

The Dairy.

In Favor of Feeding Meal Alone.

Mr John Adams, of Ingersoll, Ontario, writes to Mr. L. W. Miller, of Stockton, N.Y., who has lately become famous in connection with his practice of feeding meal alone to cows, giving testimony in favor of the system. Mr Adams says:—

"In reference to how my cows have done this season, I would say that they have done as well as any season, and that some farrow ones fatted as good and early as any I ever had, and that they are all now with calf as good or better than they ever were, and are now in as good order as at any other season at this time. They did not get a fair chance last winter. My stables are above ground, and usually covered with hay or straw; and as I fed out all my hay and straw before commencing to feed meal, thus stripping them of their covering, they were terribly cold—much colder than they ever were before or ever will be again. We had the coldest winter here ever known, and the intense cold, week after week, was hard on them. I feel thankful that you have experimented so fully and been so successful, and I think you deserve the thanks of every dairyman in America. If we can winter our cows in this way, we can keep more of them, and if our stables are warm and convenient, the labor of feeding them will be almost nothing."

Mr. Miller comments thus upon Mr. Adams' letter in the *New York Times*:—"Mr. Adams also writes that he fed four quarts of meal instead of three quarts, and that his cows did not scour. If the winter had been no colder than common, and his stables warm, doubtless three quarts would have been equal and perhaps more in results than four quarts. Nature gives to all animals the capacity to digest and assimilate food in proportion to their wants. If very cold, as he describes, carbon was the most pressing want of his animals, and I should anticipate that upon his rations of four quarts they might lose flesh. The great amount of oil consumed by the Greenlanders, is an illustration of nature's laws in this respect."

Feeding Meal Alone.

Mr. L. W. Miller, of Stockton, N. Y., has issued a pamphlet on his hobby of meal-feeding, from which the following paragraphs are extracted:

Steaming is a step in the same direction as cutting and wetting fodder, and, in some respects, its effects would be more advantageous, as softening the woody fibre, dissolving the soluble parts, and rendering true digestion more easy and thorough. A saving of thirty per cent. is claimed by this process (cutting). As no nutriment can be added, the saving must be chiefly in mechanical form. These considerations lead us to the question of equivalents in the matter of meal versus hay. A common-sized animal consumes daily three quarts of the former, or twenty pounds of the latter. In the first the miller does the mechanical work; in the latter, the cow. The miller exacts a tenth toll for grinding your meal; but the cow is obliged to take more than one-half for the labor which she performs on your hay!

The constituents of meal and hay, when contrasted as equivalents, are liable to more or less error in results, from the fact that the composition of both vary, different kinds of corn yielding different quantities of any given constituents; some being much richer than others, especially in oil, starch and sugar, while hay also varies according to the soil upon which it is grown, the time of cutting, and the manner of curing. I have demonstrated by my practices, at various intervals for sixteen years, that three quarts of good Indian meal, fed under given conditions, are more than an equivalent for all the good hay you can coax a cow to eat.

I am aware that the best known recognized authorities of the world are against me. Galileo's doctrines were not more radical to his contemporaries, than mine are to-day upon this subject; nevertheless, he was right and they were wrong. Theories are sublime fallacies in the history of our race. Guessing, and taking the most important things for granted has been our bane throughout all the ages. But tests don't lie, and theories have to vanish before them.

Meal for live stock should be ground as fine as possible. Scouring is liable, if it is fed coarse. The gastric juices perform their work upon fine meal readily; and if the quantity fed at one time is not too large, not a particle can escape their action. If coarse meal is, from necessity, fed, it should be thoroughly cooked or steamed, which alone would render it equal to fine. In case it was desired to

lay on flesh or fat, either to improve general condition, or to make beef, the quantity might be gradually increased, if cooked, with but little, if any, danger of relaxation of the bowels.

The corn used should be of the yellow variety, unless oil cake or cotton seed meal is added. There should be from three to four per cent. of oil in good sound yellow corn (white corn, although it may be rich in starch and sugar, seldom contains even one per cent. of oil). This proportion of oil in their food should never, under any circumstances, be diminished, but may with safety be increased fifty per cent.; and if beef is desired, the quantity may be doubled.

The feeding should be at regular hours if possible. Habit governs the appetite and wants of the animal to a much greater extent than is generally understood. Quiet, which is essential if the best results are desired from a given amount of food, can never be secured unless the hours of feeding are regular and uniform. Twice a day, not far from sunrise and sunset, with an average of about three pints to one feed, has been the author's rule; but, if convenient, dividing the meal into three moses instead, might insure better digestion with some animals, and also obviate some of the dangers of relaxation.

As a rule the meal when fed to cows not in milk should be dry. The animal has an abundance of saliva, which is better than water to moisten it and which otherwise will be partially wasted. This also insures a slower passage of the meal into the stomach. Any device by which the time of eating could be lengthened, without diluting the food, would insure a more perfect digestion; but it should be understood that diluting food renders digestion more slow, difficult and uncertain. The dryer the food the longer will be the process of moistening it with the secretions of saliva.

Holstein Cattle.

Isaac Augur, agent of the West Pittsfield, Mass., Shakers, writes to the *New England Farmer* thus:

Having heard, from time to time, comments through the public journals and verbally, some in favour and some opposed, I offer a few remarks which have grown out of actual experience concerning the merit of this noted stock during the past eighteen months. Having owned two bulls and two cows, thoroughbred, and having seen their product in milk and butter, I feel able to say something in their favor.

One cow, seven years old in the spring of 1875, calving March 17, has given, on an average, twenty quarts per day to the present date. I tested her milk in butter from the 13th of June for seven days, during which time she made fourteen pounds of nice butter, with no extra feed and no more than a common pasture.

The second cow, six years old in the spring of 1875, calved Sept. 22nd, 1875, and after four or five days, her milk was reserved by itself and set for cream, after letting the calf suck what it would three times a day. From the surplus of seven days, I found, on weighing the butter, thirteen pounds of a fine article, and, in total quantity per day, after three weeks of the time of the calf sucking, she had averaged from twenty-four to twenty-six quarts per day of milk.

November 24th, 1874, I bought a thoroughbred imported Holstein bull, one year old past, and his gain in ten months is four hundred pounds, making an average of forty pounds per month, and not on high feed.

They are a fine growing stock, large, good feeders, and I can say, with all freedom, that they are, in my estimation, the best for market milkers, butter, cheese, oxen and beef of any thoroughbred stock now known in our country. I should be pleased to show these above samples to any and all who may be pleased to call.

Dairy Cattle.

In the course of a long article in the *Mark Lane Express*, on dairy farming, the writer compares the Dutch or Holstein cattle with grade Short-horns, to the disadvantage of the former. As an example of the deep milker, he says, the Dutch cow takes a leading, if not first, position, giving milk, under the influence of good feeding, in extraordinary quantity, and continuing it far into the season. Her milking capacity is so enormous, that she recommends herself in an especial manner to those who supply milk in large quantity to public institutions; with this single feature her usefulness begins and ends, as she is a hard feeder, consuming food in excessive quantity, and scarcely at any age compensating her owner for his trouble and outlay in feeding her.

The exactly opposite quality is found in the Short-horn, the tendency to lay on flesh being in the superlative degree; while the milking property, unless in some exceptional strains of blood, is not to be depended on, the cow of this breed, however freely she may milk for a short time after calving, being extremely apt to run dry long before the expiration of the season. Whatever the alloy, the Short-horn must now be taken as the standard breed

of the kingdom, its blood being largely infused into every herd from which a profit is expected. Where dairy business and the breeding as well as the feeding of stock are all carried on together, a three-quartered Short-horn fulfils as nearly as possible the whole of the conditions necessary to success in each department, as any slight deficiency in one qualification is more than counterbalanced by the extraordinary aptitude to reach early maturity, which is evinced by her offspring. The breed used to somewhat check the running to flesh, to assist the milking capacity, and retain it further into the season, may be found nearly in every district, often under no distinctive name but that of the common cattle of the country, and although somewhat coarse and strong of bone, will not, on that account, prove the less valuable, as their descendants will retain a portion of the hardness of constitution and free milking quality, for which features they were originally selected, long after the unmistakable impress of the Short-horn sire has been indelibly stamped on their outline and general character.

Cheese-Making in Otsego Co., N.Y.

At a late meeting of the Farmer's Club of the American Institute, the following from J. H. Rawlings, Gilbertsville, N. Y., was read:—Agreeably to your request I will tell you how that cheese was manufactured which you so highly complimented at a recent meeting. For a full-sized cheese, which is fourteen inches in diameter and four and a half to five inches thick, we take ten pails or 120 quarts of milk and set it at a temperature of eighty-four degrees, according to the heat of the season. Then annatto is rubbed in the milk, a piece about the size of a walnut. Next about a teaspoonful of rennet is put in, or a sufficient quantity, according to its strength, to coagulate in one hour. It is then carefully broken with a breaker made of wire, the meshes about one inch in size, and allowed to stand one hour for the curd to settle. The whey is then dipped off carefully and the cloth put over a box with holes in the bottom, the curd put in and crushed dry. It is then put in the tub again and broken up fine and three handfuls of Ashton salt are mixed thoroughly in. Then a cloth is put over the hoop and about two-thirds of the curd are put in and crushed nearly dry, then broken an inch or two deep and the remainder added and crushed or squeezed dry. A clean, dry cloth is put on then, the cheese is put in press for twelve hours, taken out and salted and a clean cloth put on and put in press again for three days. Every night and morning the cheese is turned and salted. The press weighs about 700 pounds. The cheese is then taken out and put in strong brine for twelve hours, then washed clean and wiped dry and put in the airing room on shelves and turned every day for three months. After that every other day. But no rubbing or greasing is allowed whatever, if rightly made and well taken care of. If any milk is left over, it is put into pans, then skimmed, warmed and the cream stirred in again and mixed with new milk enough to make another cheese. There are some very essential points connected with cheese making which must be observed in order to be successful. First, it requires good feed and water and plenty of it. Second, that all utensils used in making cheese should be kept scrupulously clean and must be attended to at the right time. Like many other trades, making cheese must be learned by practical experience more than by theory.

THE LARGEST RECORDED YIELD of a single cow that is perfectly reliable and well authenticated, is that of an animal kept in the jail at Leves, England. In eight consecutive years she gave 9,720 gallons, or an average of more than 1,210 gallons a year. She was milked, one year, 328 days, and gave 1,230 gallons, which made 450 pounds of butter, or at the rate of a pound of butter from twenty-two pounds of milk.

THE ESCUTCHEON OR MILK-MIRROR.—Prof. Fuerstenberg says:—In superior milk-cows, which possess a fine skin, the udder consists almost solely of glandular substance; and this is covered with fine, soft skin, coated only with short, fine hair. The escutcheon is large and extends as far as the mammary glands extended backward before the descension of the udder. The mammary glands, if well developed, reach with their posterior branches upward to the vulva, and sideways to the inside of the thighs; hence we find, in animals with large and well-developed mammary glands, the limits of the latter, on those parts named, distinctly marked by a difference in skin and hair, which constitutes the border of the escutcheon. These limit-marks remain on those parts (thighs and perineum), while the udder descends in consequence of the weight of the glandular substance, and of the milk accumulating in the lactiferous tubes, and gathering thereby, partially on account of the growth of the animal, a considerably larger extent. We find, therefore, already in heifers which excel afterwards as superior milk-cows, a large escutcheon, for the original posterior (lactiferous) tubes or ducts, and the thereon forming glandular substance, extend far backward and upward.