

The Dairy.

How Prize Cheese Are Made.

Seth Bonfoy, of West Winfield, N. Y., says the *Utica Herald*, is a cheese-maker of long experience. He has had factories in several counties, and has studied the art of manufacture thoroughly. Of late he has been doing unusual things in the way of making cheese, which captures the judges at our largest cheese exhibitions, and sends him home with the leading premiums. For two years, at least, he has taken the first premiums at the State and the Central New York Fairs. These achievements make his method of manufacture of special interest, and we have secured from him for our readers some facts which may be of wide usefulness. We print the following as the result of an interview:

Question. At what temperature do you set your milk, and why?

Answer. I set at 82 degrees, because I believe the whey separates more freely, the curd handles with more life, and in the end makes more cheese than when set at a higher temperature.

Question. Do you vary the heat of setting at different seasons of the year, and why?

Answer. I set slightly higher in the spring and a trifle lower in the fall. The separation is more tardy as the season advances.

Question. What rennets do you use, and how do you prepare them?

Answer. Patrons' rennets. I prepare them for use by soaking twelve hours in warm water, at 98 degrees. Then take them out and salt the liquor to keep. The skins are re-soaked in the same manner.

Question. How do you judge when to break the curd?

Answer. I break the curd a little before it will cleave before the finger.

Question. How do you break the curd and make it fine?

Answer. I cut with Young's perpendicular curd knife, lengthwise and crosswise carefully, and then handle with hands carefully, while warming until the curd is sufficiently fine. Careful cutting and handling adds to the weight and character of the cheese.

Question. How much time do you occupy in breaking the curd?

Answer. I am governed altogether by the condition of the milk in its keeping qualities. If it is old I warm carefully and constantly until it reaches 95 or 96, and do not venture too far.

Question. Do you have any rule as to the time when you begin to apply the scald, and the time occupied in raising the heat?

Answer. I have none but judgment. The curd should be properly matured at a medium low temperature. The time occupied depends upon the slowness or rapidity with which it matures. The heating should always be slow and careful, and the curd should be carefully and constantly handled while raising the heat.

Question. How high do you scald, and how long do you cook the curd?

Answer. I scald to 98 degrees, and the time taken varies from fifteen to sixty minutes. In the spring I heat slightly quicker and slower, as the season advances, especially in the fall.

Question. How do you tell when the curd is scalded enough?

Answer. By my judgment of the appearance of the curd.

Question. What are the concluding steps of the handling of the curd?

Answer. I draw off the whey with a siphon, forming a channel in the centre of the curd, elevating the vat slightly at one end. When the curd is thoroughly drained, I grind it with one of Jones & Faulkner's curd mills, and salt immediately. I use three pounds of Syracuse dairy salt to the 1,000 pounds of milk, stirring in the salt thoroughly. I then put to press immediately in a luke-warm condition, believing it closes more perfectly. I press twenty-two hours with Frazer's gang press.

Question. How do you secure a perfect rind?

Answer. By perfect manufacture. I rub the faces of the cheese with a strong alkali, colored slightly with annatto. This is done when the cheese are taken from the press, and they are allowed to stand until dry before dressing. I use whey butter for greasing. It is made by thorough trying out the whey cream until completely separated. It is applied quite warm.

The above facts of Mr. Bonfoy's methods, of course, contain many items which are well known to many cheese-makers, but some of the ideas advanced are deserving of a careful consideration. The whole practise will prove valuable and suggestive to our readers in the new regions where cheese-making processes are just now of greatest value.

Wintering Dairy Stock.

Over-feeding is, perhaps, the most serious error of wintering stock under the old or common system. It has been supposed that an animal would eat only what nature requires; consequently the general rule has been, in feeding ruminants, to give them all they would eat, without regard to its fitness or quality. In feeding late-cut and very ripe hay, the food constituents of which have in great part been changed into almost indigestible cellulose, it might require all, and even more than an animal could be induced to eat, to keep it in condition. It is no uncommon occurrence, in the experience of stock-keepers, that strong, healthy animals lose flesh when fed upon poor hay alone in un stinted quantity. Animals thus treated acquire the habit of stuffing themselves very full; in fact, they are obliged to do so in order to obtain sufficient nutriment.

But change from poor hay to that cut in the first blossom (the very best time in point of economy for cutting grass), one pound of which is worth for feeding at least two pounds of that which is over-ripe; the animal relishing it much better, will eat even more, if possible, than of the poor hay; consequently she may have more than twice the nutriment she had formerly. If her digestive capacity were unlimited, so that the added nutriment would add so much to growth or the accumulation of flesh or fat, the error would not be so serious; but here comes in the important fact upon which my system of wintering stock is founded—an absolute limit to the digestive capacity of the animal. If that is exceeded, there is not only waste in proportion to the excess, but the system becomes clogged, and in the very nature of things, seriously deranged.

But suppose that in the place of the early cut hay, we feed timothy or aftermath, which, pound for pound, has twice the value in food elements of the former, (if cut when not over six or eight inches high,) and what utter folly to allow the animal all it will consume of this rich food! Some new milk cows, whose lacteal glands are very active and well developed, might possibly consume it without much waste; but it is safe to say that not one cow in one hundred could do it. Yet many dairymen are in the habit of feeding their cows all they will eat the year round, regardless of the fact that as the flow of milk naturally decreases, the capacity of the lacteal glands to convert the constituents of food into milk, is diminished in proportion, and even when the cow is dried off, they go on feeding at the same rate, not considering that half her digestive powers are dormant.

The question for every man who keeps a cow to study, is not how much hay or grain, as the case may be, she will eat; that is easily determined by placing the food before her, but how much can she assimilate without waste? If she has recently dropped her calf and is giving, we will say forty pounds of milk daily, she will require more than twice the succulent food that would serve her if dry; if she has been in milk, say six months, and her flow of milk is reduced one-half, about one-third less will supply her wants; if she is dry and is treated according to the rules laid down in my pamphlet on meal-feeding, the amount of nutriment required to keep her in condition is surprisingly small. I use the word nutriment, not hay—not woody fibre, so much bulk, or so many pounds, but actual nutriment, susceptible of ready assimilation. This is just what the whole animal kingdom, man included, want and must have, in order to live and thrive. Nature gives a capacity to assimilate in proportion to those wants, but not in excess of them. In feeding meal under my system this digestive capacity is easily ascertained and no loss occurs.—*L. W. Miller, in New York Times.*

Is Pasturing Exhaustive?

Writers upon Agriculture, says the *New York Times*, whether they be practically acquainted with their subject or not, are given to greatly enlarge upon the exhaustive effects upon the soil of raising wheat and other grain. The annual removal of so many bushels of grain from every acre is made the basis of a calculation as to how soon every farm in the country will be brought to a condition of barrenness and every farmer to destitution. To a certain extent this is true, and no good or intelligent farmer needs to be told so plain a truth. But few persons take any thought that the remedy proposed for this supposed evil, is equally injurious to the soil as the evil itself. Along with the remonstrance comes the advice to raise stock, to pasture cattle, or to substitute dairying for fruit growing. Dairying is the favorite alternative. Grass is not exhaustive of the soil, and may be grown indefinitely, we are told, without injury thereto, if not with positive advantage. Now, there are a few facts which bear upon the question which are very pertinent and useful to study. We all admit that a crop of wheat taken from a field and

sold away to be consumed in some distant place, necessarily takes from the soil certain elements of absolute necessity to its fertility. The continued growth of crops must in time remove from the soil all these necessary elements that it may contain, the exhaustion of the richest of soil being thus only a question of time.

But if we estimate the effect of the removal of a certain quantity of grass, or its product in milk, in the same manner that we estimate the effect of the wheat crop, we shall find very little difference. Nay, we shall find the average yearly product of a cow in milk actually takes more from the soil, and of the same elements, than the average crop of wheat does. If we compare the mineral constituents of twenty-five bushels of wheat, which is a fair crop from soil that would produce 2,500 quarts of milk to the acre, with those of this quantity of milk, we have the following result:

	In 25 bushels of wheat, (grain), lb.	In 2,500 quarts of milk, lb.
Potash	9.047	8.100
Soda	1.050	2.117
Magnesia	3.759	7.390
Lime	.904	3.987
Phosphoric acid	14.315	9.806
Sulphuric acid	.745	.105
Silica	.527	.125
Chloride of potassium	...	4.996
Chloride of sodium	...	1.639
Total mineral elements	31.103	40.963
Nitrogen	20.900	32.120

Thus of every valuable element of the soil the crop of milk is more exhaustive than the crop of wheat. The dairyman who every day, for half the year, carries to the factory, or ships to the city, six cans of milk, exhausts his soil more than the farmer who sells 500 bushels of wheat each season. If, then, the farmer is compelled to return some equivalent to his soil for the wheat removed, that he may keep his farm in good condition, equally must the dairyman return to his meadows an equivalent for the draft he makes from them in the shape of milk. The manure from his stock alone will not be sufficient, unless he feeds them purchased grain or other food rich in nitrogen, phosphate of lime, and potash, or add these to the shape of wood ashes or potash salts, and superphosphate of lime or bone-dust.

Dairying, then, can only be carried on at an expense to soil equal to that of growing grain, and it is a mistake to suppose that we can congratulate ourselves upon the steady increase of this industry as an escape from the exhaustive effects of grain farming. If dairymen should be led to suppose that their fields may be pastured indefinitely without injury to their fertility, they will fall into a mischievous error. The relief from the heavier labor of growing grain will be dearly purchased if the meadows are pastured from year to year without frequent top-dressings of the needed fertilizers or of manure enriched with purchased food. It may be, and to some extent undoubtedly is, owing to this unexpected exhaustion of meadows by pasturing that many farmers find them to fail prematurely, and are obliged to break them up and reseed them with the hope to restore the herbage which they think has "run out."

PACKING BUTTER IN BRINE.—This is how they pack butter in California. They take a sack made to fit loosely in the barrel, half-barrel, or other package, as the case may be. The butter is pressed into little oblong sacks, something like those in which table salt is sold. It is then packed within the sack, in the barrel, headed up, and the package is then filled with strong, pure brine. Thus it may be carried long distances by sea, and will come out sweet and good.

SHORT-HORNS AS MILKERS.—In support of our assertion that the Short-horn cross is the best for the dairyman we would cite the fact that the Yorkshire cows have always brought the highest prices in the London market, surpassing the Ayrshire and other milk breeds, cause when dried off they pay rapidly in beef for fattening. As the country becomes more thickly settled, our western breeders will pay more attention to the milking qualities, and as the original Teeswaters were extra milkers, this quality can be readily brought back where it has not been too long neglected.—*Bailey's Reporter.*

THE SCHOOL OF CRUELTY.—So long as milk cows are kept during the winter out doors and fed on straw and hay, we shall have neither a good breed of cattle nor of men, for humanity and civilization go together. Where cows are fed a quart or so of bran, which is poured on the ground, while the milker stands at arm's length and milks into a pint cup, as is the case in this half of the United States at least, the schools are poor, a large part of the people cannot read, and spooks and ghosts travel around at nights and often in the daytime. Where cows are kept in comfortable stables, and are so well fed that their eyes bulge out, there are good schools, the family has plenty of bed-clothes, there are apples in the cellar, and the children like to read history almost as well as novels. In such places the girls are not likely to marry drunkards, nor the boys slatterns.—*Nicarber in N. Y. Tribune.*