Modified Method of Cleaning Milking Machines

Contributed by the
DAIRY DIVISION.

THE necessity for water being maintained at boiling point for cleansing milking machines has been clearly proved in Dr. Moir's article, but with the possibility of a reduction in the amount of electricity available, it may be necessary to adopt a modified method.

By the Electric Water Heating Order, 1943, all supply authorities in the Dominion are required to charge for all electric current used in water heaters on a unit basis. A recent survey covering 280 dairy water heaters showed:—

(1) That although the cylinders were not completely filled after the evening wash-up and the current was switched on all night, in very few was the water boiling next morning.

(2) That in order to reduce the charges for electricity the current was switched off during the day on many farms.

(3) That there was on these farms a deterioration in the quality of the milk and cream produced.

Although there has, up to the present, been no reduction in the amount of electricity which can be used for dairy water heating, provided the consumer is prepared to pay for what is used, the position may arise where a reduction becomes necessary. Should this happen, the following modifications of the cleaning methods recommended in the reprint of Bulletin No. 118 are suggested:—

(A.)

The amount of cold rinse water should be increased. It is impossible to use too great a quantity, but too little will result in milk being left in the milk pipes and consequently cooked on the surfaces by the boiling water which follows.

(B.)

The use of boiling water and caustic soda twice daily is essential if milking plants are to be kept thoroughly clean.

It should not be necessary to stress the merit of this method, as it has been amply tried and proved during the 30-odd years it has been in use. The condition of the milking plant where this system is followed and the quality of the resultant milk and cream delivered leave no room for argument.

There has been some argument with power board engineers regarding the necessity for water being up to boiling point because of the fact that water boils at 185 deg. F. in a milking machine working at a vacuum of 15 inches. This point is dealt with in Dr. Moir's article.

(C.)

Where, through the inefficiency of the cylinder or the element, boiling water is not available at both milkings when the cylinder has been filled to capacity, better results will be obtained if the amount of water added is reduced to the quantity which will ensure that it boils in the heating time available. With an efficient installation, the full cylinder of boiling water should be available at the morning wash-up, but it may be necessary to reduce the quantity added in the morning in order to obtain boiling water at night. Apart from the production of uncontaminated milk, the twice daily boiling water-caustic soda method has a very definite influence on the amount of fat absorbed by the milking machine rubberware, more especially the inflations and eleflator rubbers, which are subject to flexing. This feature is more fully dealt with in the article by Mr. J. M. Kristensen, Farm Dairy Instructor, Inglewood.

Experience has shown that a large quantity of hot water will not do the work of a small quantity of **boiling** water, which, due to its high temperature, will increase the efficiency of the caustic soda added. For that reason, it is preferable when the full quantity of boiling water is not available to use as a **minimum** one gallon of boiling solution followed by one-half gallon of boiling rinse water per set of teat-cups at **each** milking.

(D.)

Present indications are that, with the adoption of the unit system of charging for electric water heating, the cost to the farmer would be increased should the current be switched on for the full period between milkings. If such proves to be the case, the heater switch on an efficient cylinder can probably be turned off for up to four hours between the morning and evening milkings and still provide sufficient boiling water for use as described under "C," but the water must be boiling and the twice daily system followed.

(E.)

A deposit of milk-stone in the milk pipe and releaser is due to:—

(1) Insufficient rinse water;

(2) Failure to use a tight-fitting brush or horse-hair ball in the overhead milk pipe;

(3) The use of hard water.

The first is dealt with in "A" of this article, the second on page 3, and the third on page 12 of Bulletin No. 118.

No apology is made for once more referring to the ncessity for the utmost care in the cleaning of milking machines and all dairy equipment, as there is a definite inclination to economise in the use of electric current for this purpose in areas where the unit system of charging has been installed. This can easily reach the point where the good reputation for keeping quality of our butter and cheese which has been built up over the years and maintained under war conditions could be lost.

ROOT DEVELOPMENT OF PASTURE PLANTS.

Agriculture in New Zealand is founded on pasture. A free bulletin on "Root-development in Some Common New Zealand Pasture Plants" may be obtained from the Department of Scientific and Industrial Research, Box 18, Govt. Buildings, Wellington. This bulletin deals with perennial ryegrass, cocksfoot and white clover.