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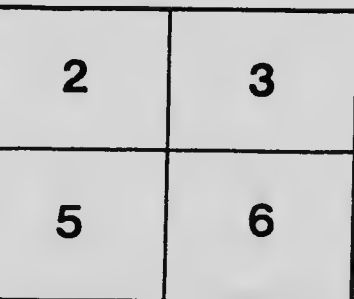
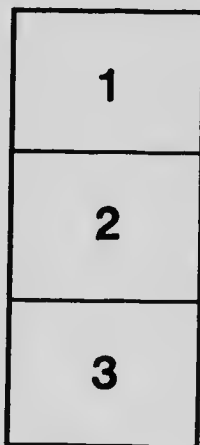
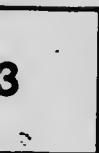
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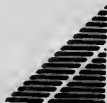
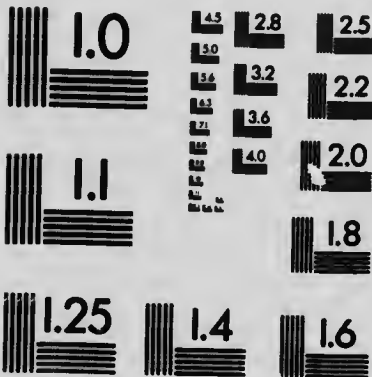
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HOME PASTEURIZING OF MILK

Particularly for Infant Feeding

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FIG. 1.—Apparatus necessary for home pasteurization of milk showing milk can, chemical thermometer, water pot and false bottom.

FIG. 2.—Can of milk with thermometer inside standing in water bath ready for pasteurizing.

HOME PASTEURIZING OF MILK

REASON FOR PASTEURIZING MILK.

Properly pasteurized milk is more satisfactory for food purposes than is raw milk, *especially when it is to be used for infant feeding.*

The reason for this is that in the average raw milk there is always a considerable number of contaminating bacteria which are liable to cause digestive or stomach trouble to the consumer, especially the infant. Occasionally there are also *disease-producing bacteria* present. Needless to say, these latter are more dangerous to the consumer than are the ordinary species of contaminating bacteria. Such diseases as *typhoid fever, dysentery, diarrhea, summer complaint, sore throat, diphtheria, scarlet fever, and tuberculosis*, are occasionally spread through the milk supply being contaminated with the different species of bacteria that cause these diseases.

WHAT PROPER PASTEURIZATION DOES.

Proper pasteurization of milk *will destroy all these disease-producing bacteria* and about 99 per cent. of the other contaminating bacteria that may be present in the milk. It will not injure the food properties of the milk in any way, but it will materially improve the flavor, as it drives off the commonly objectionable cowy and stable flavors and odors usually present in raw milk, thus making the milk a pleasant and agreeable, as well as safe food-beverage both for infant and adult.

WHAT IS MEANT BY PROPER PASTEURIZATION OF MILK.

What is here referred to as proper pasteurization of milk is heating *fresh milk to a temperature of 145° F. and keeping it at that temperature for 20-30 minutes.* Immediately after heating, the milk should be rapidly cooled either by standing it in cold running water or in ice water. It should then be kept cold in a refrigerator or cellar until used, and should be used preferably within 48 hours.

If, during the heating, the temperature is allowed to go much above 145° F. some of the delicate properties of the milk are injured. A cooked flavor is likely to develop, the natural cream rising is largely prevented, and certain milk enzymes are destroyed. On the other hand, if the temperature does not reach 145° F., or is not maintained at that temperature for 20-30 minutes, we cannot be sure that all the disease bacteria, and the great majority of the other contaminating bacteria which spoil the milk, are destroyed.

COMMERCIAL PASTEURIZED MILK.

Many dairies supply a commercially pasteurized milk. Sometimes this milk is properly pasteurized and sometimes it is not. We have tested numerous samples of commercially pasteurized milk, and a considerable proportion of them did not give a satisfactory test. Sometimes the milk had been stale before it was pasteurized, sometimes the temperature had been raised too high during pasteurization, sometimes it had not been raised high enough, and sometimes the containers and parts of the pasteurization apparatus had not been sterilized before the milk was put into them. In some dairies the operators take all requisite care that the pasteurization process is properly performed. In other dairies the operators are not so careful as they should be in this particular.

HOME PASTEURIZATION OF MILK.

Commercially pasteurized milk, good, bad or indifferent, as the case may be, is not readily obtainable at all places where properly pasteurized milk is desired. To meet this need this bulletin is written, giving directions for a simple method of home pasteurization of the daily fresh milk supply, thereby rendering it safe and more palatable both for children and adults, but especially for infants whose food supply consists so largely of milk, thereby making it doubly imperative that the condition of the milk should be in every particular satisfactory.

Requirements:

1st. The milk container, whether can or bottle, should be well washed, first with cold water, then with hot water, and finally should be thoroughly scalded before the milk is put into it. If the can or bottle has to stand any length of time after scalding before the milk is put in, it should be dried over a stove and not with a dish cloth.

2nd. The milk should be fresh at time of pasteurization.

3rd. A saucepan, pot or boiler is needed in which the heating is to take place. This should have a shallow false-bottom that can be put in to keep the milk container from resting on the bottom of the pot.

4th. A chemical thermometer is necessary. Some difficulty may be met in obtaining this thermometer at local stores, but it can readily be obtained on application to a chemical supply company for a chemical thermometer—10 inch, Fahrenheit scale, listed at \$1.45.

THE PROCESS OF PASTEURIZATION.

1. Place the false bottom in the pot or boiler.
2. Stand the milk container holding the fresh milk on the false bottom in pot.
3. Fill the pot with water up to top level of milk, if possible.
4. Place the thermometer right in the milk.

5. Place the pot with its contents on stove or heater, and examine thermometer from time to time until a temperature of 140° F. is reached. At this stage, as the water around the milk will be hotter than the milk itself, it is well to reduce the heat under the boiler or to partly remove the boiler from the stove. When the thermometer in the milk registers 145° F., the heat should be so regulated as to maintain that temperature for 20-30 minutes as near as possible. Each time the thermometer is examined it is well to give the milk a vigorous stir round.

6. After heating for required length of time, if running cold water is convenient for the cooling process, place the pot and contents under the tap and allow the cold water to run into the pot, displacing the hot water and cooling the milk to about 50°-48° F. or lower.

If running cold water is not convenient, place the milk container in a pail of ice or ice water until the temperature is sufficiently reduced.

7. Put top on the can and transfer the cold milk to refrigerator or cool cellar and keep there until used. It should preferably be used within 48 hours as a few bacteria will be present that have not been killed; these will multiply in time and spoil the milk.

If the milk is for bottle-feeding infants, the necessary quantity for a meal should be taken from the pasteurized stock, modified with water, milk-sugar, oatmeal or other ingredients to suit the child, warmed to the required temperature and filled into a bottle that has been well washed and thoroughly scalded.

As soon as the meal is concluded the bottle should be well washed, first with cold water, then with hot water, then filled with clean water and stood in a pot of water which should be brought to a boil and preferably allowed to stay hot until next meal time. It is well to have several bottles on hand. Milk once warmed up for a meal but not used should not be used for a later meal.

GENERAL REMARKS.

Home pasteurization of the daily milk supply means a little extra care and labor for the housewife, but the result much more than repays for the little trouble taken. When once the routine of daily pasteurization of the milk in the home is established there will be no desire to go back to the use of raw milk on the one hand, or of scalded or cooked milk on the other hand, particularly if the milk is for infant or child feeding. Many adults to whom a drink of raw milk is nauseating because of the cowy or stable flavors and odors usually present in the milk, find that they can drink properly pasteurized milk with pleasure, because of the clean, sweet, nutty flavor that characterizes it after the absorbed flavors and odors have been driven off by the pasteurization process.



