table are inaccurate, and must be corrected according to the analysis given. At present the albuminoids are slightly too high: they might be reduced by giving two-thirds the amount of grains, the quantity suggested being, in my opinion, rather too high, making up the loss with starchy food.

"The rations for heifers err slightly in an opposite direction: they are not sufficiently rich in albuminoids.

"In applying all these tables, it must be remembered that the proportion of food must vary with the weight rather than with the age of the animal, hence, in the table of standards, the approxi-

mate weights for which these are calculated are stated.

"It need scarcely be mentioned to a practical man like Mr Platt that there are many points to be considered in feeding besides mere chemical composition. While my paper was an endeavour to draw the attention of farmers to the chemical side of feeding, the practical needs of an animal—bulk, palatability, digestibility, and variety in the food—were not mentioned, as being familiar to my readers, and points upon which they were better able to judge than myself. Whether a ration of turnips, oat-straw, and cotton-cake would meet these demands, I must therefore leave to Mr Platt to decide. Readers of my notes must please to remember that these points, although not mentioned, are not to be overlooked.

"Next, as to a ration for cows whose milk is falling off and which are getting on in calf. The falling off in milk is partly due to the call of the foetus upon the cow, and hence upon her food. We

do not know exactly but probably it was albuminoid, so that must be well maintained. The composition of the naturally prepared both point to this. not seem wise to do shortly before calving. Considerations demand Mr Platt's ration therefore be dispensed.

Feeding in Sir John

Writing to the Sir John F. Lennard Court, Beckenham, be very much obliged me as to the food have used it for twenty. It was my have never yet found are Guernsey, all the from one cow. I have interested in the information Mr Lloyd on this point.

- 4 lb. bran .
- If pea-meal
- 4 lb. if bean-meal
- If oats .
- 16 lb. hay .
- 20 lb. parsnips
- 3 lb. cotton-cake
- 4 lb. oat-straw
- 51 lb., containing—
- If with bean
- If with oats

"The albuminoids these three rations is 5.18, with bean-meal 1 to 6.12. It will be the substitution of is not good, pea-meal is rich in albuminoids. The cause of the su evident. While it is ably more than su the constituents are to be, on an average with the standard

"This further a that decorticated proved so beneficial