



The Dairy.

English Cheese vs. American Cheese.

[BY JOSEPH HARRIS, OF ROCHESTER.]

I find from the last London *Mark-Lane Express* that English cheese is quoted at 12½ cents to 15 cents per pound, and American at only 8½ to 11½ cents per pounds—the English cheese bringing 4 cents per pound more than the American. Now this difference in price is enormous, for it must be recollected that the increase in price is all profit. I do not know how much profit you ordinarily make on cheese, but at present rates I should not estimate it more than 2 cents per pound, after allowing a fair compensation for labour, etc. Now if American cheese in England brought the same price as the English cheese, that is, 12½ cents per pound more than at present, the profit would be three times as great—for the cost of sending it to the market would be the same in either case. John Bull is a great cheese eater, and he will be very glad to get his cheese from this side of the Atlantic if he can get it a little cheaper than it can be had anywhere else. I think it may safely be asserted that in everything that relates to the mechanical operations of cheese making American dairymen are ahead of the Old World. I have visited the best dairy districts of England, and have seen nothing to be compared with the appliances used in the neighbouring counties of Lewis and Herkimer, and I doubt not in St. Lawrence, also. Take Rowe's Western Reserve Cheese Vat and there is nothing equal to it in the world, unless you have something better in this section. With such an apparatus and one of your simple mechanical presses, cheese making is nothing but a pleasant pastime.

Come with me into a Cheshire dairy. It is 5 o'clock in the afternoon, and punctual to a moment the cows, forty in number, are brought to the yard and tied up. The mistress and her two stalwart maids, with a man to help them, sally forth with their clean, bright tin pails. Now all is still, not a sound is heard save the dropping of the milk as it flows regularly and rapidly from the udder to the pail, which is held up from the ground firmly between the knees of the miker. An old man carries in the milk to the dairy, and by 6 o'clock the forty cows are milked, and stripped, and on their way to pasture. Four o'clock in the morning finds the maid and her mistress in the dairy taking off quickly and almost shyly—for she is a little ashamed of it—the cream from the surface of last night's milk. It is then put into a large, round, heavy, old-fashioned cheese tub—a portion of it being heated by putting it in a tin standing in a cauldron of boiling water. By 5 o'clock the old man has the cows again in the yard, and by six the new milk is in the tub mixed with that of last evening, and with the portion that has been heated. The whole is at a temperature of about 82 degrees. The rennet is then added; the tub covered with a cloth, and they then sit down to breakfast.

In an hour the cheese has come. It is then carefully and gently cut up into small, square pieces and allowed to settle. As it settles the whey is dipped off with a wide, flat-bottomed, shallow tin. When nearly all the whey is thus removed, the tub is tilted on one side and the curd placed so as to allow the whey to drain off. A semi-circular board is placed upon it, and two fifty six pound weights are put on the board to press out the whey. The curd is then placed in a cloth and put under a hand-press, and pressed till it is quite dry. It is then taken out, broken up and salted, and placed in a cheese mould with a cloth around it. It is now ready to be pressed, but where is the press? There in the corner stands three large square blocks of stone, the lightest weighs perhaps half a ton, and the heaviest three or four tons. These are raised by means of a common screw. The freshly made cheese is placed under the lightest one and remains there till the next morning, when it is taken out, skewered, and a dry cloth put around it, and placed under the next heaviest press. The next day it is again removed, the cloth changed, and then placed under the heaviest press. *Three days to press a cheese!* think of that ye cheese makers of St. Lawrence, and bless your stars that you were not born in Cheshire? You congregate the milk, cut up

the curd, scald it, draw off the whey, break up the curd, salt it, put it in the press, pull down the lever and the whole is done. Unquestionably the American process, so far as mechanical appliances are concerned is the more scientific. And the fact that American cheese has retailed higher in the English market than the best Cheshire, proves that cheese can be made by this process of the highest quality. The differences between the two processes are, first we scald the curd; and second, none of the whey is pressed out before the curd is salted. The process of scalding renders the curd firmer, and the consequence is that less labour and time are required in pressing. Scalding is, in fact, a quick way of pressing. But there is danger of scalding too much on the one hand, and pressing too little on the other. The higher we scald the less we need to press; but I am inclined to think we scald too much and press too little.

The chief fault found with our cheese in England is that the whey is not all removed. Thus Dr. Voelcker, Chemist to the Royal Agricultural Society, has recently analyzed cheeses made in different districts in England, and also some from America, and he found one of our cheeses was full of holes, badly made, and had a very strong smelt. It was evident, he said, that the whey was not carefully pressed out in making. On the other hand, he analyzed one American cheese which he says was as nice as could be desired—exceedingly rich and of good flavour, but on the whole he came to the conclusion that good materials were even more thoroughly spoiled on this side of the Atlantic than in England. I think that the evil lies not in the method we adopt—for I am satisfied that that is excellent—but in the want of due care in carrying it out.

But the one grand error in American cheese making, is the want of care in not ripening the cheese before it is sent to market. We all know that there is considerable difference between a good pear and a mellow one, between a Baldwin apple now and after it has been kept a few months to ripen. So there is much difference between curd and cheese. The curd is the green apple, the cheese the ripened fruit. If you were going to send hay to market you would not send the green grass fresh from the field, and yet you often sell your cheese when it is as green as grass. In the Cheshire dairy, to which I have alluded—and which was celebrated for its cheese—none was ever sold until it was six months old. The cheeses were kept in a moderately warm room until thoroughly ripened and cured, with that outside mould so indicative to a practiced eye of a rich, fine flavoured cheese. I think this selling cheeses while still little else than curd, and allowing them to be jolted and jammied, and exposed to the greatest variations of temperature, is enough to spoil the best cheese that ever was made. The wonder is, not that cheeses so treated sell for 4 cents per pound less than the carefully ripened Cheshire, but that they sell at all.

Winter Butter-Making.

At a recent meeting of the Eye Farmer's Club, Mr. Horn read a paper on "Dairy Produce and Management," from which we take an extract relative to butter-making in winter:—

"During the winter, our cows are fed on roots and chaff in conjunction; the first part of the season on Scotch yellow turnips or Swedes; after Christmas on mangolds. Those in full profit receive about 5 lbs. of cake or corn in addition. It is when fed on roots that the care and experience of the dairy-maid are put to the test to produce a good article. Our dairy people maintain that if we send the milk into the dairy free from taint, they will produce butter agreeable to the palate; therefore, when the cows are on roots we invariably use a small quantity of saltpetre put into the milk warm from the cow, in order to dispel any effluvia the roots may produce. Care must be taken not to use too much; if so, the butter will taste rancid; say an ounce to every 30 gallons. We shall now go into the dairy, and, to use an Irishism, we don't allow the butter to spoil before it is made; that is, stale vessels taint the milk, or stale milk taints the cream, and tainted cream will not produce first-class butter; and as our object is quality before quantity, our customers being rather fastidious in taste, we must endeavour to produce a sweet article. The milk is first creamed at 24 hours, and again at 36; in so doing, both milk and cream keep sweeter than if only once creamed at 36. We churn three a week. We use no artificial colouring. Our spare butter goes to a 'West-end Miss,' at prices varying from 14d. to 17d. per lb. There are many 'ifs' and 'ands' in order to make good butter where cows are fed on roots; but the dairy-maid claims them as her knowledge of the art, and which would be tedious to describe. Gentlemen's dairies are in

season with home farms." Neither are proverbial for large profits. However, while our injunctions are to produce a first-class article, we at the same time have an eye to profit. Our dairy of milk cows are 24, and they cost us for dairying and attendance 24s. or 1s. a-head per week; and on examining our dairy-book for 1862, after deducting said labour, I find a credit of £10 standing for each cow. Do it remembered, we wean a calf for each cow in addition.

Churning.

Butter exists in cream in the form of minute globules surrounded by a thin film of casein, and to obtain the butter we must first break this film. This may be done in two ways, either by agitating it, or by heating it. There are several conditions which influence the time required for separating the butter by churning; and if these are fully understood and complied with, there will be little or no trouble in getting butter to come. The main and most important condition is the temperature of the cream when it enters the churn; there seems to be a certain medium established, and it seems to make but little difference whether the temperature of the cream is above or below it, there will still be the same trouble in breaking the casein which envelops the globules of butter. The cream when poured into the churn should not have a higher temperature than 55°, not a lower one than 53°, when put in at this temperature it will rise from five to ten degrees during the operation of churning.

Another important condition, which does much to influence the time required for separating the butter, is the state of the cream when it is put into the churn; if sweet, it will require much longer than if sour, and it is an established fact that before butter can be made the cream must be sour, and if it does not reach this state before it goes into the churn, it must and will afterward, or no butter will be obtained. Some of those who always take the premium at our county fairs, always churn sweet cream to obtain it, and I have often had this thrown in my teeth when advocating the above doctrine, but that does not controvert my argument, for before the butter separates it does get sour. A thermometer hanging in the room where the cream is kept will indicate the temperature of the cream at the time, and this may be either raised or lowered to about 54° after it goes into the churn, by adding cold or hot water as the case may require, while the churn is in motion.

The time occupied in churning has a great effect upon butter, and also upon the temperature of the cream in the churn. If the cream is at 55° when put into the churn, very fast churning will raise it too high, and soft, light-coloured butter will be the result, especially in warm weather; in cold weather the motion should be faster, in order to keep up the proper temperature. Even when the churn fails to separate the butter, we have one unfailing agent left in the form of heat, which never fails to burst the films of casein, but will not produce an article fit to be called butter—but it can be put to uses known to every good housekeeper. Some are in the practice of churning the whole milk; in this case it should have a temperature of at least 65° before going into the churn.—*Germanstown Telegraph.*

Shallow Milk-pans Best.

It is a very common practice to set milk for cream in deep pans, the milk being from four to five inches in depth. This is a great mistake. Half the usual depth of milk will yield more cream, of better quality, and in less time. Deep pans economise room, and cost less than a larger number of shallower ones, but what is gained on the one hand is lost on the other in the smaller quantity and inferior quality of the cream obtained. On this subject Dr. Voelcker in the *Agricultural Society's Journal*, after expressing his preference for "tinned-iron cisterns" as being more easily kept clean, goes on to say:—

"The quicker cream can be made to rise the better its quality; for cream, like all perishable substances, does not preserve its original properties for any great length of time. The cream, or rather milk globules, being lighter than the fluid portion of milk, necessarily arise in a shorter time from a less depth than from a greater depth, because they have less pressure to overcome than those in the deeper strata; the action is also more complete, as well as more rapid, in shallow vessels. There is another reason for preferring shallow vessels. Milk as it comes from the cow has a temperature of about 90°. If kept in this condition for any length of time, air being freely admitted, it rapidly turns sour. Hence it is of consequence to reduce it as rapidly as possible down to a