

Pure Milk is a Necessity.

At the present time Vancouver is endeavoring to insure the milk sold to its citizens to be of good quality and purity, in which campaign the World is taking an active part. The campaign is the result, quite largely, of the large number of infantile deaths from cholera-infantum, said to be due to milk infection.

Milk is more than a liquid: it is a tissue, and as such is a splendid breeding-ground for germs, desirable and undesirable. The dangerous feature of an impure supply of milk is that the fluid may be a vehicle of disease, and at the time of purchase, to the sight, smell and taste, show no damaging evidence whatever. The milk supply is probably no worse in the coast city than in the majority of other Canadian cities, yet a rigid system of milk and cow inspection is there needed, to include the inspection of the stables and feed by a veterinarian at intervals, a careful scrutiny of the dairy water supply, the testing of samples taken from the vendors' wagons, by a chemist, for preservatives, etc., and by a bacteriologist for germs. In some cities the publication at intervals in the local newspapers of a list of all the names of dairies supplying milk, the actual condition of cows and stables as found by the veterinary inspector, and classified according to the percentage of fat as determined by the Babcock test, has had a most wholesome effect. The World states that many dairies are dirty, in some cases the stable and milk-room being one; in another the milk-room being the doghouse; at others quantities of fermenting manure are lying adjacent to the milk-rooms. Mention is also made of defective sewers in connection with dairy stables; sewers should have no connection with stables where bedding is used, as they only prove hidden receptacles for germs and places to generate vile odors. All urine and feces should be collected in the open gutters found in well-built stables. Some dairymen think themselves hardly used by being forced to be clean. When it comes to a matter of food supply, especially infants' food, the penalties for selling impure milk and diseased milk, etc., cannot be made too heavy. Cleanliness in the milking is most essential. A short time ago, we saw a milkman in one of the Canadian cities drawing this life-supporting fluid from a cow. His hands were begrimed with cow manure, so much so as to color the first of the streams drawn. In Vancouver we know a prominent M. D. who keeps his own cow, and generally does the milking himself. Bottle babies are the fashionable ones nowadays, although our medical friends say that this departure of nature's way is not good. As Canadian citizens, we ought to see, as far as possible, that the food supplied the coming citizens is good. The inferiority (mentally and physically) of city bred and raised children, especially of the crowded cities of Europe, is largely due to insufficient nourishment during the early years of life, when milk is especially suitable as the staple diet. Keep up the standard of our citizens by providing pure milk to the people.

Have the Milk Containers Clean.

Milk may be drawn from healthy cows and entirely spoiled by its treatment afterwards. The following instructions by the Washington expert, R. A. Pearson, will be appreciated, and although intended for factory patrons, the principles enunciated can be put into practice by every person handling milk or cream:

It is important not to have the first wash water too hot. Cold water is sometimes recommended, but this is not necessary, as it may be quite warm without changing the condition of the albumen. The best practice is to rinse the vessels with cold or warm water, then wash in hot water by the aid of some cleaning preparation, then rinse carefully and enough to remove all soap, soda, or other cleaning material, and finally sterilize in a steam chest, exposing them to live steam about three minutes. The methods generally used in washing milk vessels are very imperfect. The vessels are often carelessly rinsed with cold water, then one is filled with hot water and cleaned with a cloth, the same water being made to serve for other vessels successively, being turned from one to another, and by the time the last is reached, the water is no longer hot and is decidedly milky. When water is not hot, the grease is not removed, but simply smeared over the tin. Two wash sinks should be close together, one for the general cleaning and the other containing clean, hot water, in which each article is rinsed as soon as it is washed. Most utensils easily dry after being steamed, but if they do not they may be put in a drying room or wiped with a clean cloth. They should be placed in pure air, and in sunshine if convenient, though this is not necessary if well cleaned and thoroughly sterilized.

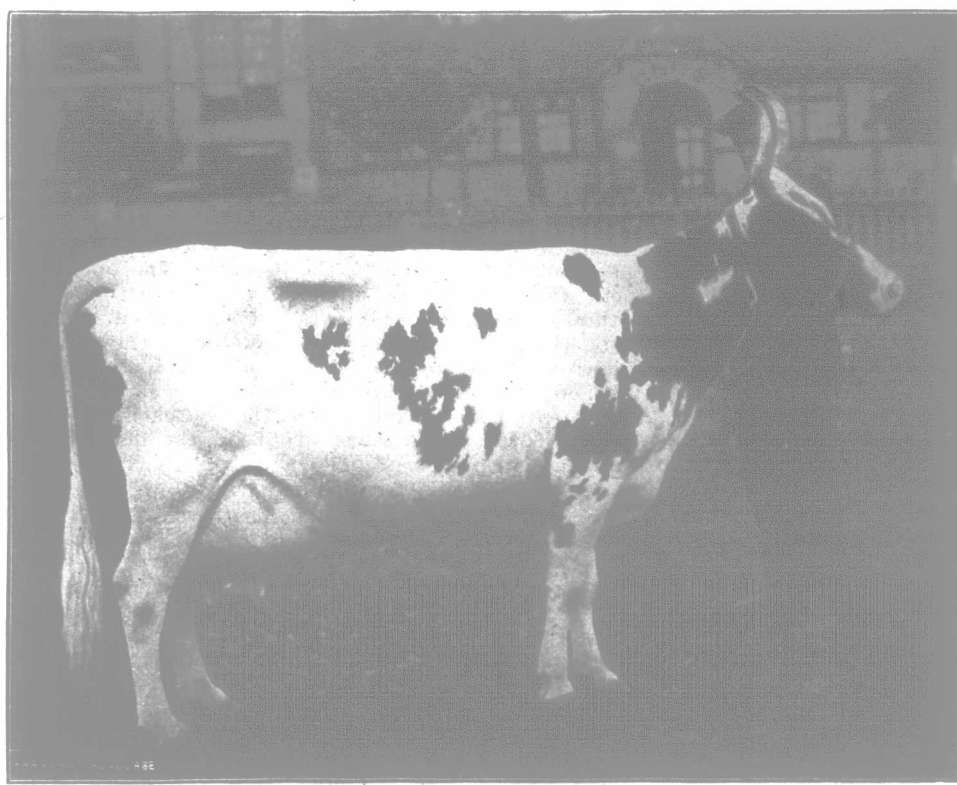
Cans and pails for carrying milk should be used for no other purpose. It is well to have the cans cleaned and sterilized at the factory, where there are special facilities for this work. In many cases this is done for the patrons free, while in others a small charge is made. Milk cans and pails should never be allowed to stand in the stable before they are needed there for use. Myriads of bacteria are constantly floating about in the air of the stable, especially when dust is rising

by feeding, and milk utensils should not be unnecessarily exposed to them. They should be kept in a clean place, with covers off, surrounded by pure air, and should always be rinsed with clean water just before milking time.

Milk coolers are apt to be badly neglected, often because they are used in or near the stable, and it is not convenient to take them to the dairy house or kitchen to be cleaned. So they are simply rinsed off with cold water and allowed to remain where they are used. In cases where they are cared for in this way, their effect on the milk is worse than if they were not used at all.

Testing Butter.

A simple method of determining the percentage of water in butter is given in the journal of the British Department of Agriculture, namely, to heat a known weight of butter in a small saucer-shaped vessel over a small spirit or gas lamp for a few minutes, with constant stirring until no more steam is observed to arise from it. After being allowed to cool, the butter is then weighed again, and the loss of weight shown gives the amount of water which was in the butter. This method only requires a pair of scales with weights, in addition to the lamp and vessel. It is practiced in the Cork and Limerick markets, and is described as quite accurate enough for practical purposes.



Imp. Minnie of Lessnessock —9166—.

At 9 years old, third-prize Ayrshire cow at the National Exhibition, Toronto, 1904. Property of Mr. W. Watson Ogilvie, Lachine Rapids, Quebec.

STOCK.

Feeding Steers in the Stable and Open Shed.

AN EXPERIMENT BY PROF. THOS. SHAW, MINN.

The important question as to whether steers can be fattened more rapidly and cheaply when confined in stables and tied up in stalls in the same, than when fed in sheds with constant liberty of access to a yard, has never been fully settled, although a limited amount of experimenting has been done in feeding animals thus. The opinion has commonly been held that steers could be fattened more rapidly in the stalls than in open sheds in a winter climate of low temperatures. But many farmers have evidently held the view that with foods relatively cheap and labor relatively dear, the most profitable returns would accrue from feeding in open sheds. An experiment was undertaken, therefore, for the purpose of throwing light on this important question; and just here it may be proper to drop the caution that the findings of the experiment will not be equally applicable to all climatic conditions, even where the mean temperatures may be similar or nearly so. It is more than probable that feeding in open sheds will be more profitable relatively in a bright winter climate, with cold more or less steady, as in our state, than feeding in open sheds in a climate in which changes in winter temperature are frequently accompanied by considerable precipitation in the form of rain or sleet.

Time Covered by the Experiment.—The steers were put on full feed Nov. 6th. The experiment closed March 26th, following. It therefore covered 20 weeks or 140 days. They were kept on feed until June 6th, when they were sold at the South St. Paul stockyards, as hereinafter stated. They had been accustomed to a meal ration for a short time previous to the commencement of the experiment proper, hence by

the time that the experiment began the steers were in condition for taking a reasonably heavy meal ration.

The Objects of the Experiment.—The chief of the objects sought in the experiment were the following: 1, To ascertain the relative gains that would be made by the steers while being fattened in the stall; as compared with steers on similar food but fed in a shed and having constant access to a yard; 2, to obtain information with reference to the relative amounts of food consumed; and, 3, to learn which of the two systems of feeding would be attended with the greater profit under given conditions. Chief among the secondary objects were the following: 1, To glean information with reference to daily gains in the two instances in the respective periods of feeding; 2, to ascertain the relative daily consumption of food during the various periods of the experiments; and, 3, to gather information generally bearing upon the relative merits of the two systems of feeding.

The Animals Used.—The animals put into the experiment were what may be termed good grade Shorthorn steers, with the exception of two animals in each lot which showed in the form evidences of a good sprinkling of dairy blood. They were nearly all sired by the same pure Shorthorn bull. They reached the Station Oct. 17th, and were at once put on a mild ration of meal with corn fodder and hay. The meal consisted of bran, corn and oats, fed in the proportions of 2, 1 and 1 parts respectively, and in gradually increasing quantities, beginning with three pounds per day per animal. In this way they were prepared

for the experiment.

Although the exact individual ages of the steers could not be known, it would be approximately correct to say that they were two years old past the previous spring, hence they would be three years old when marketed. Conditions Governing Experiment.—There were seven steers in each of the two lots. When chosen for the experiment several days prior to its actual commencement, there was a difference of only seven pounds in the aggregate weights of the steers in the two lots, but this widened somewhat by the time the experiment began, at that time it was 91 pounds. They were very evenly chosen as to quality, as they were nearly all from the same sire. It is seldom possible to begin an experiment in feeding live stock when the conditions would be more favorable at the outset.

The steers fed indoors, referred to as lot 1, were tied in single stalls and in a stable comfortable and well ventilated. They were allowed the freedom of a yard two or three times a week on sunny days, and for an hour or so at a time. They were tied around the neck with chains, which slid up and down on an iron rod at the side of the stall, hence they were comfortable whether standing or lying down on a soft, well-littered bed; and they were curried with sufficient frequency to keep them comfortable and suitably presentable to an every-day visiting public. They were watered in pails twice a day, about midway between the noon meal and the morning and evening meals.

The steers fed in the shed, lot 2, had access to a yard 35x66 feet, including the space covered by the shed. The yard was surrounded by a fence six feet high, the boards being put on up and down, and close together. The shed was 10x42 feet, and had posts 10 feet high in front and six feet high in the rear. It was boarded close all around, except where the doorway was made on the side facing the south-west. The cracks were battened. Both shed and yard were kept well bedded, particularly the former, and the animals could go in and out at will day or night.

The meal was fed in a manger in the shed, and the fodder was usually fed in a manger along one side of the yard. They were watered at a tank in the open yard, and at times corresponding to the watering of the steers inside. The water was not heated. Both lots had access to salt at will.

The experiment was made to cover five periods of 28 days each, and the meal was more or less modified in the components fed from time to time, as described below, under the head of Food and Feeding. This was done with the view of meeting the needs of the animals more completely as the experiment progressed.

Food and Feeding.—The meal fed during each of the five periods of the experiment was as follows, viz.: During the first period corn, bran and oats, in the proportions of 4, 4 and 2 parts, respectively; during the second period, corn, bran, oats and oil-cake, in