

so huge as to create the danger of arousing the people, it called in the stock and issued three shares for one.

"The Dairy Company's dividends, however, have continued to swell to such an extent that already this year it is alleged to have paid 14 per cent. on the common. The whole or part of this may, of course, come from other than the milk division of the business. That could be determined by an investigation."

Mr. Rothwell in his letter to the Advocate says: "Your correspondent, in ignorance or intentionally, ignores the fact that the Ottawa Dairy are engaged in several other lines of business in addition to the milk trade, and that their profits are made in these side lines."

The real point of this argument from the farmer's standpoint is that if enormous profits are made by the company, even though they be made on "side lines" (such as butter, ice-cream, condensed milk, etc.), these profitable side-lines all grow out of the farmer's milk; and that the company makes a very big profit from the product, while the farmer makes a very small one. To put the proposition another way, if the farmers supplied no milk there would be no profitable "side-lines." To state it any other way is to make a distinction without making a difference. It is what the common, every-day, milk-shipping farmer gets out of the thing that we are concerned about in these articles.

The Ottawa Citizen's "shareholder" informant above quoted gives some interesting history concerning the Ottawa Dairy.

"When the company was first formed all the men who owned milk routes were approached to sell out their routes to the company," he said. "They were paid for their routes in proportion to the amount of milk they sold in the city. It was \$20 a gallon for their average daily distribution in the city. This was paid for in 8 per cent. preferred stock and a bonus, dollar for dollar, of common stock. What attracted the milk producers most was the amount they were to receive for their milk from the company."

"The majority of the milkmen sold out to the company in this way and the company started operations. The first two years were bad, the company losing a great deal of money. The trouble was that the customers did not change as readily as had been anticipated from the individual dealers to the company, and many instead bought from other independent distributors."

"Then the company called a meeting to decide what was to be done. Most of the shareholders were farmers, and the officers said that the only thing to save the company was for the farmers to sell their milk routes; if the company failed they would be left out of the city business altogether, and little remained for them to do but accept a lower price per gallon. This they did. This enabled the company to cut the prices and thereby get most of the business in the city. The other dealers were for the most part crowded out. From that time on, with few independent dealers left, the company began to grow prosperous."

"At that time common stock went for a song. I remember one occasion when a man flipped a quarter to see whether he would pay five dollars or ten dollars for six shares. He won and got them for five dollars."

"From that on the value of common stock went up rapidly as the dividends increased. As far as I know, none of the common stock was sold by the company for cash. It was all given as bonus stock. There was \$150,000 worth of common stock at the start."

"Finally the profits were going up at such a rate that as high as 15 per cent. was declared on the common stock in one year. Money was put into new buildings and better equipment, but in spite of this the common shareholders continued to reap big profits."

"Then a few years ago the company was changed, getting a Dominion charter instead of the provincial one. All the preferred and common stock was called in and the stock in the new company was issued. The preferred stock in the new company was issued in the same proportion as had been in force in the old company, but the holders of common stock received two shares in the new company for every one they held in the old company. This doubled the amount of common stock, and accordingly the dividend per share would not be as high. However, since that the dividends have again begun to climb. It is understood that they are already 14 per cent. this year."

"The Ottawa Dairy's farm was not a paying venture. It was paying, as I remember at the last meeting I was at, only 2 per cent. on the money invested. However, it was considered good business from an advertising standpoint. The actual profits in the milk business, as shown by the company's books, have not been so very great. The big profits have been made, according to the company's returns, on the other branches of its operations, ice-cream, butter, etc."

"I think it would be a splendid thing to have an investigation such as The Citizen suggests. I have been intimately connected with the milk business and know this, that the farmers are making a small profit and the Ottawa Dairy Company is making a big one. Therefore, the idea to investigate only those making the small profit will not help the situation. Both should be investigated together."

"The Ottawa Dairy figures show that the company makes a very modest profit from its milk business. It is something like 7 per cent. on the money invested. They show that the big profits are made on the ice-

cream, butter business, etc. An investigation would show whether this is really a fact or whether it is a matter of bookkeeping. It would show whether the overhead charges are fairly placed so that the different departments are carrying their fair share, or whether it is a case of charging too heavily on the milk business, which would result in the other departments showing a big profit at the expense of the milk end. An expert accountant could easily determine this."

Mr. Rothwell endeavors to prove the profitability of producing milk by making the following statement:

"The writer, a practical farmer, has been intimately connected with the conduct of the company in question since its formation, and from his knowledge, born of experience in all phases of the milk trade, and in the hope that it will be educative as well as interesting to your correspondent, will say that the modern dairy farm, under skilful administration, may be made to show a net profit comparing favorably with that of the distributing company, and offers a less inviting target for verbal brickbats from well meaning but ill-informed critics of modern farm and trade economics."

This statement is more "interesting" than "educative." It is not fair nor reasonable for Mr. Rothwell to say out of his own experience that "the modern dairy farm, under skilful management, may be made to show a net profit comparing favorably with that of the distributing company." He may himself have shown such a net profit before joining the Ottawa Dairy, though I very much doubt it. With his farm located close to the city of Ottawa, and with his own distributing wagons getting the full retail price for his milk, he was incomparably better situated than the average farmer away out in the country "to show a net profit comparing favorably with that of the distributing company."

To contend that the ordinary milk-producing farmer, even with "skilful management," is able to or ever does make such profits as "shareholder" tells of, is not only wide of the mark but silly—absolutely silly, and Mr. Rothwell knows it might well. It is an excellent illustration of what he calls "rhetoric in lieu of facts."

Such statements are neither "educative" nor "interesting," and if anything is calculated to "turn the thoughts of the country youth to the already congested centres of population and intensify the ever-increasing disparity between producers and consumers," it is reading stories of company financing like that furnished by "shareholder" in the Ottawa Citizen.

Unfortunately there is no Babcock test to keep the water out of Big Business as it is kept out of milk. But that will come presently when the farmer realizes the real cause of his weak economic position in the business relations of this country, and uses his ballot in the interest of his own class and in opposition to the unfair profiteering of Big Business and High Finance. British Columbia and the prairies have furnished a warning, and the clouds are already gathering around Ottawa too. The signs are that the under dog in Canada will not be the under dog much longer.

This matter needs more agitation. In a later article I will show what the farmers have done to throw off their shackles, and introduce decent, business-like, commonsense legislation across the border to the south of us. It reads just like a fairy tale.

Northumberland Co., Ont. W. L. MARTIN.

Feeding the Dairy Cow for Most Profitable Returns.

Dairymen who bring their cows to the highest stage of production during winter months must aim at imitating summer conditions. This is more easily said than done. During late spring and early summer the dairy herd reaches the highest production, and the quality of the product is superior to that of other seasons. Luxuriant pasture gives abundance of feed, which is considered to be nearly a balanced ration. Grass is both succulent and palatable and in securing it cows receive exercise in a moderate temperature. Dairymen who are in a position to furnish these conditions secure the maximum profit from their herds during the time they must be confined to the stable and fed on stored feed. Any kind of feed will not produce milk in paying quantities. The demands on the animal system must be met before feed can be converted into milk and butter-fat. Milk is high in protein, therefore feeds containing this nutrient in large quantities are necessary. Carbohydrates and fat are also required and the relationship existing between these feeds should be around one of protein to five or six of carbohydrates. Wider rations are fed, but cows on heavy production require that the ration be somewhat narrower. The amount of feed must be sufficient to maintain the system, over that amount is left for production. However, the cow is so constituted that for a time she will produce even when kept on a maintenance ration by drawing on stored up material in her body. This cannot go on indefinitely. The cow gradually loses in flesh, then the milk yield drops.

The dairy cow is a highly organized manufacturing plant which turns out food ready for consumption. The digestive system is her engine and on it depends to a large extent the profits from the plant. The feed consumed furnishes fire to generate power to keep her going and working. The cow bears a close analogy

to a steam engine. Fuel must be supplied to generate steam to start the wheels turning. Wood, coal, gasoline, etc., of different qualities, comprise the different kinds of material which are in use. If it is of poor quality the fireman has difficulty in keeping up steam. The water may heat but not enough steam will generate to run the plant to capacity. Consequently the greatest profit is not made. In factories steam is generated under pressure so that the machinery can do its work. The best fuel is used to keep the fires burning. It is claimed that it only requires a little extra fuel to generate steam under pressure than it does to produce a small amount, but more work is accomplished per pound of fuel. The same may be applied to the dairy cow. A small amount of poor-grade feed may maintain the animal but will produce but little milk. Increase the ration and if the cow is of the right quality the production will be increased. Two or three pounds extra of concentrates may increase the milk yield ten or fifteen pounds. The engine must be big enough for the work it is required to do, and the dairy cow must also have the capacity and quality of digestion in order to be profitable. Too many cows have not the capacity nor machinery to make them profitable manufacturers, and on the other hand some that have both are deprived of the right kind of fuel and raw material by their owner. The cow which gives the largest returns in milk and butter fat for the feed consumed is the most profitable. However, an abundance of feed will not make a good cow out of a poor one. The mechanism or blood of the animal plays a large part.

The cow is equipped to handle a large amount of roughage. Under normal conditions this is the cheap part of the ration. Concentrates are more expensive, but it usually pays to add a certain amount of them to the roughage the cow eats. The amount may be regulated by the milk yield. The coarse feeds or roughages should be grown on the farm and if any feed must be purchased let it be concentrates. Clover or alfalfa hay and corn silage make ideal coarse feeds for the dairy cow. These feeds will produce a fair flow of milk without grains. Alfalfa cannot be grown on all soils but red clover and corn do well over a wide area. Silage adds succulence to the ration and aids in making dry feeds, as straw, more palatable. Roots are a feed which is being displaced somewhat by silage, but they still have a place in the ration. There is more value in this succulent feed than analyses show.

While most of the feed is grown on the farm, it is advisable to follow a standard when compiling a ration. It may pay to sell some grains grown, and purchase feeds higher in protein in order to balance the ration so that the best use can be made of all nutrients fed. With an unbalanced feed there is more or less loss of some of the nutrients fed. Each must bear a certain relationship to the other for most profitable production. The protein content is the most expensive to fill. The table on another page giving digestible nutrients of various feeds, gives some idea of their value for producing milk or meat.

About 7.925 pounds of digestible nutrients are required daily by 1,000-lb. cow for maintenance only, and of this .7 pounds should be digestible protein. About 30 pounds of silage and 10 pounds of straw would supply enough carbohydrates, but would be .3 pounds short of protein. If 8 pounds of clover hay are used instead of the straw, the maintenance requirements would be about met. A cow must be fed more than this quantity in order to produce milk. In fact, at no stage should a cow be kept on so small a ration. If she is not milking, she is usually carrying a calf, in the majority of cases doing both, therefore the demand on her system is great. The nutritive value of various feeds is shown in the table and where two or more are nearly equal, the dairyman would be influenced mostly by the market value. Sometimes the highest priced feeds are the cheapest in the end, as a small quantity seems to bring the ration up to the required amount. In this class are cottonseed meal, linseed meal, brewers' grains, peas, malt sprouts, gluten meal, etc. These are high in protein which is the most expensive substance required by dairy cows, but a feed they cannot get along without. They require it in larger quantities than other classes of stock. Mineral matter, as lime and phosphorus, is required in milk production but this substance is provided for in legume hay. Where the roughage is composed principally of timothy hay, wild grass, and corn stover, much greater quantities of concentrates are required than if clover or alfalfa hay are available. For economical feeding, dairymen should endeavor to grow plenty of clover hay. They can then produce milk on the minimum amount of expensive concentrates.

All cows are not of the same temperament. Some put the extra feed on their backs instead of in the pail. On this account a study should be made of the requirements of the individual animal. In the best bred herds cows vary in their productive ability, therefore to obtain the greatest profit, records should be kept of both milk and feed, and tests made occasionally to ascertain if it would pay to increase or decrease the grain. The cow should have all the good quality roughage she wants but the grain may be regulated by her production. The following feeding standard, based on rations which have given excellent results in practice, is taken from Henry's "Feeds and Feeding." As previously stated, a 1,000-lb. cow requires .7 lbs. digestible protein and a total of 7.925 pounds digestible nutrients for her maintenance; to this should be added .286 pounds digestible nutrients, of which .047 pounds are protein, for each pound of