

that particular breed, both males and females, which it is intended to propagate from, and maintaining the same (changing occasionally from one family to the other) in the greatest purity. He considered that the size and general appearance of a bull was not of so much importance as the general size of the family to which he belonged; and also, as it respected cows, that more perfect animals were produced by breeding from those of a small size, than when they exceeded the ordinary size of the race to which they belonged. In the management of the pregnant cow, he recommended that all petted cows, and high-bred ones particularly, when in a high condition, should have a gentle purgative administered some three or four days previously, and repeated, with moderate bleeding, immediately after calving. *This prevented dropping after calving.* Red water, he considered, was frequently caused by turning young stock that have been warmly housed during the winter, into the fields just as the spring sets in. From the hot-house system they have undergone, they are prematurely preparing to put on their summer coats, which were invariably formed at the expense of the constitution; and the exposure of their almost naked backs to cold and wet, at that period, produces frequently constitutional disturbances of the digestive organs; and red water, which is primarily a disease of those organs, and not of the kidneys, is the result. Moore, he considered, also an affection engendered by crowding young cattle together during the winter, and brought into action by exposure to a few cold stormy nights shortly after being turned out. Diseased lungs were also commonly produced by the same cause. He considered it dangerous to breed from a consumptive cow, as it is commonly communicated to the offspring. The heifer of a consumptive cow may rear her first calf, but very rarely a second one. The lecturer then described some of the pestilential low typhoid diseases, such as murrain, pleuro-pneumonia, &c. &c., and said he frequently traced their source to the crowded state of cattle houses, and the exposure of the inmates to dirt, filth, and want of proper ventilation, as well as exposure to damp and cold. He strongly enforced that all stock intended to be depastured the following summer should never be tied up in close ill-ventilated cattle-houses during the winter, but kept in small yards having sheds attached, sufficiently large to accommodate four or five steers, or two or three heifers in calf. Those yards, which are called hammels in the south of Scotland, should have a southern aspect, and the floor of the shed should be raised about two feet above the floor of the yard, and well littered to keep the young stock dry and warm. Those yards would be found convenient for many purposes, such as, summer soiling, where it is practised, &c., and he believed that few tenants would refuse paying 5 per cent. on the outlay to his landlord for the accommodation. Respecting *filling cattle*, he spoke of the new method lately introduced on several estates in this district, by feeding cattle in boxes, as on the estate of Danbuz, of Killow, Mr. W. Hodge, Callestock Veor, and the Messrs. Davey, Tywarinayle farm. He described the method of feeding, as adopted by Messrs. Davey, very minutely. The cost of each bullock was about 1s. 5½d. per day on the average. Thus—

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| 2lbs. of linseed, 41s. per qr. | d. |
| 6lbs. of barley meal, or rye, at 3d. | 2½ |
| 84 lbs. of turnips, at 10s. per ton | 4½ |
| 14lbs. of hay, at 3s. per cwt. | 4½ |
| Attendance and fuel | 1½ |

1s. 5½d.

with the linseed mucilage in a boiling state. The cattle were fed six times a day—three times with turnips, and three times with the linseed compound; and on this system they were enabled to fatten oxen, averaging 10 cwt., of the very best quality meat, in sixteen weeks. Thus the farmer is enabled to feed three animals instead of one on the old plan, and thereby make a quicker return of his capital, which was the life of trade. The lecturer said that there was good policy in using chaff, of some kind or other, as a vehicle for the linseed mucilage into the stomachs of cattle. If the stomachs of cattle were not moderately filled by a meal, notwithstanding it be a rich and nutritious diet, the muscles, whose exercise tend to produce a healthy digestion, are not called into action by the food being kept in constant motion in the stomach, and indigestion, with all its various train of evils, was the consequence. After this, the lecturer proceeded to point out many diseases in cattle produced by mismanagement in the feeding department, such as *distension of the rumen*, called hoven; also diseases of the third stomach—the *manypus*—such as *furcul bound*. Speaking of the third stomach, he said there were very few diseases by which cattle were afflicted, in which it is not involved. It was frequently diseased from being overloaded with hard, indigestible food—such as straw-chaff, fibrous turnips; and in most cases of death, which occur from this cause, portions of indigested food have been found in a hard, baked state, between the leaves of the manyplus. Respecting cooking of food for cattle, he shewed, both by the peculiar digestive apparatus of the ox, as well as by the experience of farmers, that steaming of roots, hay and straw, was unnecessary; and he strongly recommended the bruising of grain of every kind. This part of the lecture was confirmed by several experiments, lately conducted, on the feeding properties of grain of different descriptions, given in a whole or bruised state. In regard to rearing cattle, Mr. James thought they subjected themselves to great loss in the early days of rearing calves, which were generally taken from the cows when four, six, or eight days old, and then are put entirely on skim-milk. If they were allowed to remain on the cows eight days, and then had raw milk for the next eight weeks, it would make a very considerable difference in their appearance.—Mr. Kendall said that during the last fourteen or fifteen years he had bought and fed about five hundred bullocks, and had kept them as recommended by Mr. Karkeek, running in rough yards during winter, and let them go in the fields in summer. His object was never to fatten them during the winter, but in summer; and during the last fourteen years he had not lost one out of 500 animals, though he had been obliged to kill two or three. Still, if he had to fatten cattle during winter, he should keep them in the house rather than in the yards. Box-feeding, he believed, was preferable to tying up. He had known cattle that were kept in go back very much when turned out in May, but his bullocks being kept differently were not so affected by the weather; bullocks kept in the house, he thought, should not be turned out in the summer.—Mr. Karkeek considered, that cattle once tied up should remain so till sold to the butcher; and there was no doubt that cattle would fatten better if tied up in the house, or in boxes, than if kept on the hammelling system, because cold, wet, and damp produced hunger. He recommended hammelling for cattle intended to be pastured in the following season, but cattle intended to be fattened should be tied up or put in boxes. In reply to Mr. Downing, Mr. Karkeek said, that turning the cattle out occasionally in winter, when the weather would permit, which was the common practice in this county, was preferable to keeping them always tied up by the head,—but the hammelling system was better.—Mr. Kendall was of the same opinion.—Mr.

The chopped hay or straw was first mixed with the meal in a shallow wooden cistern, and was incorporated