

cows are denied salt for a period of even one week they will yield from $14\frac{1}{2}$ to $17\frac{1}{2}$ per cent. less milk, and that of an inferior quality. Such milk will, on the average, turn sour in twenty-four hours less time than milk drawn from the same or similar cows which obtain a due allowance of salt, all other conditions of treatment being equal. This may apply with aptness to only the parts of the Dominion remote from the sea. From Quebec westward, as far as the Rocky Mountains, cows will consume an average of four ounces of salt per day while they are milking during the summer.

SHELTER.

Comfortable quarters are indispensable to the health and well-being of cows. Stables during the winter should have a temperature constantly within the range of from 40° to 55° Fahr. In summer time a shade should be provided in the pasture fields, or adjacent thereto, to protect against the exhausting influence of July and August suns. In all the management of cows such conditions should be provided and such care given as will insure excellent health and apparent contentment.

MILKING.

When practicable, the milking of each cow should be done by the same person, and with regularity as to time. He only that hath clean hands should be allowed to milk a cow. I say "he" because I think the men of the farm should do most of the milking, at least during the winter months. It is no more difficult to milk with dry hands than with wet. It is certainly more cleanly, and leaves the milk in a much more desirable condition for table use or manufacture. A pure atmosphere in the stables is indispensable to prevent contamination from that source. Immediate straining will remove impurities which otherwise might be dissolved in the milk to the permanent injury of the whole product.

AERATION.

After the straining is attended to the milk should be aerated. Too often it is poured into one large can and left there just as the cows have given it. That neglect implies three things that are very injurious to its quality for cheesemaking: (1) The peculiar odor which the cow imparts to the milk will be left in it until it becomes fixed in its flavor. (2) The germs of fermentation that come in the milk and from the air have the best conditions for growth and action when the milk is left undisturbed. (3) The milk will become in a degree unfit for perfect coagulation by rennet. Hence it is needful and advantageous to aerate it for three reasons:

First, because by pouring, stirring, dipping, or by trickling it over an exposed surface, there is eliminated from the milk by evaporation any objectionable volatile element that may be in it.

Secondly, because, as has already been stated, the milk contains germs of fermentation. A strange peculiarity about some of these microbes is that they become active only in the absence of free oxygen. When warm new milk is left undisturbed carbonic acid gas is generated, and that furnishes the best condition for the commencement of action by these almost invisible creatures. After they get started they can keep up their decomposing work even in the presence of oxygen. It is impracticable to perfectly coagulate such milk so as to yield a fine quality of keeping cheese. Coagulation by the use of rennet of milk that is ripe can never be perfect unless it is thoroughly aerated immediately after it is taken from the cow. Neglect of aeration will increase the quantity of milk required to make a pound of fine cheese.

Thirdly, because the airing seems to give vigor to the germs of fermentation that will bring about an acid condition of the milk without producing the acid. So much is this so that it has been found impracticable to make strictly first-class Cheddar cheese from milk that has not been aerated.

COOLING.

The subsequent cooling of milk retards the process by which it becomes sour. Certain germs of fermentation exist in milk which, in the act of their multiplication, split molecules of sugar of milk each into four molecules of lactic acid. By delaying the operation of these germs the milk is kept sweet for a longer period. The cooling of the milk should never precede the aeration. A temperature of from 60 to 70 Fahr. will be found cold enough for the keeping of milk overnight when it has been previously aired.

PROTECTION.

Milk is a liquid of absorbent proclivities. It should be protected against injury that would result from exposure to impure air. A general purpose milk stand is a device specially adapted for the spoiling of milk in that way. Such a stand serves as a milk stand and also a carriage stand, both of which are legitimate uses. Sometimes it is also occupied as a bivouac for swine, for the convenience of these animals, the end of whose whey trough furnishes one step for the stand. Both of these latter extensions of its uses and hospitalities are all wrong.

HONEST MILK.

The employment of inspectors promises to improve the quality of the milk furnished by some