

4. When the water is used to wash butter in experimental churnings, the unsalted butter should keep satisfactorily for at least seven days at 70° Fahrenheit. Experimental churnings are not required in regular examination of water supplies, but are advisable when the quality of the water is still in doubt after the usual bacterial tests or when a supply definitely is suspected of causing deterioration in butter.

5. A water supply should be examined at regular intervals; if it commonly is satisfactory, examinations can be less frequent than if it is rather variable in quality.

Water treatment. Various bactericidal water treatment methods have been suggested. Some of these are:

1. Pasteurization and recooling of water. This treatment is satisfactory from the standpoint of bacterial destruction, but is too costly to be practicable.

2. Filtration and treatment with ozone, ultra-violet light and various chemicals have also been recommended. Of these methods, chlorine treatment has been the most widely used. Its effectiveness, low cost and convenience have been thoroughly established. Various types of chlorine in the treatment of city water supplies ample evidence of the value of the process.

Sediment in water. Some water supplies contain excessive sediment which can be added to butter directly, or which is left in the equipment after washing and then gets into the product when the equipment is used again. This type of water may or may not be satisfactory bacteriologically. Filters of various types are commonly employed to remove sediment in water. When used as the water is flowing from the water lines into the churns, filters are not always satisfactory, due to the speed at which a filter must operate. Filtration and sedimentation of water going into the storage tank has the advantage that it can operate effectively at the speed that the water comes from the well.

JAPANESE LAND AND PEOPLE

Total area—147,000 square miles (94,080,000 acres).

Total population—80,000,000 people.

Density of population—540 per square mile.

Density of population per square mile of cultivated land—5,330 or 8.3+ persons per acre of cultivated land.

Total cultivated land—only 15,000,000 acres.

Plans for land reclamation (1945-50) are to add 3,900,000 acres to cultivated acreage of which only 10% could grow rice.

Actual reclamation under plan up to April 1948: 692,000 acres.

Japanese foresters recommend reforestation of some 7,190,000 acres to help control erosion.

Because of multiple cropping the acres of crop are nearly 40% greater than acres of cultivated land (3 crops in a year are not uncommon in S. W. Japan).

Food production on reclaimed land will depend upon natural fertility of the reclaimed soil, the availability of commercial fertilizers, and farm manures; speed of settlement of reclaimed areas and managerial practices of settlers.

(Data from "Land Use and Conservation in Japan" in **World Crops**, May, 1950.)