

tained from experiments conducted by Professor Dean, and which were published in FARMING of May 3rd, page 291. The comparisons made by him are as follows:

300 lbs. milk 4.35 per cent. fat produce 33 lbs. cheese @ 8c.....	\$2 64
300 lbs. milk 3.15 per cent. fat produce 26 lbs. cheese @ 8c.....	2 08
300 lbs. milk 4.35 per cent. fat produce 15.21 lbs. @ 20c.....	3 04
300 lbs. milk 3.15 per cent. fat produce 10.50 lbs. @ 20c.....	2 10

The difference in value of milk testing 4.35 and 3.15 is 54c. in cheese and 96c. in butter; or a difference of about 1.2 per cent. makes nearly one-half more value in milk which tests 3.15 for butter. According to our old score we would give the cow which gave the 300 lbs. of 4.35 milk:

4.35 x 3 x 20 ..	261 points for fat.
9 x 3 x 4	108 points for solids not fat.
300 lbs. of milk.	300 points for water.

669 points in all.

The cow which gave the 3.15 per cent. milk would score:

3.15 x 3 x 20....	189 points for fat.
9 x 3 x 4	108 points for solids not fat.
300 lbs. milk...	300 points for water.

597 points.

While the cow's milk which contained the 4.35 per cent. fat was one-half more valuable for butter making than the milk of the cow which gave the 3.15 per cent. fat, for cheese making, the rich milk was worth $\frac{1}{2}$ more, and according to the old test of score the cow which gave rich milk was only $\frac{1}{2}$ more than the cow which gave poor milk.

Now according to proposed scale the cow which gave the 4.35 per cent. milk would get:

1 point for each pound of solids not fat.	
10 points for each pound of fat.	
300 lbs. of 4.35 per cent. fat would give:	
152 points for fat.	
27 points for solids not fat.	

179

Cow which gave 3.15 per cent. fat would get:

105 points for fat.	
27 points for solids not fat.	

132

Now according to this score the cow which gave the rich milk would get about $\frac{1}{2}$ more for her milk in place of $\frac{1}{2}$, and as $\frac{1}{2}$ is about the difference in value of milk made into cheese and a little less than the difference in value made into butter, it would be much fairer than the old way.

The foregoing was based upon milk with only a difference of 1.2, but when we get milk that tests 3 per cent. and 4.5 there is still a greater difference.

100 lbs. of 4.5 per cent. milk will make 5.25 lbs. of butter; 5.25 lbs. of butter @ 20c.....	\$1 05
100 lbs. of 3 per cent. milk will make 3.5 lbs. of butter; 3.5 lbs. of butter @ 20c.....	70

A difference of $\frac{1}{2}$ in favor of rich milk.	
100 lbs. of 4.5 milk will score:	
100 points for water.	
36 points for solids not fat.	
90 points for fat.	

226

100 lbs. of 3 per cent. milk will score:	
100 points for water.	
36 points for solids not fat.	
60 points for fat.	

196

Difference in two scores of 30 points, or about $\frac{1}{2}$ in favor of rich milk, while there is a difference of $\frac{1}{2}$ in manufactured products.

It will be seen from these comparisons that this new plan has many points in its favor and is worth considering by everyone interested in dairy matters. The Dairy Committee of the Provincial Winter Show met at Guelph on Saturday last, when this new scheme, as well as others, was under consideration. The report of the committee will appear in next week's issue. In the meantime the columns of FARMING will be open for a discussion of the whole question,

and we would be pleased to hear from dairy breeders in regard to it.

THE CARE OF MILK.

LET US KNOW HOW YOU DO IT.

We should like a number of our readers, who supply milk to a cheese factory or creamery, to send us answers to the following questions:

- (1) In what way do you guard against uncleanliness when milking?
- (2) Do you strain the milk?
- (3) What plan do you adopt to have the milk properly aerated?
- (4) In what way do you keep the milk over night?

Make the answers as short as possible, and let us have your experience on these points.

Editor of FARMING:

In reply to your four questions in your issue of 10th inst., have to say:

(1) By having a clean whitewashed stable, brush off the cows, and wash and wipe the udder before milking, and by using a covered milk pail into which the milk is strained as drawn from cow.

(2 and 3) We strain and aerate the milk by having a large milk dish punched full of small holes. This dish stands on stout wire legs on the rim of the factory can and twelve inches above it; we put two folds of cheese cloth in it, and the milk falls in a fine shower into the factory can. We have another large milk dish to the bottom of which is attached a long handle underneath. In this dish are about a dozen holes. After the milk is in the can we invert this dish and plunge it down through the milk, the air contained in the dish when put into the milk escaping; and when the dish is drawn up from the milk the milk is considerably agitated and dashes up the sides of the can.

(4) On the milk stand.

I may say that if the cows are kept clean with wholesome surroundings there will not be much fear of animal odor or other bad flavors.

J. HOLLINGWORTH,
May 23rd, 1898. Beatrice, Ont.

ECONOMY, KINDNESS AND CLEANLINESS IN DAIRYING.

By W. J. PALMER, Toronto.

(Read before the Eastern Butter and Cheese Association.)

There are two or three things that farmers should bear in mind if they would make a success of dairying. In going through the country giving instruction with the Travelling Dairy, I observed that there were opportunities for improvement in the way of kindness to animals, in cleanliness of stables and milk houses, and in the matter of economy—a wise and generous economy, so to speak. Those of you who have been farming for years know that to day you must practise economy to a degree that you were never called on to do before. You cannot feed as liberally—as wastefully—as you did before; you must husband your resources very carefully if you would make a living. Your sons will have to make a further change in their methods of feeding live stock if they are to succeed in dairying. You are not now horse-feeding as much as formerly. The horse used to get nearly all the attention, kindness and feed, while the poor cow was neglected as of but little importance; but there is little profit in horse-raising to-day, and so we are turning our attention to the milch cow as the hope of Ontario agriculture. But even to-day there is too much waste in managing dairy cattle. I am in the milk and butter business in Toronto now, and,

in going around among the men from whom we are getting our supplies, I have noticed a good deal of difference in the way they attend to their cattle, and the amount of money they make out of their milk. I have noticed some places where the cattle are very rough looking, and the owners are making very little out of them. I met a man recently in the Niagara district who, according to his own statement, could make a handful of grain go further in feeding cows than any professional dairyman could. He said he could feed a cow on \$10 a year, and get more out of her than any of the scientific chaps who were teaching and lecturing people how to feed cattle could do for \$40. But he made one statement that I think gave him away as an authority on feeding live stock. He said he had kept hens until they were fourteen years old, and that they had laid better than when two years old, and that he had one hen which he killed when twenty years old, and it was as tender as a spring chicken. (Laughter.) A great deal depends upon how cattle are treated. Down in my native province of Prince Edward Island I have known farmers who brought in fine fat cattle fed almost entirely upon turnips. They would bring in a pig almost fat enough to burst which had been fed upon but little else than butter-milk. How was this done? They supplemented their comparatively poor feeding with much kindness. I can assure you that kindness goes a good way in the thrift of live stock. The cost of producing the milk needs to be very closely studied. If it costs you 80 cents to produce a hundred pounds of milk, and you receive only 70 cents a hundred for it, you are a loser, and the more milk you handle the more you lose. But if you make milk for 30 cents a hundred, and you can get 70 cents a hundred for it, you are making money. In order to do this, however, you must have warm stables, well-lighted and ventilated, and cleanliness and kindness must prevail. If you will curry-comb and clean the cow as carefully and regularly as you do a horse it would pay. Every time you scratch that old cow for a few minutes with the comb she will give you a few pounds more milk. We sometimes find cow stables very cold—perhaps as low as 40 degrees, while across the way there is a stable comfortably warm.

My experience with city customers leads me to the conclusion that one of the most important things in the butter trade is to have the print, pat or package in a clean and attractive form. The place where the cheese or butter is made cannot be too clean and pure. Our inspectors are doing much good, and our dairy products are greatly benefited by their work, directly and indirectly; but I am afraid that we still have too much butter made up in unclean and illy ventilated quarters. We have a place in Toronto where bad butter is bought at five cents a pound, and made over again, and then sold for fifteen cents a pound. The consumers are getting more particular every year. No one will knowingly pay a good price for turnip butter, and they will not want it the second time at any price. It is a pity that notwithstanding all that has been said against feeding turnips that some will

persist in using those roots. If only one patron of a creamery or factory will use turnips it will affect the whole make. Turnips are unpopular with city customers; they blame it for nearly every taint or bad flavor in milk or butter. Even "leaky" flavor has been attributed to turnips. A point in dairying worthy of closer attention is to the putting up of butter in neat packages. The taste is often governed by the eye. Butter put up in attractive style generally finds a ready sale, if it has no style in its make up it is not so likely to be called for. I have known a lady to send back a pound of butter because she did not like the taste of it, when she really was objecting to its appearance. That same butter was made up in a neat wrapper and again sent to her, when she declared that it was the nicest butter she had ever tasted. (Laughter.)

Let me emphasize the question of flavor. Our best patrons ship their creamery butter to us every day. They have everything neat and clean and pure about their stables and general surroundings. They aim to have the same flavor every week. Butter made at home cannot have the same evenness of flavor. We get thirty cents a pound for first-class creamery butter, while for much of the farm butter but little more than twenty cents can be had, because it is likely to vary in flavor. If your cream has a bad flavor heat it up to 150° to drive off that bad odor, then cool it down and churn it, and you will have butter that will realize a good price. Do not take white butter to the market; it looks lardy. Color it to suit the taste or preference of your customer. A man said to me once, "If they want green butter make it green for them." If you have not a liking or a love for dairying you had better go into some other line of business.

MANITOBA FARMERS' INSTITUTES.

The summer programme for the Farmers' Institute meetings in Manitoba has been issued. The meetings are arranged in seven groups with a competent staff of speakers for each group. The meetings will begin on June 27th, and continue till July 11th, during which time the leading farming centres in the province will be visited. In the local institutes the meetings will be the regular annual meetings. The general secretary of the institutes is fortunate in having secured an excellent staff of speakers for these meetings. The speakers outside of the province will be Dr. Fletcher, of the Central Experimental Farm, Ottawa; D. W. Willson, editor Elgin Dairy Report, Elgin, Ill.; John I. Hobson, president Dominion Cattle Breeders' Association, Guelph; Isaac Usher, Queenston, Ont. Other speakers will include Dairy Superintendent MacDonald, Charles Braithwaite, A. P. Stevenson, D. A. Stewart, M. Young, V.S., F. Torrance, M.A., A. McKenzie, S. A. Bedford, supt. Experimental Farm, Brandon; H. S. McLean, and Hugh McKellar, chief clerk Department of Agriculture, Winnipeg.

The Central Institute meeting for the province will be held at Brandon on July 5th, 6th and 7th, when most of the outside speakers, together with Hon. Thomas Greenway, will deliver addresses.