

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.

TNLESS 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

912.

Ontario

automo-

by our

the road

lly with

thanks

vocatine ling and ould not

work of it assur-

official in their va, Ont

nce

erprises, f ringof fresh

asy nos-

has the

ontacts,

of dissolution,

ter relals of a

body of

non. in this

dinnet

a juicy an appe-

who can

of such Id, tire

or corn-

ions be-

ration it

ind pre-

advan

People

ring, for

operative

c heary

rom the

that he

very bull ntle bull A bull no horts

high in

her life rink too

ofter the

htly and

d should

ace.

ind.

other.

lief in sight.

morning and evening, are becoming harder and harder to find, and when found have to be paid a good stiff price for their labor. Many a herd that the owner would like to increase has to be kept down to a number that can be handled by one man or boy in addition to the farmer's family. A prominent milk producer near Ottawa owning a large herd of excellent cows recently found it necessary to sell off the entire lot to make way for beef cattle. To keep milkers seemed impossible even though the highest wages were offered. Except in purely dairy sections where most people grow up to milk, the situation is constantly becoming more acute until the adoption of the mechanical milker seems to be the only re-

MILKING MACHINE IN SCOTLAND

It is many years since milking machines were first used. Many Old Country dairymen find them necessary in the conduct of their business. Farm after farm in the western counties of Scotland use the milking machine and would be reluctant to return to hand milking because of the vexatious problem of keeping good men. Discussing the two methods of milking, a shrewd Scot remarked : "The machine never gets out of temper, nor becomes impatient to get away to the football field. It does its work the same from day to day, so that the cows know what to expect and respond accordingly." In none of the older countries are milkers as diffiult to hold as in Scotland. No class of farmer is more practical in his farm management than the Scot, either at home or abroad. And so we find many dairies in Scotland using the milking machine. In Canada the machine has been tried on many farms with greater or less satisfaction,

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 cova will yield the milk.

Mechanical milking has been well investigated by experiment stations. In 1909 the Ontario Agricultural College issued Bullein No. 189, setting forth the results of a series of comparative tests made of hand and machine milking for abort 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 4,063.5 pounds. Strippers got 68 pounds a day from the handmilked cows and 85.2 pounds from the machinemilked 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 onehalf. 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 MLX KEEPS LONGER

From 1905 to 1907, milking machines were used on the college hord at Storrs Agricultural Experiment Station, Connecticat. Among other results, it was shown that in the majority of cases machine-drawn milk keyt 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 76 hours.

A Kansas Station bulletin by Oscar Erf maintains that the lator 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

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 tules and contaminate the milk as it passes through them. When kept in fairly clean condition the machinedrawn milk contains decidedly smaller number of bacteria than the corresponding hand-frawn milk. Placing the rubber parts in brine for



Cattle Appreciate Shady, Well Watered Corners Such as This

The scene of our likewise on the farm of E. E. Ness. Howeis, Gare, a sold medial farmer whose farm will be one of those contesting for Inter-Frontisch Gare, a gare de scan conveilion to be conducted by Farm and Dairy this year. In these hot days a shady corner in the pastrue 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. UNITER STATES THATS

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 154.9 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