

The Dairy.

Short-Horns for the Dairy - Breeding Dairy Cattle.

As is well known, the Short-horn or Durham cattle were once distinguished for their great milking qualities, but lately in consequence of the celebrity attained by them by the development of their beef qualities, the value for the dairy has been overlooked. But, though the Short-horns have received attention mostly for their meat qualities, the milking strains are still in existence, and their qualities have been fostered in the same manner, though not to the same extent as have the qualities of the beef cattle.

The average dairyman of the present day will smile at the suggestion of a Short-horn bull for his cows. But there are many of the most intelligent men in the profession who know the value of the milking strains of Short-horns, and who use every endeavor to secure bulls from them. Hon. Harris Lewis, of Herkimer Co., N. Y., has been engaged for some years in the task of breeding Short-horns to milking qualities. The *Utica Herald* says that his experience was this:—He first purchased Orono Duke, bred by Jonathan Talcott, of Rome, N. Y. This bull was calved May 10, 1867, got by Ellsworth (1780), out of Oxford Lass, by Echo of Oxford (12,521 A. H. B., vol. 9, No. 8,714). His next purchase was Prince of Herkimer, bred by A. M. Winslow & Sons, of Putney, Vermont. Prince of Herkimer was got by Earl of Scandinavia (9,977), out of Lilac by Earl of Carlisle (2,081, A. H. B., vol. 12, part 1, No. 15,211). Prince of Herkimer was descended from milking stock on both sides, and all his get have been good milkers. He died last spring from injuries received from a scrub bull all well to do, and large in the neighborhood by its owner.

The result of this introduction of pure Short-horn blood was the great improvement of Mr. Lewis' milking stock and the growth of a dairy of grade cows which surpassed in milk yield anything which Mr. Lewis had kept before. His factory dividends were very high, and his dairy very profitable. The lesson which he read from his experience was that if he had done so well with grades which embodied pure breeding in but one side, he could do better with a stock of thoroughbreds. Following the selection which led him to the purchase of bulls of milking strain of Short-horns, he purchased females of like ancestry. Mr. Lewis' son became associated with him, and they bought seven thoroughbred females. In the fall of 1873 they purchased of A. M. Winslow & Sons "Countess" and "Lady Mary 2d," and in the spring of 1874, Hetty 2d, Hetty 3d, Hetty 4th, and Hetty 5th, of Charles F. Wadsworth, and Pearllette, of James W. Wadsworth, of Genesee, N. Y.

These cows are all good milkers, and form a good milking ancestry. It is the opinion of Mr. Lewis that with the ten females they now have, and with ordinary success in breeding, that within a short time and without further outlay, they will have a milking herd of thoroughbred Short-horns equal to any herd in the country, embracing a like number of animals. More than this, he will develop their capacity for the production of milk, and it is because of this object in view that we have taken such interest in his enterprise.

Mr. Lewis has selected the short-horn, after a long and careful investigation of the subject, as the breed that will procure the best results in all the branches of the dairy—producing the greatest amount of milk, butter, cheese and beef for the food consumed of any breed we have.

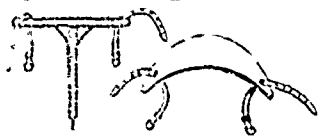
And yet Mr. Lewis does not advocate the short-horn under all conditions. He believes that no one breed of cows will answer on all farms and in all localities. The large breeds producing the best results on productive and moderately level lands, and the small breeds doing the best on steep side-hills and scanty pastures. For butter only, the Jerseys would be his first choice; for butter and working oxen the Devons, and for the production of milk the Ayrshire and Holstein.

The CANADA FARMER is of opinion that there is a sure road to wealth and celebrity in the instituting of the breeding of cattle for the dairy. Any dairyman who is possessed of the requisite knowledge of stock can, by persistent and intelligent breeding of his cattle to a milk test,

in a little expense, get up a reputation for his stock that will cause a demand for his calves, bulls and heifers, far and near. At present, it is too usual a thing for a dairyman when he has a good milker, to milk her as long as she will give milk, and never to raise a single calf from her. That is not the policy which will pay in the long run. Milking qualities are hereditary, and good milkers will raise under such treatment. Good milkers should be bred to bulls of good milking families. The most promising calves should be kept and not deaconed ruthlessly, as is now often the case with good and bad alike.

Milking Stools—Milking Kicking Cows.

A *City Gentleman* correspondent who wanted to know how to make a milking stool that will protect the bucket from the kick of a cow receives the following reply:—The best thing I ever saw in the shape of a milking stool is in use by our Swiss dairymen about here. The stool is in the shape of a crescent. The stool has but one leg, with a spike or nail in the end of it to keep it from slipping; a hole is cut through each end of the seat about four inches from the end, and straps are passed through them. The milker fits the stool to his seat, and buckles the straps tight around his legs. He walks about with



the stool attached to him. The milker holds the bucket between his knees.

Their method of keeping a cow from kicking is to my mind the best I have ever seen, being easily adjusted and reliable. Take a stout cord about three feet long, with a small loop in the end of it; pass the cord around the hind leg, just above the gambrel joint; run the end through the loop, and pass the end around the other hind leg, just above the gambrel joint. Pass the end under the cord by the loop; pull taut and make fast with a bow-knot. When adjusted, the rope forms a figure 8 about the legs, and draws the hind legs close together. A cow never struggles but once against this persuader, and if the cord is not too new and hard, it cannot hurt her.

Preserving Butter with Salt.

In answer to an inquiry made by O. C. Blodgett, Secretary of the Chautauqua Dairyman's Association, Prof. L. B. Arnold has prepared an extended review of the chemical uses of salt in keeping butter, from which the following extracts are condensed.

In answering the question, "How does salt preserve butter, meat and other putrescible substances?" I might well assume the Yankee prerogative and answer it by asking another, to wit, Does salt preserve butter?

This question needs to be answered first, and I would like to see the evidence by which an affirmative reply can be demonstrated.

Modern investigation has shown that the changes which occur in fermentation and putrefaction are caused by the growth and multiplication of organic germs, either vegetable or animal, or both, the germs to support their own growth, using a part of the substances affected, and this proposition is now so well established that I may assume its truth. The changes in fermentation and putrefaction closely resemble each other. Plants, as well as animals, require nitrogen. When germs feed upon carbohydrates and find their necessary nitrogen in something else, as upon carbohydrates combined with a small amount of nitrogen, carbonic acid gas is evolved from the changes which take place in the carbohydrates, as when sugar is changed into lactic acid, or that acid into alcohol, or the alcohol into vinegar, etc. When germs feed upon meat or other albuminoids, nitrogen in some form is also given off, giving rise to strong and offensive odors. The former is characterized as fermentation, the latter putrefaction. Salt preserves by counteracting, in both cases, the incipient development of the germs which occasion the changes. It does not do this by reason of any chemical change produced by the salt in the substance to which it is applied, but simply and solely because its presence is so adverse to the incipient development of the germs which would otherwise develop, multiply and destroy. The whole power of salt as an antiseptic lies in this fact. But its action is not always the same in cases of fermentation and putrefaction. In fermentation it seldom entirely checks incipient germ growth, it usually only retards, and often actually stimulates such development, while it is very constant in checking incipient putrefaction. I have said that the presence

of salt was adverse to incipient development of germs. I wish the expression kept distinctly in mind, for it is only in the incipient stage that it has power to preserve. If by any means the germs, in either case, get a little start, salt is powerless to check them. If a piece of rancid butter, ever so small, is placed in contact with a package of sound butter, it will soon spoil the sound butter, no matter how well barrelled.

If a barrel of meat is packed in brine as strong as it can be made and in every way put up so as to keep safely through a three years voyage, it will spoil in a little while if a piece of decaying meat is put into it no larger than a thumb. When germ development once gets a start, it so modifies conditions that it can go on in spite of the presence of salt. This is well known, and it is also well known that in a good many cases of fermentation it stimulates germ growth instead of retarding it. The use of salt in preparing certain varieties of bread yeast is a familiar example.

Salt is not so powerful an antiseptic as we would be apt to infer from the extensive use made of it. There are others much more effective. The putrefaction which salt cannot hinder may be stopped at once with a little carbolic acid, or creosote. The fermentation which salt allows to flourish, may be stopped at once with the sulphides of lime and soda.

When salt is applied to butter, it acts like a mordant upon the coloring matter of the butter, giving it a deeper hue; otherwise it appears to remain only mechanically mixed with the butter, for by washing in hot water the salt may be separated from the butter without any appreciable loss, and so also if the fatty parts are taken up with ether, the salt will all be found in the residue.

Upon the preservation of butter salt exerts but very little influence. The keeping quality of that luxury depends much more upon other conditions than upon the action of any fancied variety of salt. Butter is subjected to change chiefly by the action of germs which lodge upon its surface from the air, which develop and multiply, and, filling the mass with their presence, work its ruin. Exclusion from the air, therefore, proves a more perfect preservative than salt.

The principal use of salt in butter is for seasoning, and for this purpose it is only necessary that it should be chemically pure. If it is pure, one salt is as good as another, but its purity is a matter of the first importance. If we cannot expect much from salt by way of preservation, we ought to be sure that it contains nothing positively injurious.

There is no salt that I know of which is absolutely pure. All the varieties in use contain more or less foreign matter from which it is very difficult indeed to free them. The most objectionable of these foreign matters is chloride of calcium. This acts directly on butter greatly to its injury, both in regard to flavor and keeping. It is most cautiously to be guarded against. But any compound containing lime which is liable to dissolve in water, is also objectionable.

BUTTER-MAKING.—It is time to skim when the fingers can be drawn through the top without having the cream close behind it. When cream will do this, it is about ripe enough to churn. When cream foams in the churn, it may be cured by warming. Cream should not be churned as soon as taken from the milk. It should be stirred and allowed to ripen all alike. This will occur in twelve hours or so. But cream should not stand until whey is formed in the cream jar.

SPAYING CATTLE FOR THE DAIRY.—The *Missouri Farmer* says that a great many yearling heifers are annually spayed in Missouri. The time most generally adopted is in early spring when the grass is sufficient for them to live without other food. The heifers thus treated universally make better cattle than they otherwise would do, and are more valuable than they would be as cows. The inferior heifers should always be selected, and they are as valuable for beef as the best steers. Our cotemporary has seen cows spayed at two years old that continued to give milk until very old age. They, of course, gave more in early spring than at other seasons of the year, but we did not see that they gave less in the same length of time than those with calves. They evidently fatten more readily than cows do that are raising calves, and consequently should be more thoroughly milked and fed less than such cows.

HOLSTEINS FOR THE DAIRY.—An Illinois farmer, who has had fifteen years' experience in dairying, and who has found out in that time that good cows are hard to get and often deceptive in appearance, writes:—In looking around for a remedy, my attention was called to the Holsteins. I was pleased with their large, fine appearance and style, showing fine milking qualities; but having been so often deceived in appearances, I was inclined to fully understand their merits before making the necessary large expense, and to give them a practical trial. Preparatory to this I examined most of the larger herds in this country. After the most thorough examination I concluded they were preferable to any of the other milking breeds of this country, so much so that I bought two bulls and five females. I was so well pleased with them that after one year's milking, and losing one of the best ones by death, I this spring bought two imported heifers, and have now about forty half blood heifers which I am raising for my dairy.