

THE DAIRY.

ITEMS IN DAIRY MANAGEMENT.

Prof. Sheldon, the eminent English dairy authority and lecturer upon dairy management, has recently been delivering a series of lectures at South Kensington. We notice that he was profuse in his references to the way dairying is carried on in this country, a knowledge of which he gained during his visit here a few months ago. Of the influence of food on the butter product he says that the proportion of butter in milk is much more easily influenced by changes of food than is the proportion of casein; so that it followed that the nitrogenous is more constant than the non-nitrogenous matter. Thus the improvement of milk is more in the direction of an increase of fatty matter, and less in that of an increase of cheesy matter; therefore the high feeding of cattle is more advantageous when the milk is used for butter than when it is used for cheese. On the Derbyshire hills it is a common saying that "the poorest land made the best cheese." Paradoxical as this might be, it is absolutely true; although it assumed that the poor land is sound—i.e., that it requires no artificial drainage. Cheese produced upon such land as this, if properly made, would be better than that produced upon richer soil. The quantity per acre is less, but the quality is superior. The reason of this is supposed to be that the grass grown on rich land contained a much larger proportion of the elements which go to form fat, while that grown on poor land contains a larger proportion of the elements which go to form flesh, from the latter of which cheese is made. Another consideration is that it is a much simpler and an easier thing to make good cheese on sound poor land than upon rich land.

He had known dairymaids make cheese successfully for years, and then utterly fail, without any apparent reason. One of the principles which should be borne in mind was, that the composition of milk might be raised or lowered by the composition of the food given to the cows. Mr. Sheldon impressed upon his students the extreme importance of keeping all vessels and appliances scrupulously clean. He then said it had been estimated by a German friend of his that in a pan of milk containing four per cent. of butter, there were forty thousand millions of cream globules. These rose to the surface simply because their buoyancy was greater than that of the milk which contained them. Their density, however, varied a good deal, for while some came to the top others remained stationary, and yet others sank to the bottom. It was still an open question whether they had any covering, but the consensus of opinion was in the affirmative. In shape they were generally oval, but never angular. He had no doubt the open pan system was the one that would ultimately prevail, and it was upon this principle that the finest butter he ever saw in his life was made. The Swartz system of raising cream was not undeserving of commendation, but it was not likely to come into general use, because of the difficulty of securing ice just when it was wanted, viz., in the height of summer. The American Cooley creamer was an ingenious arrangement, and might be relied upon for keeping cream perfectly cool in hot weather, but in neither of these contrivances did the cream separate so well as in the open pan; and it was, therefore, always very thin. In America, he might mention, they made two or three qualities of butter from the same milk by skimming off the cream and then leaving the milk to stand until a fresh layer had formed. Another objection to the two machines he had mentioned was that the cream in rising was exposed neither to the atmosphere

nor to the light, the latter of which was necessary to the development of colour in butter.

Whether either of these is destined to become a popular and permanent institution, he should leave it for time to disclose, but he might be permitted to say that the centrifugal cream separator, which was one of the most wonderful inventions of modern times, would in all probability supersede all other methods in large dairies. He did not think the invention would come into use in small dairies, because a steady motive power, like that of steam or water, which would not often be available under such circumstances, was needed to drive it, hand-power being insufficient, while horse-power was too irregular. By means of this separator, perfectly sound cream could be obtained from perfectly fresh milk, no matter how hot the weather. It also extracted a larger proportion of cream from a given quantity of milk than any other process, only one-quarter of one per cent. being left behind, while frequently the percentage was as low as .15; and it was said further that a quart of cream obtained in this manner produced eighteen ounces of butter against sixteen ounces obtained from cream under the open pan system. Dr. Voelcker had said that the finest butter was made from perfectly fresh milk, and with a little modification this was no doubt right. It was true that perfectly fresh milk would make perfectly fresh butter, but then perfectly fresh butter was a little insipid; that was to say, the flavour, which was a product of incipient decomposition, was not fully developed. The Americans attach a great deal of weight to what they called the ripening of the cream. The cream should not, therefore, be churned directly it was skimmed, but should be allowed to stand a little while, the flavour being acquired better at this stage than after the butter had been made. The white flecks sometimes seen in butter were either the remnants of caseine, or were caused by strong rays of light falling upon the cream. Each day's cream should be kept separate until the time came for churning, but before churning the various accumulations should be well mixed together, and be allowed a little time to amalgamate. Inferior butters were now being thrust out of the market by oleomargarine. This was made from the fat of animals, melted down, and divested of all the fibre or stringy matter, the fat being churned with milk or buttermilk. As a matter of fact it was not butter at all, but he preferred it to inferior butter.

So far, butter factories had not succeeded in England, but in America they were very common, and were conducted in the same way as the cheese factories. The farmers sent in their milk or cream, and the butter was made upon the most approved principles, and in immense quantities, so that a large quantity could be supplied of one uniform quality, by which a difficulty was obviated that had to be encountered by our butter sellers, who complained that the butter of no two farmers was ever alike. Having recommended the use of cream gauges, and stated that he had known the milk of a Jersey cow to register twenty-five degrees, while sometimes the figure was so low as seven, the lecturer came to speak of cheese-making, in relation to which he said cleanliness was even more consequential than in butter. It was matter of common notoriety that the making of cheese in England was rapidly declining, and probably the time would come when it would cease almost entirely. It was not far from the truth to say that they made only two-thirds the quantity they made ten or fifteen years ago, and by those who were able to make the comparison it was alleged that the cheese of the present day was decidedly inferior to that of fifty years back. If this were so, it was to be traced in the first place to high flavouring, and in the second to loss pains.—*Prairie Farmer*.

THE CHEESE TRADE.

Bradstreet's says of the cheese trade. If prices are low, we may expect an increase in the percentage of exports. If cheese remains high, we must rely more largely upon our home demand; and, so long as home markets will take and consume it, they certainly form the healthiest and most substantial basis for trade. The make of cheese is rapidly increasing every year, the amount manufactured last year being estimated by good judges as something like 400,000,000 pounds. The shipments from New York amounted to about 183,000,000 pounds, and, if we add to this 27,000,000 for exports from Boston, Portland and other ports, it will make forty per cent. sent abroad, leaving sixty per cent. to be consumed at home. This estimate is probably not far from correct. So long as this proportion of home consumption can be maintained, it is possible that prices may be maintained also. But in a year of tremendous production, like that of 1878, our factories would be largely dependent upon the foreign trade, and in that case a break in prices would be inevitable.

BUTTER TESTS.

Reports of butter tests of Jersey cows begin to come in. The value of the little butter cow can be shown in no more convincing way than by thus proving what she can do. W. B. Montgomery, of Mississippi, reports that his cow Maggie 9255, gave, from March 21st to the 27th inclusive (seven days), 235½ lbs. of milk, which made 14 lbs. 2½ oz. of butter. She is Southern bred. Sire, Nelusko 479; also sire of Gilt Edge 2nd 4426, record 14 lbs., dam. Lucky Belle 2214, daughter of Albert 44 and Pansy 6th 38. R. McMichael, Lexington, Ky., reports a butter test of two Jersey heifers. Almah of Oakland 11102, dropped March 14, 1880, by Pandors of Staatsburg 3rd 6497, sire Thorndale 2582. Almah dropped a fine h. c. March 6, 1882, and up to the time of calving gave between one and two gallons per day. In seven days in the latter part of March she made 14 lbs. 5 oz. of butter. Gold Princess 8809, dropped May 4, 1879 (out of Goldie C. 8104, sire Charley Kitteredge 1247), dropped a b. c. Feb. 5, 1882, and in seven days, near the close of March, made 14 lbs. 12 oz. of firm and well worked butter. She weighs 560 lbs.—*Breeder's Gazette*.

What a man can do in North-western Iowa raising cattle, is exemplified in the case of John Lemp. In 1865 he moved from Michigan to Sac County. That year he bought one cow of Jno. Alexander. From that cow he has raised \$1,200 worth of cattle, and has now fifty-three head, worth, at a low estimate, \$1,100, making \$2,300 worth of stock; and during that time he has sold \$1,000 worth of butter, making altogether from one little scrub cow in fifteen years the snug sum of \$9,300, besides supplying his family with milk and butter, and sour milk for the pigs.—*Sac Sun*.

Two farmers were recently comparing the yield of milk from their respective herds for the past season. The receipts of one were about a third more than those of the other, and the latter said: "I cannot understand this—my feed, my water supply, and my cows are as good as yours." The reply was—"Yes, but when my milkers go into the milk barn to milk, they understand that it means business. I tell them my milking barn is no place to tell long stories and spunk the hired girls. I won't have a poor milker around at any price, and if I catch a man striking or maltreating a cow, 'off goes his head.'"