

ing. We are glad to state that we have so far succeeded in securing for the trade such outfits at comparatively low prices—that is, one hundred and eighty dollars (\$180) for a separator, friction gear and horse gear or power. If the above-named figures are still beyond the means of the average dairy farmer, nothing could prevent two or three farmers from clubbing together and sharing the expense, as well as the advantages, of such improved machinery. Any farmer keeping a goodly number of cows could well afford to secure even a still larger outfit, buy the milk from his neighbors, and thus start the foundation of a minor creamery. Hence, nothing can prevent our dairy farmers from securing, through well equipped and properly managed private dairies, nearly the advantage and profits of a creamery. Wherever small separators are used the creamery operations begin with the milking of cows, and by the time the cows are milked your dairy work is nearly done. In this way the largest quantity of best quality of cream is obtained, and the sweet, warm skim milk is ready for your calves and swine. You have no cans nor pans to wash, no milk to set, no great quantity of water to pump, and a good supply of fine butter is obtained, which when shipped weekly to market brings lots of money in your pocket.

S. M. BARRE.

Winter Dairying at London.

Recently a number of farmers from London township, interested in winter butter making, met at the Geary cheese factory, near London.

The Dominion government are endeavoring to show how cheese factories may be fitted up with comparatively little expense for winter butter making, and for this purpose have placed the necessary machinery in this factory. As there was already an engine in the building, very little change was necessary, save a little paper and sheeting to make the room comfortable. The same vats were used, the only change being that they were raised to such a height from the floor that the milk would run readily into the separator. The separator used is a No. 1 power Alexandra, with a capacity of 300 gallons per hour. Between the milk vat and the separator is placed a heater; the milk in passing through this is warmed by steam. A jetometer, a small steam pump, is used to force the skimmed milk from the separator up into the vat, ready to be redistributed to the patrons according to their share of the whole milk.

The machinery necessary to change this cheese factory to a creamery was supplied by Mr. J. S. Pearce, of London, and consists of

1 300-gallon Alexandra Separator	\$400
1 Trunk Churn	55
1 Watson Power Butter Worker	55
1 Heating or Tempering Vat	25
1 20-bottle Babcock Tester	20
	\$555

These, with shafting, belts, butter ladles, salt dippers, etc., will be all that is necessary, so that \$600 will cover all expenses in changing from a cheese factory to a creamery. With present arrangements the milk of a thousand cows can be worked up, and the factory will doubtless become so popular, as soon as its advantages are realized, that sufficient milk will be supplied to run it to its utmost capacity. Samples of each patron's milk are taken and tested by the Babcock tester, and the pay is based upon the number of pounds of butter fat which is supplied by each patron.

After the machinery and building had been thoroughly inspected, those present adjourned to where the speaking was to take place.

Prof. Robertson was the first speaker. He spoke of the importance of winter dairying and the great success they are having with their butter factories. In 1890 there were but

two; now there are eighteen, an increase of nine fold. He had prevented twelve from starting, because he thought that they were not ready. He thinks that within two years there will be two hundred in operation. For the butter produced they make an advance payment per lb. of 15c., and the balance at the end of the season. Continuing, the Professor said that there was no reason why 20c. should not be realized clear of all expenses, while by using the centrifugal separator more butter could be obtained than by the ordinary way of setting in deep cans, besides having the skim milk to raise more calves on, or it could be profitably used in fattening pigs in connection with the coarse grains. They had carried on at Ottawa a very successful experiment in feeding frozen wheat to hogs. For each bushel of wheat fed they got an increase of 15 lbs., which would be equal to 73c. for the wheat. They also had an increase of 1 lb. for every 4½ lbs. of coarse grain fed.

Some people say that this feed will make the flesh too soft, but he had asked the opinion of a noted pork packer and extensive shipper, who said that it was of good quality and much superior to pea-fed pork. The English bacon eater likes the softer barley and oat-fed hogs better than the harder pea-fed pork.

While winter dairying will be of great service to the farmer, yet it will be of no particular advantage to the man who is too shiftless to help himself. By its help the enterprising farmer will not only be able to keep more cows, but he also can keep them better.

At the Experimental Farm they had kept 28 cows for 12 months with the produce off 40 acres, and this by ordinary farm work. The farmer should feed cheap feed, and as a cheap feed he recommends the ensilage which they were experimenting with at Ottawa, and which will give much larger yields than corn alone. Mix 16 lbs. of corn with 16 lbs. of English horse beans per acre, and sow in rows. The beans will take nearly all their plant food from the atmosphere, and do not rob the soil. The corn will grow as well mixed with the beans as if it was sown alone. Then mix the corn and beans with the heads from half an acre of sunflowers and put in the silo. At Ottawa they have grown as high as 7½ tons of sunflower heads per acre. He says that it gives good results in feeding, and that the oily nature of the sunflower has the effect of toning up the digestive organs.

Good cows are as necessary for success in dairying as is cheap feed. They need not necessarily be pure-bred, but must be capable of producing a good yield of butter or cheese. To be successful the farmer must attend to all the small details, for the little things often make the difference between success and failure. Look after your cows' comfort, feed regularly, give them plenty of salt, be sure to keep the milk clean and free from all bad odors.

The Professor closed by saying that he was on his way to England to make better arrangements for the sale of dairy products from Canada.

Mr. J. S. Pearce, of London, spoke of the importance of winter dairying, and as it was a success across the border, he saw no reason why it should not be successful in Canada, for in many respects we are better situated and have advantages over the farmers in the neighboring republic. He then gave an exhaustive series of statistics on the increase of the dairying industry, but we can only quote a few of them. In 1891 there were 838 cheese factories in Ontario, and last year they exported cheese to the value of \$9,580,000, as compared with \$620,000 in 1888. This splendid increase is a most gratifying showing, and he knew no reason, if we made good butter, why the value of it should not increase in the same ratio as the value of the cheese has. The average price received by creameries last year for their butter was 20½ cents.

England imported, in 1891, 238,120,000 lbs. of butter; of this we exported 3,768,000 lbs., or not much more than one per cent. This is not as it should be, and could be remedied if the patrons and leaders of dairy interests would keep it before the public, and see that the quality of butter was brought up to the same standard, and its name kept up, as that of our cheese has been.

Family Circle.

ESTHER GODWIN'S GEESSE.

BY BESSIE CHANDLER.

Esther Godwin stood at her side door counting her geese. They had just been fed and were on their way to the goose pond, waddling along with that peculiar air of bumpiousness and importance which always makes their name seem so appropriate.

"There's seventeen of 'em," said Miss Esther; "seventeen at eight pounds a piece and a shilling a pound, that's—let me see—eight shillings is a dollar, that's—why, that's seventeen dollars!"

She seemed surprised at the simplicity with which her problem worked itself out.

"I don't suppose I'll really get more than fourteen or fifteen dollars for the lot," she went on, "but that'll get a splendid Thanksgiving dinner, and have some to spare. Fifteen dollars is a lot of money."

She was a plump little woman, with rosy cheeks and black hair, which was just beginning to turn gray. She would have been pretty but for the look of anxiety and apprehension which had become habitual. It gave one the impression that she had had many troubles, and was waiting nervously for the next, which she felt sure was on the way.

Her little farm, which stretched away toward the creek, behind the low, white farmhouse, had the tired, discouraged look which farms sometimes wear. The barns were shabby and wanted painting, the fences were poor, and any farmer could have told you, at a glance, that the whole place needed ditching and draining. Around the house itself everything was neat and clean. Marigolds, and China asters were blooming in the little garden and some late sweet peas having climbed far above their supporting brush were nodding triumphantly at every breeze. The milk pans that were sunning themselves on a little bench were dazzling bright, and there were no chips or litter of any kind around the kitchen door.

As far as one pair of hands could do it, the work had been well done, but it is hard for a woman to run a farm alone, especially if it is encumbered with a mortgage to start with. Besides the farm, Miss Esther had an invalid mother to take care of when Richard Godwin died and left her at the head of his somewhat involved affairs.

She had nursed her mother patiently and tenderly until she died, and since then she had done the best she could with her poor little farm, but the mortgage had hung over it like a heavy thunder cloud, and life had been more of a struggle than a frolic to Esther Godwin.

However, this was to be her last year in the old home. She was going to sell everything, pay all the old debts, and then with a snug little balance in her favor she hoped to go to live with her brother in the city.

She was too sensible a woman to mourn deeply over the impending change in her affairs. She regretted it, but she accepted it cheerfully. She said to herself in a practical sort of way—

"I can't keep the farm, and it's no use pretending I can. I ain't a-going to stay in one room and shut up the rest of the house, and half starve, living on a flake or two of mackerel and a little dab of quince jelly! That's the way old Miss Pierson does. She may call it being independent if she chooses, but I say it's just indecent, and she with a son that's ready to take her and do for her, out in Colorado! Of course, if things was different—"

and here Miss Esther's eyes were apt to grow a little sad as they wandered over her pasture lot to the rail fence that separated her little farm from Simon Bushnell's well-tilled acres.

The apple-trees in his orchard hung over her rail fence, and many an apple in the autumn dropped over on her side.

But Miss Esther never picked them up now. There was a time when they might all have been her apples, but that was long ago. Miss Esther never spoke of her old-time lover,—in fact she had never spoken but once of her unhappy love affair. That was when her mother died and her brother James had exercised his right, as head of the family, to question her.

"Whatever was the trouble 'tween you and Simon Bushnell, Esther?" he asked.

Miss Esther bit her lip and turned very white. "There wasn't no trouble, James," she answered, "he—you see—he's a sort of quick-tempered man and terrible sot in his ways. We'd been engaged about two months when his mother died and he came a-prancin' over one evening and wanted I should marry him right away. He said he was awful lonely and getting terrible tired of Miss Sanders' cooking. I found out afterward she hadn't given him nothing but batter cakes for dinner that day and Simon never could abide batter cakes. I think myself they set like lead in your stomach. Well, I told him it wasn't no time 'o be marryin' with my mother flat on her back, and his mother just laid in her grave. The truth was I wasn't ready. I hadn't made but two flannel petticoats, and hemmed some towels, and I wasn't going to marry no man without a decent setting out."

She stopped a little and sighed.

"What did he say, Esther?" asked her brother.

"He said he guessed that was as good a time as any, but I wouldn't hear to it. Then he flared up and said, 'Well it's now or never, and then I flared up too, and said, 'Well, Simon, it may be never for all o' me.' Then he walked off, holding his head high and toppin', and I kept thinking he'd turn 'round and come back, but he didn't, and James, he's never so much as spoke to me since nor even looked this way."