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DIRECTIONS FOR THE HOME PASTEURIZATION OF MILK.¹

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Milk delivered in the cities in the summer months frequently contains bacteria in such large numbers that it is not a safe food for children, especially for infants whose food consists entirely of milk. In many cities a special milk may be secured, but this is sometimes difficult and always involves additional expense. When it is impossible to obtain milk entirely free from suspicion it is advisable to pasteurize the milk, especially if it is to be consumed by small children. The pasteurization should be done in such a way that disease-producing bacteria as well as those likely to produce intestinal disturbances are destroyed without at the same time injuring the flavor or the nutritive value of the milk. This may be accomplished in the home by the use of a simple improvised outfit.

Milk is most conveniently pasteurized in the bottles in which it is delivered. To do this use a small pail with a perforated false bottom. An inverted pie tin with a few holes punched in it will answer this purpose. This will raise the bottles from the bottom of the pail, thus allowing a free circulation of water and preventing bumping of the bottles. Punch a hole through the cap of one of the bottles and insert a thermometer. The ordinary floating type of thermometer is likely to be inaccurate, and if possible a good thermometer with the scale etched on the glass should be used. Set the bottles of milk in the pail and fill the pail with water nearly to the level of the milk. Put the pail on the stove or over a gas flame and heat it until the thermometer in the milk shows not less than 145° nor more than 150° F. The bottles should then be removed from the water and allowed to stand from 20 to 30 minutes. The temperature will fall slowly, but may be held more uniformly by covering the bottles with a towel. The punctured cap should be replaced with a new one, or the bottle should be covered with an inverted cup.

¹ This is a revision of Bureau of Animal Industry Circular 152.

After the milk has been held as directed it should be cooled as quickly and as much as possible by setting in water. To avoid danger of breaking the bottle by too sudden change of temperature, this water should be warm at first. Replace the warm water slowly with cold water. After cooling, milk should in all cases be held at the lowest available temperature.

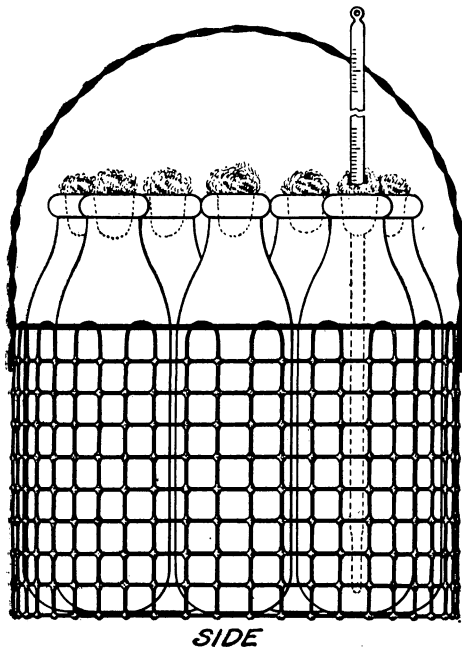
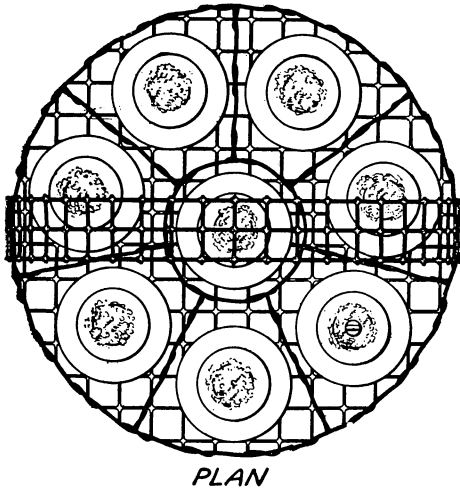


FIG. 1.—Wire basket holding bottles for pasteurization of milk.

This method may be employed to retard the souring of milk or cream for ordinary uses. It should be remembered, however, that pasteurization does not destroy all bacteria in milk, and after pasteurization it should be kept cold and in a cleanly manner and used as soon as possible. Cream does not rise as rapidly or separate as completely in pasteurized milk as in raw milk.

When milk is to be used for infants the pasteurization should be done in the nursing bottle to avoid the possibilities of contamination and the necessity of warming the entire lot of milk each time a feeding is taken. This will require, on account of the smaller bottles, a slightly different method than for ordinary bottles. A bottle should be provided for each feeding with the exact amount of milk required. An extra bottle should also be provided, as there is al-

ways the possibility that a bottle will be broken in the process. If the milk is modified this should be done before pasteurization.

Bottles not provided with seals may be plugged with ordinary (not absorbent) cotton and the thermometer held in one of the bottles by the cotton plug. A wire or tin basket to hold the bottles upright in the water is very convenient. Such a device is shown in figure 1. Place the bottles in the pail of water and heat until the thermometer shows that the temperature of the milk is 145° to 150° F. Then remove the bottles, change the thermometer from the milk to the water, and add cold water until the temperature of the water is also 145° to 150° F. Put the bottles back in the water and cover with a bath towel or other suitable cloth. Hold in this way at least 20 minutes, and then cool by running water into the pail. When the milk is cooled to the temperature of the tap water it is an excellent plan to pack broken ice about the bottles and hold them in the refrigerator in this way.

The milk should not be removed until immediately before it is used, and if bottles are warmed and not used they should be discarded.

Approved:

JAMES WILSON,
Secretary of Agriculture.

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