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THE
ART of CHEESE-MAKING,

Reduced to Rules,
AND MADE SURE AND EASY,
FROM
Accurate Observations & Experience.

By JOSHUA JOHNSON.

PUBLISHED
FOR THE HELP OF DAIRY WOMEN.

Of Rennet.

TO make good cheese, nothing can be more essential than good rennet. The calf should be kept from eating any thing but milk two days previous to slaughter. About two hours before killed, let him suck a quart of milk. In that liquor wash the skin on both sides clean; stretch it out full on a bowing stick, salt it well on both sides and let it hang and dry through the summer. In the fall take out the stick, wrap the skin close in a paper or cloth with fine salt, and put it among linen until spring, when and put it pear like tanned leather, reddish, very sweet, and full of spirit. I have had one skin of common size, thus cured, produce five hundred weight of cheese. One such, a year old, I esteem better than three new skins. Never cure the curd in the skin; it is impossible to preserve it sweet, and it very much depreciates the rennet-nature of the skin. Bad rennet will always make bad cheese.

GENERAL CAUSES OF BAD CHEESE.

These may be summed up in the following:

1st. Sour milk. A Cheese made of milk, any part of which was sour, will in drying break out with whitish warts and large blotches, frequently cracking and weeping, and when cut for use, is crumbly and dry, with an offensive flavor and sourish tang, even at a year old. Sour milk is fit for the wine and for them only.

2d. Overcharging the curd with rennet.

To this must be imputed all the tough, strong, huffy, stinking kinds, which are three-fourths of the cheese made in America.

Rennet contains a very pungent acid, which tends violently to fermentation and putrefaction. When more rennet is put into the milk than enough to turn it fairly to curd, or to an hard curd, it is almost impossible by any quantity of salts to correct the fermentation which every new cheese has in drying: of course a decay or putrefaction in a greater or less degree, takes place: the sure consequence is, the cheese in curing huffs, or flats and spreads, or cracks open and weeps, or when open for use is full of eyes, or tough like liver; rank to the taste, and very odious to the smell. Dairy women are little sensible how much they injure their cheese by too much rennet.

3d. Want of seasoning with salts.

The effects of salting too little is the same as overcharging with rennet. If the quantity of salt put in be not sufficient to correct the first fermentation, the curd in drying will unavoidably decay and go into a partial putrefaction. Nor is that opinion of most American dairy women true, that liberal salting makes cheese hard, dry and crumbly. Experience teaches me that this is owing to sour milk, want of cream, or to sparing dressings on the outside, and the cheese working itself to death by the power of rennet.

4th. Too rare and sparing outside dressings of butter. By not giving sufficient repeated coats of butter on the outside, the cheese through the hot season, dries too suddenly, innumerable small air-cracks open, the richest oily particles fly off by evaporation, and the cheese is left hard, dry and insipid. Sometimes cheese becomes bad by want of pressing, and sometimes by the heat

of the sun shining on it: therefore in pressing it should always be under cover from the sun.

To make cheese, which, when old is fat, sweet, full of spirit, and free from every nauseous flavor, and to make every cheese alike of its kind, it is necessary first to get rid of all prejudice to former modes, then to have all the milk of the same quality, and finally to make and cure every cheese by the same rule and with the same attention and care.

Process for New-Milk Cheese.

This kind contains all the cream. First find the number of gallons of milk. Let the whole be made warmer than new milk from the cow: then add rennet. On the evening before, take from the rennet skin a piece about two inches square, put it in a small cup, add three half-gills water a little warm, and one tea-spoon full of fine salt to keep it from souring, and let it stand overnight covered in a warm place. Of this liquor put in a little more than one table spoon full to every ten gallons of milk and stir the whole thoroughly. The curd should not come sooner than an hour after the milk is set; an hour and half is better. If it come not in that time, warm the milk again and carefully add rennet at discretion: when come the curd should appear tender like bonny-clabber: if it comes sooner than an hour and come hard, you are sure to have too much rennet, and must add more salts than the rule here prescribes, or you will surely have a huffy stinking cheese. Pay no attention to the slip curd, but to save it; for it arises from the cream. The curd being thus obtained, cut it through cross wise and let it stand a few minutes to separate: then break it up gently with the hand, and whey it in a strainer dry as you can get it by a gentle pressing and draining. Having lain in this state about fifteen minutes, cut the curd into thin slices as large as a dollar, and pour upon it as much whey, so hot that you can just bear your hand in it, as will cover the whole. After remaining a few minutes whey it dry again, then in a suitable vessel chop it fine with a chopping knife, to preserve the creamy particles: This is a much better mode than the ancient one of rubbing it fine in the fingers. It is now ready to receive the seasoning.

This is the most important stage in the process, next to proportioning the rennet to the quantity of milk: for if the milk be first overcharged with rennet, you cannot save the curd from toughness and a base hogoo; but if the rennet be rightly proportioned, you may give the cheese, in the seasoning, all the sweet, smart, tender qualities, peculiar to the best English cheese. To make it not too mild, nor too smart, the best rule I have been able to form from the most accurate observation and experience is this: one gallon of milk yields about one pound of curd. To every five gallons milk or five pounds curd, put one gill or four ounces of coarse salt pounded fine, and one tea-spoon full of salt petre, mixed together, sprinkle them over the chopped curd and stir the whole thoroughly together. This quantity of seasoning gives a good degree of smartness: if you wish it more mild or more smart, it is but to encrease or diminish the quantity of seasoning from this rule. It is now fit for the press. Observe here that much depends on the thickness being proportioned to the width of the cheese. A thin cheese having so much surface is exposed to very great evaporation, by which the natural moisture, marrow and spirit fly off and leave it poor. I never yet found a thin cheese good at a year old. A cheese weighing twenty pounds or upwards should not be less than six inches thick, and no cheese of ten pounds weight ought to be less than four. Five inches in thickness for all cheeses between twelve and twenty pounds is a good rule.

The beam press is the most sure of any kind if the beam play true. Screw presses I must condemn on this principle, but the pressure is not continual. Four hundred pounds is weight sufficient to press any cheese under twenty pounds in any press. After lying in the press one hour turn it into a dry cloth and place it in again down side up. Repeat this the next morning, paying particular attention to the pressing that the cheese be true and square and have smooth surface. On the second morning it will be fit for the drying room.

First give the cheese a liberal dressing of butter and a little salt-petre simmered together and become cold; this is the best antidote against flies.* While curing, rub your cheeses with the hand every morning, adding the butter dressing as often as they feel a little dry. This is essential; if you are sparing of butter on the outside, you will lose the butter of the inside. These repeated dressings from a close coat on the surface, which defends and preserves, and which peels off easily when old and cut for use, leaving no hard rind: this coat retaining all the richness and spirit wished for. Every day closely examine every cheese, for the small air-cracks which always open more or less in the first stages of curing, rub and fill them up, and turn them every day. If perchance a nest of skippers be discovered, cut them out and fill the cavity even with the surface with mixed flour and butter seasoned like the cheese, over it spread a plaister of paper and dress it with the rest.

Doubled Curded Cheese.

This is necessary where the dairy is small: because a small cheese never can be as good as a large one. A cheese of twenty pounds weight is better than any other size in all respects.

The curd being obtained as in the above process, wheyed and cooled, put it in a clean earthen or stone butter pot, place it in the coldest part of the cellar on the ground, add nothing to it, cover it with a cloth to secure it from flies and dirt, and twice or thrice in a day turn off the drainings of whey. In this mode a curd will keep well two days or more if you wish it. On the day you make a cheese having prepared the new curd for scalding, slice in with it the old curd, scald and mix them well together, and proceed as before prescribed.

Four Meal Cheese.

This kind is composed of three meals skimmed and one meal new. Particular care is to be taken that no four milk go in. One pan of changed milk is enough to ruin any cheese.

To keep the milk sweet let earthen pans be used: experience teaches me that these will preserve milk longer than wood or tin, and will raise more cream. Let the pans be well sunned or heated by the fire before they are used. In the hot season the sun must never shine into the cellar through any opening, where milk is set. Observe these things and you will not complain of your milk souring unless there be thunder.

The whole milk being collected in the cheese-tub and made warmer than new milk, proceed through the whole as with the new milk kind. A four meal cheese having no four milk and managed in all stages as the new milk one, is indeed very little inferior at a year old.

Skim Cheese.

This kind is made wholly of skimmed milk without any cream. Let no four milk be put in and let the process in making and curing be the same as in the new milk kind: it will be good cheese, such as no reasonable person will despise. But this kind requires more time to dry and ripen, and

* Since this publication, I have found that pearl-ashes is an effectual antidote against flies, whether applied to cheese or to any kind of meat, fresh, salted, or smoked.

more seasoning to give it substance and spirit than other kinds. I have had skim cheese at six months old which very good judges, while eating it, accepted for good new-milk cheese. If any wish to have this sort look rich, they may put into the milk when set for curd a little Spanish Anatto commonly called Otter. This gives it a yellowish beautiful complexion and injures not the nature or taste at all. It is an ornament to every kind of cheese.

To preserve Cheese through the winter.

Before the weather comes on cold enough to freeze them, remove your cheeses into the cellar, place them in tight casks or boxes, secure from vermin. On the bottom and between every cheese put a little bright oat-straw that is not musty. In that position they will soon gather mould and once every four or six weeks take them out and rub them with a cloth, not so hard as to raise the coat, and place them in as before. About the beginning of May bring them out, wash them clean in whey or milk and water, give them a good dressing of butter and Salt-petre, and set them in the drying room. They will soon shew a bright amber-red colour, rich to the eye, and will need very little dressing more until brought to the table.

In the summer, if an old cheese, after opened for use, be kept wholly in an upper room, it very soon loses its natural spirit and richness by evaporation; therefore when cut it should be put in the cellar in a close vessel and covered. This in two or three days will bring it to an agreeable moisture, fatness and smartness. Should it be too moist, set it above for a few days. After it is cut it should always be kept in a linen cloth.

This mode of making cheese is recommended by the author as the result of his own experience and critical attention for about four years.

I lived in a dairy country and had cheese made in my house for ten years, but was ever dissatisfied with the uncertainty of my cheese proving good; lamented that this most useful art was never reduced to such a regular system as to be certain of good cheese always. Believing this object attainable, I began to attend to it in 1792—read the various tracts on the English and American modes—conversed with celebrated dairy women, and soon found from the operations that the great fault lay in the rennet and sour milk, and that the spirit or smartness arose only from the seasoning. Yet to find a certain proportion of rennet and seasoning to a certain quantity of milk, so as to be sure of a certain degree of sweetness and smartness, was a work of time and experience. But by repeated experiments I did obtain the object, and have proved for two years past, that the process here communicated will give every cheese equal spirit, flavor and richness, that is made of milk of the same quality.

Sensible I am that my elder sisters of the dairy will oppose, perhaps ridicule my scheme, supposing it impossible for a man to understand cheese making as well as a woman who was always bred in it. But true it is, I never knew one, even of the best of these female artists, who did not make cheese by guess, or who understood the real power of rennet, or who thought that every new cheese ferments, or who understood the causes of bad cheese, or believed that the seasoning only gives spirit to the cheese. I only wish them to lay by their own skill for once, and make trial of this process, attending critically to every part of it. I must flatter myself it will be to their satisfaction, and am sure it will be for their profit.

† All for the want of critical attention to their processes.

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