

The Dairy.

Choice Table Butter.

By the Hon. Clark King.

(Read before the Agricultural Meeting at Wallfield, V. S.)

In order to make a choice tub of butter, at all times see that your cows are provided with the best kind of food for that purpose. In summer when your cows are at the pasture, let them have the best pasture you can provide. As a rule, a dry pasture which lies high and rolling produces the best grasses for butter making; it makes a yellow, fine-grained, sweet tub of butter, while a low, swampy pasture, full of foul grass and bushes, makes a much poorer grade. Such pastures are not fit for the dairy. A moist pasture, if not too wet, may produce a good quality of grass, and in such pastures good butter can be made; but my experience, after dealing in butter some ten years and manufacturing butter during this time, has taught me that a dry pasture, producing sweet qualities of grass, is the kind for dairying. At this season of the year, when the cows are stabled, and during the spring, when the cows are giving milk, give them the very best quality of early cut hay, and a fair amount of meal, each day. Corn meal is the best, and any green fodder or roots which are of good flavor will also be good to feed them when giving milk.

Give your cows warm stables, milk as regularly as possible, and milk clean. After the milk is drawn set it away, after it is thoroughly strained, in a good milk room, which must be kept sweet and clean. All odors, from whatever source, must be avoided, as cream on the milk is tainted very easily by smoke cooking of various foods, odors from the sink and other places. The milk room should be kept at a high temperature for the cream to rise well in the cold weather, and in warm weather kept as cool as possible. Many times the cream will not half rise on account of the extreme heat, and a good share of it is thrown to the pigs.

There is no doubt but that the large, patent pans now coming into use, with pipes carrying cold water around them so as to cool the milk and take out the animal heat as soon as set for the cream to rise, will prove to be a great improvement. Those who have used them consider them an improvement, and say that they paid for first cost in one season. They made good butter during the hottest weather last summer, and a good cream rose all through the extremely hot, damp weather. I had several dairies of butter made from those pans and the cooling apparatus the past season, which proved to be excellent. Doubtless these pans for setting milk will soon come into general use by good dairymen, as thereby a great amount of labor is saved as well as good butter made.

Always skim your milk before the cream is thinned. As a rule, skim it just before it sours, or as soon as it begins to sour on the bottom of the pan. No time can be given to skim milk after it is set which will always be reliable, as milk rooms vary somewhat in temperature; but never fail to skim it while it is sweet and before it becomes tainted in the least. Here is where dairymen must not neglect the care necessary for producing choice butter. Here is where many dairymen make a mistake, in letting the cream stand on the milk too long; and the result is a common tub of butter—or even worse—i. e., a poor tub of butter which nobody wants.

After your cream is taken from the milk, churn it in good season, taking care always not to let it stand too long before churning. Use a churn with as little machinery as possible. The plain churn, with the least number of floats, is the best for manufacturing solid butter.

Never salt your butter too much. An ounce off salt to 1 lb. of butter is enough for butter made to keep through the season, while from $\frac{1}{2}$ and $\frac{3}{4}$ to 1 ounce is enough for the market, when the butter is soon to be used. In fact, light salted butter commands the highest price where it is sweet and new, and this is a fact for good dairymen to be sure to remember.

The working is another very important part to be performed in the manufacture of butter. Great care must be used to work it enough and then stop; and to do this requires close attention. Before working the butter, it should be thoroughly washed in good, pure water, until you can see that you cannot do much more to cleanse the buttermilk from the butter. As a rule, I find the finest butter where the maker works the butter twice before putting the same into the tub for market. The butter is taken from the churn and salted, and worked enough to thoroughly work in the salt, then set away over night, the next morning taken up and worked until it is clear from

buttermilk. Then it is ready for use, either to send to market, or to keep through the season. I consider the use of a butter-worker the best mode of extracting the buttermilk, although fine butter can be made by working with the hands, if they are not so warm as to injure the grain of the butter. A sponge can be used with good success in connection with the butter-worker, to soak up the moisture in the process of working. After your butter is ready to pack, get a nice clean tub or box to pack it in, as a clean package is always desired by the purchaser. Never put good butter into an old, dirty tub, but give your butter the best tub the market affords. It will pay well in the end, and will be money well expended.

After you have succeeded in making a choice tub of butter, it is always wanted at good prices in the market, and you can readily find a purchaser for all you can manufacture, from the fact that so little excellent butter is made at present. A choice tub of butter at this time is sold for 40 cents in the market, while a good fair tub brings 35 cents per pound, and a common one 30, a poor one 25, and so on, down to grease price. A difference of 5 cents per pound is well worth a good amount of time spent to make a choice article. As there are over 100,000 cows kept in the State of Vermont, and the annual product of the same will average 150 lbs. from a cow, or more, let us calculate the difference of 5 cents a pound on the whole amount made in the State. Reckoning 150 lbs. to the cow, 15,000,000 lb. would be manufactured annually, and a difference in price of 5 cents per lb. would make an addition of \$750,000 to the annual wealth of our State—a fine increase to record in the manufacture of butter. If we only take as much pains in this branch of farming as we have done to improve our breeds of sheep and cattle, the thing will be done, and when once done, it will pay so well, there will be no danger of a reaction as in the sheep business, from the fact that every tub of choice butter is at all times in demand at good prices, there not being enough of such butter made at the present time for the consumer. And to review what I have said in detail, allow me to say, keep no poor cows, and only those that make good firm yellow butter. Keep them well, both summer and winter. Use great care in cleanliness in every stage of the manufacture of this product. Have a good milk room, keep it perfectly sweet and clean, and follow the best modes of making good butter; and if you do not succeed, then go to those who do succeed and find out their method, and in the end you will certainly come off victorious. And now, brother farmers and dairymen, let us all resolve to accomplish the art of making choice butter.

Short-horns as Milkers.

At the Short-horn Breeders' Convention held some months ago at Cincinnati, Dr. Stevenson, a large breeder, read a lengthy essay on the above subject, from which we glean the following:—He said that the principal difficulty heretofore in adopting the Short-horn cow as a dairy cow has been her high price. Cheaper cows can be used that will give as much milk, for in this respect he claims no superiority, but that they are fully the equals of any other breed. The earlier English breeders used these cattle for milk as well as for beef. The tenant farmer of England, twenty years ago, used these Short-horn cows for dairy purposes, and raised their fine calves "by hand," or on skimmed milk, flax seed, tea, and other suitable nutritive food, that the milk might be sold, or butter and cheese. That Short-horns are good milkers every one who has given them a fair trial will testify. Go to those districts of Ohio and Kentucky where they have been most generally bred, and breed longest, and where nothing can be found under a high grade, and you will find the milking qualities of their cattle unsurpassed. There is probably no state in the Union that has more Short-horns and that uses so much milk as an article of food as Kentucky, and it may be said truthfully that physically there is no finer race of men; and Short-horn milk is entitled to a large share of the credit.

I trust, he added, it will not be considered egotistical for me to speak of my own experience with Short-horns as milkers. I have been using them for milk for upwards of thirty years, and have found them good milkers, although we have, it is true, used the milk for the family only, which has, however, always been a pretty large one. I have found a difference in the quality as well as the quantity of the milk, and this is doubtless the case with other breeds. I have an old Short-horn cow now giving milk. This cow, from age and some deformity, and her poor condition, was not thought worth offering at any sale. She is, however, a fair average of my cattle as a milker, and I propose to base a few calculations upon her. She calved the first day of February; her calf is now ten months old. She has con-

sequently been giving milk the same length of time. She gives one gallon morning and evening, or two gallons a day. Now if we will put this cow a milk at double the quantity for the first three months, she will have given in this time (three months) 360 gallons, seven months more at two gallons per day, 420 gallons, or 780 gallons in ten months. This at 20 cents per gallon, would amount to \$156. In four years it will amount to \$624. This, added to the first calf, the value of Mr. Bridge's steers sold last year—2,012 pounds at \$8, \$161.96—will give \$316.96. Now, as we have three calves on hand, we will sell annually for milk and calves \$316.96. But to multiply our stock, ten cows and their milk and calves will give \$3,169.60 annually. Now it is this that enables many English tenants, in a great part, to pay high rents and make money. We ask the attention of farmers to the consideration of this subject.—Ohio Farmer.

Home-made Cheese.

By O. S. Ellis.

A farmer who keeps six cows ought never to be without cheese for his table, and unless situated conveniently near a factory where he can have it more cheaply made than at home, it should be made there. Indeed, many farmers who carry their milk to the factory during the season may at its close make their own supply of cheese with profit. A very good article of cheese may be made from only two cows, and families who keep but two or three cows cannot make a more profitable use of milk during the cool weather in the fall than to convert it into cheese. The milk should be set in the common pans in as cool a place as may be at command until there is an accumulation of several days' milk. The object in setting it in a cold room is to prevent the rising of the cream, and to preserve the milk until enough is saved to make it an object to work it up. Before the oldest milk begins to turn the whole lot is skimmed up, and set in a large brass kettle. A clean new wash-tub, which has not been painted on the inside, would be preferable. A few pans of the newest milk are reserved and placed over kettles and pans of hot water on the stove, and when heated, added to the mass in the kettle till the whole is brought to the uniform temperature of about 85°, or a little below the blood heat. A portion of a well-cured rennet, about the size of three fingers, should be soaked over night in warm water, which is poured into and mixed with the milk. To determine just the amount of rennet to be used is one of the most difficult things in the whole process. The curd should "come" in about forty to forty-five minutes. If it comes too soon the first time, less rennet must be used next time. If it is too long coming more must be used. Where cheese-making is an every-day business, a different process of preparing the rennet is far preferable; but where the cheese is "run up" only occasionally, here is no other way than to prepare the rennet for the occasion. When, on running a finger or two under a portion of the curd and gently raising it, it readily breaks or splits, it is ready to be cut. This should be done with a long thin wooden knife, cutting the whole curd from top to bottom into squares of about two inches. After it has stood in this condition ten or fifteen minutes the curd may be carefully broken up with the hands, care being taken not to squeeze it. In a short time—say, ten or fifteen minutes—the curd and whey will have become sufficiently separated, so that a portion of the whey may be dipped off and heated in the same manner as the milk was in the beginning. During this process of dipping off the whey the curd may be gently broken up into lumps about the size of chestnuts. This done the heated whey may be gradually returned to the tub if the mass is of a temperature of 95° to 100°, or at "blood heat." The heat must be raised somewhat slowly, the curd meantime being stirred and broken. The curd may now be left "to cook" for thirty or forty minutes, when it should be again stirred and broken until it has a firm consistency. When on taking a handful of the curds and squeezing them firmly they drop apart on relaxing the hold, they are ready to be removed from the whey. A cloth strainer is then thrown over them and as much of the whey dipped off as is convenient, after which the strainer is spread over a basket or a low-sided box with a bottom of narrow slats, and the curds are put into it to drain. When thoroughly drained and aired they may be salted with four or five ounces of salt to ten pounds of curd. The whole should be thoroughly and intimately mixed and broken up, when it will be ready for the press. Formerly it was supposed to be necessary to press the cheese to get the whey out, such, however, is not the case with well-made cheese. The object in pressing it is chiefly to cause the particles to adhere and make a homogeneous mass. The size and form of the cheeses is a matter of taste. Per-