

But which neither of these objects is in view, the tendency to gain weight in feeding requires skill in feeding to avoid.

Mr. John Gould's cows.—Every reader of *Hoard's Dairyman* must be acquainted with at least the name of Mr. John Gould, of Ohio. Mr. Baker, an Orange County farmer, has been lately paying him a visit and speaks thus of his cows and their management: They were in the pink of condition, sleek and in fine order. In winter, they are supplied with water in their mangers, are tied about the neck in a well ventilated, warm stable, not going out from fall to spring, quietly using what they are fed to their owner's profit, rather than trying to warm up the barnyard at the expense of the milk-pail.

Well, that is how a thoroughly practical farmer manages his milch-cows in winter. Now let us see how cows are dealt with at the Michigan Experiment station: In the winter, the cows are kept in box-stalls. These stalls, while affording protection from the wind and storms are well ventilated. Their temperature in cold nights dropped considerably below freezing point. Plenty of straw is used for bedding. The cows are watered three or more times daily, going to the trough in the barnyard except on the days when cold snow-storms are raging. They were allowed exercise in the yard every day, except in the coldest weather and stormy days.

We must confess that in spite of the enormous yield of milk given by the three Dutch cows under experiment at the Michigan station, of which we give an account in another column, we prefer Mr. Gould's plan to the more natural plan followed at the station. But how about the theory of feeding only twice a day? And if, as Mr. Geo. Moore tells us, a very successful farmer in the Townships assured him that if, between his cows having eaten their morning-meal and the occurrence of the night's meal, any visitor was shown round the cowhouse, he could tell by the falling off in the next day's milk yield how much the cows had suffered by the disturbance the visit had caused; we should like to know the probable loss of milk occasioned by the "three or more times" journey to the water-trough, and the exercise the cows were allowed in the yard, at the Michigan station. The modern cow, udder and all, is an artificial product, and, when once brought into milking service, must be treated artificially.

Butter.—Says the Editor of the *Country Gentleman*: Careful study of the Danish methods of butter-making would seem to be well worth while even for our (in some respects better educated and more advanced) American butter-makers. The following are the prices of the principal butters sent to the London market: Russian, 96s to 112s; Cork, 106s to 110s; Irish creameries, 110s to 128s; Paris baskets, 120s to 122s; Australian, 124s to 126; Danish, 134s to 136s." But according to the *Agricultural Gazette* of November 18th, these prices are very much overrated, the quotations of that day being as follows:

BUTTER.—London, Friday.—Irish creamery butter has been obtainable at some concession, and 108s to 112s has been accepted for superior quality, also 96s to 104s for pyramids, and 90s to 100s for dairies; but Cork brands have not undergone any material change, firsts having been wired at 103s. to 112s., seconds at 92s. to 95s.,

thirds at 81s. to 87s., and fourths at 76s. to 78s. per cwt. Danish was 10 kronor down yesterday in Copenhagen, but as the change was made mainly to meet the fall here, there was little alteration, choice casks being 106s. to 110s., and occasionally 112s., and useful quality 104s. Australian sold slowly at similar rates to Danish. French was nominally unchanged on Paris and ordinary baskets, but in some quarters extra mild was selling at 102s., and other grades down to 90s., while Saumur was 2s. to 4s. lower at 96s. to 84s.; fresh rolls, 14s. to 11s. Italian rolls, 13s. to 11s. In Dutch there was rather more doing, dairies being unchanged at 94s. to 98., but factories 2s. to 4s. down at 100s. to 104s. Finnish casks quoted 90s. to 100s., and Russian 84s. to 90s. Irish creameries quiet at 106s. to 110s.

The Danish *kroner* is worth about thirteen pence English.

Linseed-cake.—Best linseed-cake, from Western States, is worth at Liverpool \$21 36; here, we believe it cannot be bought for less than \$34 00; if it can be had cheaper, we should be glad to know of it. And yet we grow lots of flax in the Dominion!

Wool.—In England, Down teg wool (the first clip) is still hanging about at 9½d. a pound; Lincoln hoggs (same as tegs) are worth 11½d., so, long wools are worth more than Downs, which is not generally the case.

Ammonia and gypsum.—We have often expressed our doubts as to the possibility of preventing the escape of nitrogen in the stable by the use of gypsum, or plaster, owing to the difficulty of bringing a dry powder into combination with the dry dung and litter; and in this the well-known analytical chemists, Doctors Girdwood and Baker Edwards, agree with us. No one doubts for a moment that "the reaction with sulphate (gypsum is sulphate of lime), if complete, and managed as can be done in a test-tube in the laboratory, will prevent the escape of nitrogen, as ammonia, entirely. But in a stable, it is another matter." We append a letter from Mr. Monson, of the S. Eastern Agricultural College, Wye, Kent, Eng., and beg to call attention to the very trifling loss of nitrogen as testified to by Doctor Voelcker if the manure when carted or thrown out of the stables and byres, pigsties and sheep-sheds, is well mixed, made into level, broad piles, and, in the open season covered with a good layer of earth, the horses and carts passing over the mixen during the time of its construction, the loss of nitrogen as ammonia will be found to be very trifling indeed.

Loss of nitrogen.—A correspondent, having asked the opinion of Mr. H. J. Monson, of the South-Eastern Agricultural College, Wye, Kent, as to the best method of checking the loss of nitrogen from farm-yard manure, sends us the reply, which we are allowed to print:—"The loss of some nitrogen in the urine of animals in the management of the stable is bound to occur. But the loss of nitrogen in the manure heap, carefully managed, entirely without gypsum, is very little indeed (see Dr. Voelcker's remarks, and also Ho'do's, in the article, *Vinton's Almanac* 1894, you refer me to). The amount at most is 2 per cent. As the loss in the heap mentioned on page 46 is high, and as the statement is made that it was taken out of the stable and left in heaps several months, we can

only assume the heap badly constructed in such a case. It is however, the loss of nitrogen in the urine in the stable which is the trouble, and I think has not in any way been shown, so far as I am aware Müntz's experiments, page 47, were apparently not successful. Anyone knows the reaction with sulphates (gypsum and others), if complete and managed as can be done in a test tube in the laboratory, will prevent loss of nitrogen as ammonia entirely. The management of the application of gypsum in the stable is another matter. It appears to me that the cost and the care with which it would have to be applied are completely against it. Supposing you did apply gypsum in your cow stable, the first time the cows made urine the gypsum would be washed into the drains; another sprinkling would have to be applied, and soon, in fact, a boy would have to be in the stable as long as the cows.

Linseed-meal.—Mr. Stephens, in his "Book of the Farm", strongly recommends the use of cake for cows for six weeks or so before calving. And, though we never used cake, preferring the seed of the flax-plant in its natural state, or rather cracked, we do not remember ever having lost a cow after parturition. Some American writers on stock are not in favour of this food for cows about to calve, but we are glad to see the "National Stockman" taking a more favourable view of it, as may be seen below. But what does the writer mean by his derivation of the word "cathartic"? Every one knows that it comes from the Greek *kathairein*, to cleanse.

"If you have a little money that you want to spend in a profitable manner, a good way to do is to lay in a supply of linseed meal for the coming winter. It is much cheaper now than it will probably be in the winter, and it is an excellent thing to have in the fall when the fall calves are expected. I never know of a case of trouble at calving when a little meal had been fed for a short time before, and while this is not so necessary in summer as it is in winter, when the feed is almost dry, still a little is a very good thing to use at such a time." So says the *National Stockman*. "A neighbor of mine some time ago asked me what was the best thing to give a cow that had failed to drop the placenta. I told him that I did not know as I ever had any trouble in that line, but I could tell him what would prevent it, and recommended linseed meal. The medical profession generally recommends a dose of physic as a first course in certain cases of ailments that affect animals, and while Epsom salts may have their place, yet it is much better, I think, to use linseed meal and do away with the need of such medicines. The above mentioned medicines are called "cathartics," which is derived from a word in some ancient language which means to kick.

Shorthorns.—We are almost tired of trying to make the American writers on stock understand the difference between the Bates, Booth, &c., Shorthorns, and the real Dairy-Shorthorn. If "Shorthorn dairy-cows and Shorthorn grades" are not "of a milking-breed, and yet a herd of them, 76 in number; gives an average of 10,000 lbs of milk a year, we should like to know what really constitutes a "dairy-breed". It would amuse some of our English friends to read the subjoined article.

Continuous Stabling of Cows.—An article appears in the *London Live Stock Journal*, detailing the method of

keeping and feeding the cows on the Lyburn farm 'of the Birmingham Sewage Co., which should be in the hands of every dairyman in America. On this farm, in one stable, eighty-six cows are kept, and are never allowed to go out of the stables in summer or winter. They are soiled in summer and have succulent food in winter, besides which they get about eight pounds of grain per day. These cows are Shorthorns and Shorthorn grades, and still they are wonderfully productive of milk, and the flow is well maintained. Some of the cows give as much as 16,500 pounds in a year. Others, which started in after calving with a yield of fifty-nine pounds per day, have kept it up to forty pounds at the end of ten months. Not a cow is ever sick or off her feed.

This shows how profitable cows can be made by constant stabling, but the reader should not fail to note all the conditions required to obtain such surprising results. The stable is large, with an abundance of air space for the cows; they are made very warm, are well lighted and have ample ventilation. The cows are not in stanchions, or even tied, but kept in little box stalls with a separate manger in each one. The cows are well bedded and have water constantly accessible. Here is a herd of seventy-six cows, of not a milking breed, which give an average of over 10,000 pounds of milk a year, but when we contrast the most admirable accommodations and perfect manner in which they are quartered and kept, with water always before them, with the low, close, dark, cold, ill-ventilated damp stables, in which so many of our herds are kept for from eighteen to twenty-two hours per day, and that our cows are then turned out into zero weather, and too often compelled to drink ice-water, and instead of having succulent food the year round, are in the winter forced to eat dry hay, corn fodder and grain, is it any wonder that the average of our herds is less than 3,500 pounds of milk per year? Will the time ever come when our dairymen shall realize the fact that warmer quarters, perfect comfort, absolute quiet, and high feeding are the requisites necessary to get the largest production and greatest profit from the cows? Perfect hygienic surroundings and plenty of properly compounded food, and an ample water supply are more in compliance with the needs of the cow's health than exposure to cold to get a breath of fresh air and a bit of sunshine.—J. S. WOODWARD, in *Prairie Farmer*.

NITROGEN.

(Continued.)

NOTE.—In the last paragraph of the article on nitrogen in the December number of the Journal, the decimal mark of the amount of potash lost per acre in a four years' rotation of crops was so indistinct that it may be worth while to observe that the weight is 2.34, or about 2 lbs. 5½ oz. Of course, the figures take no account of the loss of nitrogen in the manure while rotting, or of the loss of nitrates by drainage. In this country, where the land is hide-bound for some five or six months of the year, the drainage loss of nitrogen is trifling compared with the loss in England, where it is supposed to be at least 7 lbs. an acre, a great part of which is compensated by the amount annually supplied by the rainfall, say 4 lbs. or 5 lbs. an acre. Also, note, that when, as in this province, land is