

show comparison between rival breeds. They do not, cannot show the capacity of a cow in the "quiet of her own home," and at her best. I think if the public more fully realized this breeders would not have so much antipathy to public tests.

Now, as Stockman says he is "sick," it would be cruel to force any more physic. But as we know there are many of your readers want to learn more about Holsteins, in the next issue of the ADVOCATE I will give a few of their "performances," and will confine ourselves to public records, as your space will not allow to give testimony that supports private tests.

R. RICE, Currie, Ont.

[TO BE CONTINUED.]

The Dairy Cow Test.

That the foremost object of the FARMER'S ADVOCATE is to serve the interests of the country goes without saying. The dairy cow competition at the late Provincial Fair was a special effort in this direction.

The handsome trophy which the editor offered was not merely a boon to the winner but it proved the means of drawing out the class of facts farmers most need. The general farmer is not so much concerned about the rivalry of breeds as to secure a cow that will yield him the most profit upon her original cost, her care and her feed. This test, though but two breeds were represented, let light in upon that subject.

Furthermore, it should stimulate farmers to test every cow in their herds not only for quantity of milk, but quality. In this test one set of three cows showed a profit of over 47 per cent. on the value of food consumed, as against 13 per cent. by their competitors. In the course of a year that would amount to a "pretty penny." I read of a shrewd Yankee who largely increased his profits by testing all his cows; then retaining for butter-making the milk of cows specially rich in "fat" and sending the rest to the cheese factory. He skimmed the herd instead of the can.

Were the conditions of the ADVOCATE'S dairy competition not susceptible of improvement? I notice that Prof. Robertson, who conducted the test, intimates, in his report to the ADVOCATE, that he has modifications of the rules to suggest, if such tests are continued. In a comparative test it is desirable that the conditions be as nearly as possible alike. The point in this case is that the competing cows were fed on very different rations indeed. Let me re-adjust and analyze Prof. Robertson's tables. In weight the foods were as follows:—

	Ayrshires. lbs.	Jerseys. lbs.
Food	86½	66½
Grain	125	69½
Hay	36	153
Green corn stalks	247½	289

The stalks ate by the Jerseys were cared; those fed to the Ayrshires "broadcast." In the aggregate the three Jerseys ate 41½ lbs. more than the three Ayrshires, but the latter had the more costly food:—

	Ayrshires. cents.	Jerseys. cents.
Grain	77	60
Hay	62	35
Stalks	9	25
Total	\$1.48	\$1.20

The Ayrshire grain ration was chopped oats, 44 lbs.; chopped peas, 19½ lbs., and bran 23 lbs.; in all 86½ lbs. The Jersey received equal quanti-

ties (mixed) of chopped barley, oats, peas and bran, 66½ lbs. The kinds of grain fed and the quantities were both different.

In the three days the three Ayrshires gave 245 lbs. of milk; the Jerseys, 185 lbs.; but the butter fat in the former ranged for 2.75 to 2.88 per cent. while in the latter from 4.46 to 5.04. The difference in solids other than fats was not so marked.

What was the result? The Jerseys converted the cheaper and weightier food into the more valuable though less bulky milk, showing 47 per cent. profit on their food as against 13 by their rivals.

Now, would it not have been more valuable to test what these cows would have done fed similar rations preparatory to and during the test? Did the Ayrshires receive the best possible food? With the cheaper Jersey ration would they have done better or not so well? It is worthy of note that the Jersey diet was largely corn stalks eared, but this was the least costly item in their bill-of-fare.

Objection may be raised that it is impracticable to take the feeding out of the hands of owners. Many cows will not do their best on a public show ground, but because there are obstacles in the way are public tests to be abandoned?

This test has opened an interesting field of inquiry and the ADVOCATE deserves a vote of thanks from those interested in the cow business.

WM. THOMPSON, Jr., Derwent, Ont.

Co-operative Creameries.

BY PROF. JAS. W. ROBERTSON, GUELPH.

The creamery provides for the manufacture of milk into one of the most wholesome articles of food, which everyone wants and likes, and which can be sent from the farm with the largest profit to the man selling it. From the milk yielded by the cows of this province we make, in large quantities, cheese,—a product which is a more concentrated and nourishing food than butter is. I want just here to show the weakness of our butter-making system. Of the milk yielded by the cows of this province nearly as much is converted to butter as into cheese; there is not much difference. Our cheese has won for Canada the reputation of being one of the finest cheese producing countries in the world, while our butter has earned for us the unenviable notoriety of sending to England the strongest butter received there from any part of the world. There must be something wrong, you see, in the way we do things, when we are not able to earn as good a reputation for producing butter as we have established in connection with our exports of cheese. Let me cite to you the first mistake we have made in regard to our butter making operations. There was a time when we had no reputation as a cheese-making people; when the cheese was made at home in the dairies of the farmers. Now, of all the cheese made in this province 99½ per cent. is made in cheese factories, and only one-fifth of one per cent. in home dairies. You have there, in my opinion, in that short set of figures, the real reason why our cheese-making business has attained such a high reputation, while on the other hand our butter-making operations have secured for us, in market reputation, only that which too frequently characterises the product itself—a bad odor. Of all the butter made in the province from the milk production of nearly as many cows as we used in cheese-making operations, less than three per cent. is made in creameries. Less than 3 per

cent. in one case as against 99½ per cent. in the other. If we had this position in regard to butter-making reversed, and only three per cent. of our butter were made at the farm dairies, we would get much higher figures for our total product.

Let me examine still further this making of 97 per cent. of our butter product in the farm dairies—mostly small. Is that an economical and profitable way of producing butter? To a man who gives the matter any serious consideration it at once becomes evident that it is not. The total make of butter in the farm dairies of the province is estimated at over 30,000,000 lbs. annually. I have taken some pains to discover what amount of labor is employed in making that quantity of butter, by finding out how long it takes to make ten pounds of butter in the home dairy, and I find it takes on the average just six times as much labor to make a pound of butter in a small dairy as it required to make a pound in a creamery. The amount of labor required to make 30,000,000 pounds of butter in home dairies is equal to 750,000 single days labor, whereas if made in creameries it would take less than 130,000 single days labor. You would have 620,000 days of ten hours each of labor to spare in the homes of Ontario by having this butter made in creameries. Now, in this province we should be proud, above all things, of the virtue, industry, intelligence and beauty of our women; and yet our farmers are crushing the spirit out of their wives and daughter by making them milk cows, set pans, churn butter and perform all the heavy work incidental to that process. This seems to be a small factor in our national prosperity, but it is really a very important one, that the women on our farms should have more leisure for true womanly work, and spend less of their time in producing butter which sells for twelve to fourteen cents a pound, the average price of the summer dairy butter of this province. I haven't a word to say against the butter these ladies make, but I say it is wasting labor having a large number of women doing that which one man could do. Then, again, there is more than six times as much capital invested in dairy utensils in private dairies as would furnish creameries with capacity to do the same work. Do you suppose that any manufacturer could run for any length of time in competition with another manufacturer producing the same class of goods if he actually had to pay six times as much for his labor, and to invest six times as much capital in his machinery and plant as the other did? He would be played out of business in two weeks if he kept his books well, and inside of a short period whether he kept books or not. Yet that is exactly what butter-makers have been doing, and they wonder why butter-making does not pay. It can be made to pay, but we must make our methods economical.

The shipment of store cattle to Great Britain the past season has proved a success, and we understand plans are being considered there for the extension of the trade next season.

Wisconsin still asks and compels the cheese makers to give a pound of cheese for every ten pounds of milk. Canadian cheese has nothing to fear from Wisconsin competition while that system is in vogue there.

Hoard's Dairyman seems to think it impossible for a private dairy to make better butter than a creamery. It will be when each individual patron of the creamery takes as good care of his cows and milk as the best private dairyman, and not before.