

## THE DAIRY.

## GETTING THE CREAM.

The best process of making sweet butter, or more properly sweet cream butter, is as follows: For this product the cream, whether in dairy or creamery practice, is almost universally obtained by the cold process, and the milk should be set as soon after it is drawn as possible, and promptly cooled. The use of covered vessels should be avoided. If the vessels containing the milk are surrounded by cold water or cold air, there is no possible advantage in their being covered, while the quality of the butter is impaired by the means. Not only is the quality of the butter improved by exposing the milk and cream to the action of free air, or air from which the vapour has been condensed by contact with ice or ice-cold water, but the flavour and aroma of the butter are improved. No funnel, tube, or other attachment to any form of cover ever yet began to remove nearly all objections to it.

In the Danish practice, the milk is set cold, and skimmed at twelve hours. In many dairies, and indeed it is claimed to be the more general practice, the milk is skimmed twice, only the first skimming going into the sweet product. The cream from the morning's milk is kept cool over night, and the next morning mixed with that from the evening's milk. It is then put into warm water and the temperature raised to 52° Fahr., stirring it meantime to make sure that it is all evenly tempered and aired. It is churned in a geared churn with vertical paddles, driven rapidly for forty minutes, during which time the temperature rises to 59° Fahr. No water is allowed to come in contact with it at any time. If it is desirable to fill up the churn, new milk is used. For rinsing down the churn, skim milk entirely sweet is used. When the butter comes in little pellets it is "sieved," or as we should say, it is collected on a hair sieve, through which the buttermilk is strained, then carefully hand worked till the residue of the buttermilk is extracted, and gathered into little lumps of two or three pounds. It is then weighed, and salt to the amount of three per cent. of its weight sprinkled over it, when it is piled up and left to become solid and for the salt to draw any remaining particles of milk. It is next cut across the lumps, mixed, and the salt worked into it. If it has become soft in the process of working, it is broken up and placed in a tin vessel, with sticks to keep it from contact with the tin, till it becomes firm. It is then rolled with plated rollers a few times, packed in wooden tubs and sent to market. There it is graded, resalted and tinned, after which it goes to the ends of the world in perfect condition.

In making Petersburg butter, which is a popular European sweet-cream butter, the cream is heated to about 160° Fahr., being frequently or constantly stirred. It is then cooled to a low churning temperature and quickly churned. The subsequent treatment is not essentially different from the Danish. It is considered by connoisseurs much the finest butter made.

In making American sweet-cream butter the process of manufacture does not materially

differ from the Danish, except that it is generally washed and rarely worked by hand. It is perhaps more generally made of the cream taken off the milk to be made into cheese in the two-product creameries. The stock from which it is made is unquestionably superior to the Danish, and with the same care and labour bestowed upon its manufacture, it ought to be the better article. That it is not is the almost unanimous testimony of commercial men and experts.—*Live Stock Journal*.

## DAIRY FARMING.

... Dairy farming is naturally divided into three great classes—butter making, cheese making, and milk selling. Probably the order of development, in time, is as given. Butter making is one of the oldest of arts, and is practised in almost every country in which the cow is domesticated. Cheese making is also ancient and widespread. Milk selling, as a prominent feature, is found only in countries with comparatively densely populated towns and cities. In the last twenty years this branch of dairying has not only grown enormously with the growth of our cities, but its methods have greatly changed. Instead of reliance on dairies kept in or near the cities, the great mass of the milk now supplied to our great cities is carried by steam cars from farms in the surrounding country, some of them fifty or sixty miles distant. This change is almost as striking as is that from the manufacture of cheese and butter exclusively at the farms to their manufacture in large establishments handling the milk from a score or more of farms.

... If we seek reasons for the good profits which dairy farming, wisely pursued, has generally given, we will find that dairy products are not only in constant demand, but that the demand is increasing; that there is great difference in the quality of these products, with corresponding difference in price, and consequently even greater difference in the profits; that cheese is well adapted for export, and it and butter, from their small bulk in proportion to value, are well fitted for comparatively long shipments. Perhaps more important than any of these reasons is the fact that the dairy farmer must necessarily give constant, daily attention to his work, and that this work gives room for as much skill as does any branch of farming; more than most other varieties.—*Breeder's Gazette, Chicago*.

## THE "COMING COW."

The position that the "coming cow" is to be one well adapted for both beef and milk production, we believe to be correct, if it be not pushed too far. There is an increasing number of dairy farmers who find it best to give almost exclusive attention to the quantity and quality of the milk given by their cows; caring little about their merits as beef makers. So there are beef-producing farmers who properly count it a disadvantage if a cow gives a large flow of milk. This is true on the western plains. It is true of such farmers as J. D. Gillette, who only ask of a cow that she shall produce and feed a calf each year. But both these classes form but a minority of cattle raisers. The most successful dairymen and the producers of the very finest beef ani-

mals may be found in these classes; but the great majority of cows and of steers for beef are, and long will continue to be, raised by men who cannot afford to ignore either the milk-giving or meat-producing quality. For such men the popular breed must be one with deserved claims to good quality in both directions. It is quite possible that several breeds may, in the future, be claimants for highest merit for this double purpose, but the course of breeding now adopted by the special friends of most leading breeds is calculated to develop one of these qualities at the expense of the other. The Short-horn has never been surpassed, if equalled, as a "general purpose cow." Ought she to lose all reputation as a dairy cow?—*Breeder's Gazette, Chicago*.

## MILK.

There is much to be learned yet concerning milk. We know that milk is not a filtration, but is manufactured within each division of the udder, and is therefore variable according to the working power of each separate factory. We know there is a difference, through analyses of the milk of each teat separately, as such analyses have shown a variation in physical constituents as well as of structure. We also note that what effects the efficiency of the factory has also a perceptible effect upon the milk. It is this relation between the milk and the cow which causes the dairy cow to exist, and which enables us to say boldly, that breed is superior to feed. On account of this structural relation of milk, its secretion becomes influenced by heredity, and the breeder is enabled to add up qualities through successive generations of selection, even as the book-keeper adds up his successive items in the column of his ledger, in order to obtain the total results. The heredity of the wild cow has not been selected in the direction of milk. The cow in a state of nature yields milk, but in the presence of her calf. The dairy cow, however, the creation of the art of man through the process of selection, has had successive advances in milk-giving added on to each generation, until, unlike the wild cow, the dairy cow yields milk to man, irrespective of the presence of the calf to excite the flow. The wild cow may be fed the most succulent and milk-promoting foods, and yet she gives no profit to the dairyman. The dairy cow, however, responds to feed in milk to a greater or less extent, according to the heredity of the milk secretion which she represents.

Under this condition, we should expect to find phenomenal occurrences in our individual cows, such as excessive yields of milk, of butter, or of cheese; yields prompted either by accidental circumstances, or else through what we must call the accidental accumulations of heredity in some special direction. Thus, in my past experience, I have known the milk of each teat of the same cow to vary from twenty-four to forty-two per cent. of cream; and one day the milk of a cow, which usually only marked from thirteen to fifteen per cent. cream, gave distinct definition of sixty per cent. of cream. Thus, some Jersey cows have yielded as much as three pounds of butter a day, or more; thus some cows have a record of rising 100 pounds of milk a day for several successive days.—*From (N.Y.) Experiment Station Bulletin*.