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IS THE MACHINE MILKER A PRACTICAL SUCCESS? WHAT EXPERIMENTS INDICATE

By "Dairyman"

The Milking Machine is already solving the labor problem of the Scotch farmer. It has been tried in both Canada and the United States. A synopsis of results of experiments to date.

UNLESS labor conditions improve, or the milking machine comes into more general use, the cost of living in so far as dairy products are concerned, is almost certain to go higher. During the past two years milk and cream have advanced fully 25 per cent. in the cities of Canada, while good butter and cheese have kept up all through the year and would have gone higher for the former product had not the demand been relieved by importations. The advance is not due to inferior cows, or lack of feed nearly so much as to a deficiency of suitable labor. Women milkers, and these were always most satisfactory, have gone out of the business, and men who will drive a team on the farm and milk 10 or 12 cows properly

and at the present time many are being used to the satisfaction of their owners, which indicates that dairymen need not despair so long as cows will yield the milk.

Mechanical milking has been well investigated by experiment stations. In 1909 the Ontario Agricultural College issued Bulletin No. 159, setting forth the results of a series of comparative tests made of hand and machine milking for short periods. In these it was shown that machine milking is fully equal to inexperienced hand milking. It is shown that young cows respond well to the machine, indicating the value of training. Regarding the quality of the milk, it was claimed that it is possible and practicable for the general farmer to produce pure milk by

day for the 10 cows. The hand-milked gave 4,371 pounds, the machine-milked 4,068.5 pounds. Strippers got 68 pounds a day from the hand-milked cows and 85.2 pounds from the machine-milked ones. The milk drawn by hand tested 3.77 per cent. of fat, as compared with 3.49 per cent. in the machine-drawn milk. This test is claimed by the authors to show that by the use of milking machines the labor is reduced one-half. This makes it possible to retain better men, larger dairies, specialize to a greater extent, and thus secure a better product and price.

MACHINE-DRAWN MILK KEEPS LONGER

From 1905 to 1907, milking machines were used on the college herd at Storrs Agricultural Experiment Station, Connecticut. Among other results, it was shown that in the majority of cases machine-drawn milk kept longer without souring than hand-drawn. This occurred in spite of a higher bacterial content in machine-drawn milk. When cotton filters were used for straining, hand-milked milk curdled in 36 hours and machine-milked in 72 hours.

A Kansas Station bulletin by Oscar Erf maintains that the labor saved by the machine working under practical conditions has been conservatively estimated to range from 30 to 40 per cent. Some cows gave a decreased quantity to the machine, while others gave more than to hand milkers. The quality was affected in practically the same way; hence under average conditions as far as has been experienced the machine proves to be as efficient as the average milker milking by hand.

DISTRACT THE COW'S ATTENTION

It was found desirable, in the Kansas trials, especially at first, to feed cows their concentrated ration during milking. This has a tendency to distract the attention of the cow from the milking machine, and seems to induce milk secretion. It is pointed out that it is extremely necessary for the man in charge to fully understand how to operate a milking machine. To reach the highest degree of success, the bulletin claims, the cows should be selected and bred to respond to machine milking. If this factor is taken into consideration milking machines will be equally as successful as the best hand milking.

In connection with the investigation conducted by the Kansas Station, the subject was studied from a bacteriological standpoint. It is concluded that unless sufficient care is used in cleaning the machine, decaying milk and bacteria accumulate in the rubber tubes and contaminate the milk as it passes through them. When kept in fairly clean condition the machine-drawn milk contains decidedly smaller number of bacteria than the corresponding hand-drawn milk. Placing the rubber parts in brine for



Cattle Appreciate Shady, Well Watered Corners Such as This

The scene of our illustration is on the farm of R. E. Nes, Howick, Que., a gold medal farmer whose farm will be one of those contesting for Inter-Provincial honors in the farms competition to be conducted by Farm and Dairy this year. In these hot days a shady corner in the pasture is much appreciated by the cattle.

the use of the machine. To do this, either by hand or machine, requires scrupulous cleanliness about the stable, the animals, the person of the milker, the machine and other utensils.

UNITED STATES TRIALS

In 1896 the Department of Agriculture at Washington issued a report, "The Milking Machine as a Factor in Dairying." In the first experiment reported, one man running one machine milked four cows twice each day in 26.59 minutes, as compared with 40.59 minutes occupied by a hand milker in milking the same number of cows of equal quality. The machine milked two cows at once. In the second experiment, one man attended five machines. During 20 days, 10 cows were milked daily in 37.07 minutes, while it required 124.4 minutes daily to milk the same number by hand. The saving made by the machine amounted to 117.9 minutes, but counting the time required in manipulating the udder and stripping, the saving was 58.45 minutes a

day for the 10 cows. The hand-milked gave 4,371 pounds, the machine-milked 4,068.5 pounds. Strippers got 68 pounds a day from the hand-milked cows and 85.2 pounds from the machine-milked ones. The milk drawn by hand tested 3.77 per cent. of fat, as compared with 3.49 per cent. in the machine-drawn milk. This test is claimed by the authors to show that by the use of milking machines the labor is reduced one-half. This makes it possible to retain better men, larger dairies, specialize to a greater extent, and thus secure a better product and price.

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