

should be more compact, his joints more firmly knit, and his general appearance denoting the possession of great power in comparatively small compass, and he must be thorough-bred.

What, then, has been said as to the shape of the hunter and riding horse applies equally to the cart horse with the exception of the shoulders, for whilst you cannot well have the shoulders of a riding horse too oblique, those of the cart horse ought to be more or less upright, so as to allow him to throw his weight into the collar. It is equally important with cart horses as with owners, that attention should be paid to their breed, selecting those that are remarkable not only for their form, but for the hardness of their constitution, and for their activity.

Our Native Cattle.

To the Editor of THE CANADA FARMER :

SIR.—As I scarcely ever see anything in THE CANADA FARMER about our common native cattle, but a great deal of blowing about the Durhams, Galloways, &c., I will give you my opinion about them. It is well enough for men that have warm and commodious cow-stables, root-houses, &c., and that raise plenty of roots to feed through the winter, to keep these choice breeds of cattle, but for the majority of farmers throughout Canada, including myself, who let their cattle run out in the barn-yard, through our long Canadian winter, and feed nothing but different kinds of straw and chaff, with a little hay through the spring, the native cattle are best. I believe the Galloway breed of cattle to be hardy, and better suited to Canada than the Durhams. A cross between them and our common cattle does well. I have wintered some half and three-quarter bred Durhams, in the yard with our common cattle, they had just the same chance, shelter, food, &c., and when spring came they were nearly a-lifting, when the others were quite strong. Now, Mr. Editor, I think if people would pay a little more attention to the management of our common cattle, raise their bulls from select cows, and cross them well, it would improve them very much, and that we would have a breed of cattle hardy, good milkers, &c., that would come up to any of the improved breeds of cattle in the country.

Some farmers when they go to our provincial fair and see the sleek thorough-bred cattle of different breeds, the large year-olds and two year-olds, become prejudiced against their own cattle. I advise them to take it coolly, as they could easily blot some of their own up to as great a size, though perhaps not so perfect a form, if they would give them two cows' milk, from the time they are two weeks old, until weaned, and then stick to them with ground grain, good pasture, roots, &c., but they generally think it is all in the breed, and would rather give from fifty to a hundred dollars, for a yearling bull to improve their stock, than pay a little attention to raising one of their own, and as for our provincial fair, in the cattle department, I would call it a fair of fat cattle, as they are all "beef to the ankles like Brown's cows." I see that the Board of Agriculture will give power to the judges this fall, to reject over-fed cattle. I consider this perfectly right, as I have seen cattle at our exhibitions, so fat, that though panting and with their tongues hanging out, they could not walk a snail's march. Yet they were shown for breeding cattle. G. W. D.

York Township.

NOTE BY ED. C. F.—No doubt our native cattle are capable of being greatly improved, not only by more care in breeding, but more care in wintering them. What hinders our correspondent from furnishing shelter, roots, &c., even for his common cattle? Running in the open barn-yard, with no feed but straw and chaff, until towards spring, is not giving them a fair chance of competing with improved breeds. Though it is not "all in the breed," some of the secret of raising first-rate stock is in the breed, and \$50 or \$100 for a choice young bull is not a bad investment by any means.

DURHAM CATTLE IN FRANCE.—M. Jemet thus gives the position of the Shorthorns in the opinion of the French :

"I witnessed the sale with great satisfaction, in consequence of the high price at which Durhams were sold, and which showed how they are now appreciated in France. Some twenty years since, it was possible to impose on the French public, by erroneously criticising the Durham breed, and 'breeders of the cabinet' treated the predilection of the supporters of this splendid race as a ridiculous infatuation. But now impartial men admit that what was once styled an infatuation, and which has increasingly gained ground during a quarter of a century, is in reality a just appreciation of the high value of Shorthorns."



The Dairy.

On Churning.

A talented Frenchman once wrote a pamphlet upon the proper manner of blowing out a candle ; and I suppose the reader will consider his book and the heading of this article to be paralled cases, and exclaim, "Why, everybody knows how to churn." But I think a careful examination will show that everybody does not know how to churn, or rather how to produce butter from cream, or we should have less growling from the "guidewife" because the butter would not "come." All who have had any experience in the matter know the apparently perverse nature of butter ; at times it will come (that is, separate from the buttermilk) in a few minutes, and sometimes will not come at all. This and many other curious facts may be made clear by a little careful investigation in the matter, which, with thy permission, friend editor, I propose to make.

The butter exists in the cream in the form of minute globules surrounded by a thin film of casein, and to obtain the butter we must first break the 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 thoroughly 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 envelopes the globules of butter. The cream when poured into the churn should not have a higher temperature than 55° nor lower than 53° ; when put in this temperature, it will rise from 5° to 10° 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° or 55° ; 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. I have known entire churnings to be thrown into the hog-tub because one or two of these necessary conditions were not complied with. Even when the churn fails to separate the butter, we have one unfailling agent left in the form of heat, which never fails to burst the film of casein, but will not produce an article fit to be called butter—but it can be put to uses known to every good house-keeper.

Some are in the practice of churning the whole milk ; in this case it should have a temperature of at least 65° before going to the churn.—DAIRYMAN, in Germantown Telegraph.

How Philadelphia Butter is Made.

THE PROCESS.—After the milk is drawn from the cows it should be strained into pans properly arranged on a bench for the purpose, with a small quantity of fresh sour milk in each one to hasten the raising of the cream, which should on all occasions be taken off from thirty to thirty-six hours after being milked, it being found that by standing longer in a large dairy, more is lost by deteriorating the quality of the butter than is gained in quantity. When the cream is skimmed off the milk into a large cream-pot, it should be put in the butter-hole in the spring, and let stand one day, and then skimmed off, so as to remove any sour milk that may have settled from it to the bottom of the pot, and should be subsequently stirred every day until churned, to prevent rancidity from taking place on the top of the cream by too long standing, which is the main cause of all the stony butter that is made. The cream should be churned twice in the week during the summer months, and all the year where there is a sufficient quantity to warrant it. The temperature of the cream and churn should be about sixty-two degrees, so as to ensure the butter to come right, and in the proper length of time, which should be about thirty minutes. There is as much danger in having the butter come soft by over-churning as by the atmosphere being too hot. In order to regulate the temperature of the cream in the fall, winter, and spring, it should be set in a tub of hot water until it comes to the temperature above designated—the butter broken in the churn to the size of peas and chestnuts. The buttermilk should be drawn off through a fine hair sieve from the vent of the churn, which should be about an inch hole. A sufficient quantity of spring water should then be put in, and a few revolutions of the churn, when it should be drawn off, and then another quantity of spring water put in, and tumbled in the churn until gathered into a mass. The water should all then be drawn off, and the butter cut into cracks, as it lies in the churn, to receive the salt, which should be a pint for fifty pounds, regulating below that, or above that, according to the quantity churned. The butter should then be tumbled in the churn until the salt is mixed with it, and it will then do to take out in 10 or 15 pounds, and lump into pounds, ready for sponging, which should be done by having a sponge of proper size enclosed in a linen cloth and passed over the lump, by pressure, to absorb the brine and moisture it contains, which should then be weighed and printed as intended for the market. The sponge should be frequently squeezed out of cold water as dry as possible, during the sponging and weighing of fifty or one hundred pounds.

REMARKS.—The butter maker will see the advantage of this mode of salting and working butter over any other mode, and particularly of the lever or worker as it is called, from the fact that less of it is exposed to a warm atmosphere at a time, as it must necessarily be where fifty or one hundred pounds are operated upon a broad surface, making the butter soft and oily, which is detrimental to its quality, however carefully attended to, from the time the milk is taken from the cows. The above plan was perfected by experiment by me, and carried out for a succession of years, as thou knowest, with a success as to quality and sale of my butter not surpassed by any one at the time I was operating.—H. EAMES, in Royal Advertiser.

GOOD COWS.—Mr. Eliza White, of Hallowell, writes us he has a cow seven years old, which produced in 11 months—from May, 1863, to April, 1864—257 lbs. of butter. We have also before us an account of the product of two cows owned by Mr. John Given, of Newport. One was eight, and the other five years old. The two produced in the year 1863, 351½ lbs. of butter, and also ten new milk cheese. The cows calved in May, and had no extra feed. During one week in June, the milk of the old cow was set by itself and produced twelve pounds of butter.—Main Farmer.

THE QUANTITY OF BUTTER INCREASED BY WATER. A New York dairyman furnishes the following advice for the *Genesee Farmer* :

"There has a great deal been said about butter-making, but I thought, as I had had a little experience I might offer a few hints that may be of use to some of your many readers. When cows are feeding on dry feed, the milk is thicker or richer than when feeding on juicy grasses ; then add warm water, when setting the milk, in quantities sufficient to make it as the milk from ordinary cows in May or June. The milk from some cows in the spring and summer months is very thick or rich ; then add cold water, if the weather be hot. I have practiced the above, and it has increased the quantity from one to three pounds per cow, each week."