

THE DAIRY.

PRACTICAL SUGGESTIONS IN WINTER BUTTER MAKING.

TEMPERATURE FOR THE DAIRY.

By the dairy is meant some room set apart for the milk, for churning and working the butter. In this room the temperature is everything, and the successful churning and making of the butter will depend very much on the temperature of the milk and the cream, when the latter is being churned, since the transformation of the cream into butter is chiefly a chemical process brought about by the agency of heat in connection with the breaking up of the butter-cells by the dashers of the churn. With most farm dairymen the common practice is to set the milk in shallow pans, especially in winter, and, if this be done, the temperature of the room should be from fifty-eight to sixty-two degrees; possibly sixty would be the best. However, if deep pails are used and set in water, the temperature of the room should be about forty-five degrees, this temperature being sufficient to throw the cream up quickly and also completely. The temperature of the cream in the churn should be from fifty-five to sixty degrees. Many a "hard" churning might be avoided by having a good thermometer in the room, and also one for testing the temperature of the cream. We must lay aside our old-fogy ideas about churning "as it happens" and bring common sense into action.

"WHITE CAPS" IN CREAM.

Flecks, white caps, or false butter, as these specks are variously called, are more common in fall or winter, when cows are "drying up," or in the heat of summer, when their udders are liable to become inflamed. In stating this we have given one of the probable causes of the origin of these specks—viz., some irregularity of the milk-secreting organs of the cow, which produces faulty milk; for they never appear, it is said, in milk that is in a perfectly normal condition. Again, white caps are most likely to appear in milk that is not artificially cooled, so to speak—i.e., by any other agency than the temperature of the room. When the cold-setting system is practised, they scarcely ever appear. From what has been said it will appear that keeping the cows in good, healthy condition and setting their milk in deep pails, in water, are the surest preventives for the trouble. Then the cream should be gently stirred every day after skimming, previous to the churning, which assists in preventing formation of the flecks. If, by chance, any of these flecks get into the butter, the latter ought not to be packed for market with that which is free from them and otherwise in good condition. Just what these specks are cannot be definitely stated; but the nucleus or centre of each little mass contains some organic germ, which, by the action of warmth and from other causes, undergoes a putrefactive decay. They develop in milk, as well as in cream.

THE USE OF ANNATTO.

We are all aware that when we speak in favour of "colouring butter," there will be many who will object to the practice, saying they do not believe in changing what nature ordains; yet, whatever one may think concerning the butter he uses on his own table, that which goes to the market will bring him a little better price if it has somewhat the appearance of June butter, instead of that of lard or tallow. As the feed of the cow is changed from grass to dry hay and grain, the colouring pigment which she secretes takes its departure, and the butter grows whiter every day, until, as one writer expresses it, a man "soon finds that he tastes quite as much

with his eyes as with his tongue." The harm in using annatto to colour butter lies in using it to excess. Pure annatto is made from a seed or berry of a South American plant or tree called the Anatto tree (*Bixa orellana*) or, rather, from the pulp surrounding the seeds. That which is most pure appears in commerce in small lozenges, and some comes in cakes or balls of two to four pounds weight. In using this to colour butter the object should be to bring the butter up to a certain colour-standard; hence, care is necessary. The old recipe is: dissolve four ounces of lump annatto in a half gallon of water; then dissolve four ounces of carbonate of potash and two ounces of sal soda in three pints of water, and mix the two solutions (annatto with potash and soda). After twenty-four hours, pour off the liquid and throw away the sediment, keeping the mixture cool. Use about one tablespoonful of the liquid to a gallon and a half of cream.

RESTORING RANCID BUTTER.

Take as much care as we may, it will not be strange if, during the winter, the butter becomes rancid from any one of several causes. This rancidity is due to the presence in the butter of butyric acid; and, as soon as it is discovered, the butter should be washed in good, new milk. It may be cut up into slices and put in a rotary churn, with a good quantity of the milk, which will dissolve and wash out the acid. After this is thoroughly done, wash the butter in pure cold water. The late Mr. Willard also recommended the following: Beat up a quarter of a pound of fresh lime in a pail of water, and after it has stood for an hour, pour off the clear portion and wash the rancid butter in that. In resalting the butter this is recommended: Take ten ounces of fine salt, add to it two ounces of saltpetre and as much sugar. Mix these ingredients well, and work from a half ounce to an ounce into each pound of the butter. This will improve its flavour and cause it to pass as a very fair article. No one should fail to try these methods, if he is so unfortunate as to have a lot of rancid butter. It may not be at all necessary to make waggon-grease of it, as we have known people to do.

DRYING UP COWS.

Should dairy cows be dried off, or should they be milked up to calving time, if they are disposed to yield milk up to that time? To answer this question pat, yes or no, would only betray the ignorance of the speaker on the subject of dairymen's practices and prejudices. We know of no subject that needs intelligent airing at the meetings of our dairymen's association this winter as much as this. It is well known to all that no matter how great may be the flow of a cow's milk when she first calves, if she goes dry too soon she will not prove a profitable milker. Indeed, most dairymen would take a large-sized surprise party if they would only test the question as to the yearly yield of the two cows that yielded the most and least at the time of calving. This could be approximated by keeping the dates of dropping calves and going dry of the different cows in the herd with their various yields weighed and recorded.

What we started out to say was that the strange part of this subject relates to the practices and prejudices of dairymen. In the country we find farmers almost universally drying up their cows with the fear of hurting them if milked up to calving time. Near the cities, where milk is sold to consumers no attention whatever is paid to the time a cow is due to calve. She is simply milked as long as she will give it, and sold if she goes dry too long before calving.

Breeders of dairy cattle who handle high priced

cows are in grave doubt on the subject of drying off. They all know it is a dangerous practice if not done with care and diligence. If the cow is neglected and forms milk in her udder that is not drawn off, she is sure to suffer from the neglect, while good milkers are almost certain to give milk up to the day of calving, with a pretty general opinion that it injures the calf and creates too heavy a drain on the cow. Can our dairy exponents at the convention lay down a safe rule to pursue in this matter? Let them try it by all means.—*American Dairyman*.

THE CHAMPION BUTTER-MAKING COW.

Mr. Valancey E. Fuller, of Hamilton, has subjected Mary Ann, his celebrated Jersey cow, to another test, which was supervised by a committee of practical men of the Canadian Jersey Breeders' Association. The test began on the 23rd ult., ending on the evening of the 29th, the cow being milked twice daily in the presence of the committee, who watched every operation connected with the milk until it was churned, when they weighed the butter. The result of the week's test was twenty-six pounds and nine ounces of unsalted butter and twenty-seven pounds and nine and three-quarter ounces of salted butter, an amount which has never been equalled by any cow in the world. Mary Ann is only four years old, and was bred near Montreal. She was purchased by Mr. Fuller last spring for \$500, and he has refused an offer of \$10,000 for her. She has been continuously tested since May, the milk and cream always being retained and churned separately twice a week, and has made in four months no less than 417 pounds and two and three-quarter ounces of butter, a record which has never been approached by any cow of any breed. During the last official test she made four pounds and one-half ounce of butter per day for three days. This is the second official test of this cow, and on each occasion she has surpassed any previous test.

CAUSE OF GARGET.

The foundation for a great many cases of garget is laid in the fall or winter, when cows are being dried off, by going too long without thoroughly milking out the bag. The long detention of milk produces swelling and inflammation, which linger till the bag begins to enlarge, preparatory to another birth, and the consequence is an extraordinary hardness and swelling, accompanied with inflammation and soreness that keep up for a long while, and often prove the ruin of a part or the whole of the udder. Garget is generally curable, but not always. In mild cases the treatment may be frequent bathing in tepid water, with friction after each bathing. In severe cases the water used had better be as hot as the animal can endure. When very severe, fomenting with hot water has proved efficacious. Cathartics should always be given when the swelling is obdurate, and frequent and thorough milking in all cases, and a spare diet allowed. Rubbing the bag frequently with some penetrating oil, like oil of turpentine diluted with linseed oil to a strength that will not be injurious, or anointing with iodine salve, are valuable aids, and are often all that need be done. The daily use of a little saltpetre administered in the water drunk, or in the feed, is recommended by some high authorities, and has proved useful.—*Prof. L. B. Arnold*.

Milk cows will give more and better milk, yielding more cream and yellower butter, when fed on plenty of carrots.