

cently sold two 3-year-old steers which weighed 3,200 lbs., and two heifers which weighed 2,890 lbs.

FRANK SHORE—I sold two steers weighing 1,100 lbs. each for \$100; one was 18 months old and the other 19.

MR. SIMMONS—I make one cow raise two or three calves, letting them suck and run on the grass. They suck for five or six months and get nothing but milk and grass. There is money in raising steers in this way, without counting the manure.

PRESIDENT LEITCH—The average price in my locality for common 3-year-old steers is \$45 each. I keep 20 cows on 200 acres, and raise 600 bushels of wheat. Any farmer can raise his herd to 10 cows per 100 acres without diminishing the quantity of wheat, and by keeping this number he can make a specialty of dairying. I can raise better cows than I can buy. I have cows which give 50 lbs. of milk per day, although I have set down 20 lbs. as the average. By making a specialty of butter-making, you can get a good price for your butter, whereas by keeping only a few cows, making dairying a side issue, the butter produced becomes a disgrace to the market.

FEEDING RATIONS.

Several members gave the rations which they fed their cows. Mr. Little fed 2 quarts of a mixture of corn, oats and barley with 2 qts. of bran per head per day, which he gradually diminished as the grass increased. This ration was mixed with cut hay and straw, and fed in a moist condition. Mr. Whetter fed 40 lbs. of mangels, 2 qts. bran, and 2 qts. shorts per head per day, and fed the hay uncut. Mr. Leitch fed 4 to 5 qts. of a mixture of oats and peas, mixing two parts oats to one part peas and then grinding. He fed the hay uncut. Frank Shore fed 5 qts. of a mixture of bran, shorts and oats, with cut hay and straw, all mixed together and moistened.

DAIRYING.

The President called the meeting to order, stating that there was another subject on the programme which must not be overlooked. He referred to the prevailing practice of sending milk to the cheese factories. He said our manufacturers were abreast of the times in the art of cheese-making, and yet the quality of our cheese was not what it might be. The milk must be sent to the factories in better condition. Greater cleanliness should be observed; the cows should be kept in a strictly healthy condition, and the water should be clean and pure. There was a good deal of nonsensical talk about "animal odors." His experience was that all foul odors arose from bad feed, uncleanliness or bad treatment of some kind. When the proper conditions were observed, he never had any difficulty with the milk, and never failed to make good cheese. In tainted milk the odors could be driven off by cooling and airing it, either by stirring or pouring from one vessel into another. When turnips were fed, they should be given after milking. The milk utensils should be thoroughly scalded every day. Solid cheese could never be obtained from sour milk. The practice of adding salt to the milk to preserve it should be abandoned; for when the cheese-maker put in the usual quantity the cheese became too salt for market. Cows at this season should be liber-

ally fed, and the market value of grains could be doubled by feeding them to the cows, for half-starved cows require a considerable time, after being turned on the grass, to get into proper condition for giving milk.

ANALYZING MILK.

Letters were sent from the ADVOCATE office asking members to bring in samples of their milk for analysis by the lactoscope, and a good deal of interest was manifested in the process. Amongst other dairymen, Mr. Jas. W. Robertson, the Government inspector of cheese factories, was invited to be present and to bring samples of milk with him. He answered, regretting that he could not attend, but sent samples from six different breeds from the Model Farm.

W. A. MACDONALD explained the process of analysis, and stated that he had examined mostly all the instruments used for the analysis of milk, and found that for cheapness, quickness and accuracy all combined, the Feser lactoscope was the most useful for farmers and dairymen in this country. It was used in some cities for testing for adulterations in milk, and the complete set won the prize at the dairy exhibition in Prag. The quantity of fat and other solids could be determined in a very short space of time. He visited a number of herds which supplied the city with milk, and analyzed the milk from a number of cows; also the milk from three milk depots in the city. The following table showed the result of the various analyses:

TABLE SHOWING THE RESULT OF THE ANALYSES OF THE MILK FROM VARIOUS BREEDS AND GRADES:

BREEDING.	Time Since Calving	Age of cow.	Per-cent- age of Fat.	Name of Owner.
Devon	3 wks.		3%	Model Farm
Jersey	10 days.		5%	"
Galloway	5 mos.		5%	"
Shorthorn Grade	2 "		4 "	"
Guernsey	4 "		5 1/2 "	"
Quebec Grade	5 wks.		5 1/2 "	"
Shorthorn	4 mos.	6 years.	3%	G. Douglas
Shorthorn Grade	6 wks.	6 "	3%	"
Shorthorn	4 "	8 "	4 "	F. Shore.
Shorthorn (Imp.)	4 "	5 "	6 "	"
Shorthorn Grade	5 mos.	3 "	5 1/2 "	R. Whetter
Shorthorn	2 "	8 "	6 1/2 "	Mr. Little.
"	4 "	7 "	4 1/2 "	"
"	4 "	8 "	6 1/2 "	"
Native Cow	2 wks.	3 "	6 1/2 "	D. Leitch.
"	3 "	11 "	4 "	City Dairymen.
"		5 "	4 1/2 "	"
"		4 "	5 "	"
"		7 "	4 "	"
"		5 "	5 "	"
"	1 year.	6 "	5 "	"
"	1 month	6 "	3 1/2 "	"
Shorthorn Grade	9 mos.	6 "	4 1/2 "	"
Ayrshire Grade	4 "	5 "	4 1/2 "	"
Shorthorn Grade	2 wks.	5 "	3 1/2 "	"
Devon	12 mos.	6 "	5 1/2 "	"
City Dairy Depots			3 1/2 "	"

PRESIDENT LEITCH—What is the difference between butter and butter fat?

W. A. MACDONALD—The butter fat, as ascertained by the lactoscope, corresponds with the percentage by chemical analysis, and shows the actual quantity of fat in the milk, no water or solids other than fat being included, while butter contains from 12 to 15 percent of water and small percentages of albuminoids, milk-sugar, and mineral matter; but as an offset against these constituents there is a good deal of butter fat in the milk which does not find its way into the butter, so that, on an average, the difference between the butter and the butter fat is too unappreciable for practical purposes. From dry feed, however, there will usually be a little more butter fat than butter, while cows fed on suc-

culent foods will give a little more butter than butter fat. In a mixture of dry and succulent foods, there is usually very little difference, providing the process of butter-making is conducted on a good system.

The farmers who have brought their milk here for analysis feed higher and more wholesome rations than our city dairymen, and their milk is therefore of a better quality and flavor. It should be borne in mind that milk rich in butter fat is also rich in casein, and the percentage of fat may therefore be made the standard for cheese as well as butter. There may, however, sometimes be variations. For example, if a cow is well fed, and produces a large percentage of solids in her milk, any exertion or fatigue would use up quite a percentage of fat without materially changing the quantity of cheesy matter, so that, if milk were paid for according to its percentage of fat, the farmer who abuses his cows would do so at his own loss. It is not pretended that the lactoscope will determine the percentage of fat as accurately as chemical analysis; but the latter method is too slow and expensive for practical utility. A new system has been invented in Germany which very closely corresponds to chemical analysis, and 40 analyses can be made in 6 hours, whereas the chemist can only analyze two samples in the same time. This method should be adopted at our exhibitions, where the milk from a large number of cows should be analyzed and published.

ANOTHER \$100 FOR THE COUNCIL.

JOHN WELD, on behalf of the editor and proprietor of the ADVOCATE, who had just set sail for England, presented the treasurer with a cheque for \$100. He said he had much pleasure in doing so as he was gaining confidence in the stability of the Middlesex Agricultural Council, and believed they would spend the money in the best interests of agriculture in the future, as they had done in the past. He did not intend to dictate to them as to how the money should be spent, but desired to suggest that a portion be spent in the printing of constitution and by-laws for free distribution amongst farmers' clubs all over the Dominion. He had received a large number of letters asking for copies of rules and regulations, and it would be very convenient to have a supply for distribution amongst clubs who desired to affiliate themselves with the Middlesex Agricultural Council.

The question for discussion at the next meeting will be "Our Herd Books and their Relation to our Stockmen and Farmers." A paper on the subject will be read by Mr. Frank Shore. Communications on the subject addressed to the Secretary are respectfully solicited.

The Bohemian Oat Swindle is still making headway. It is reported to be raging in 200 counties in the United States. Prof. Dodge, of the Washington Department of Agriculture, who is inquiring into the matter, says: "The losses that have accrued are already immense; these returns do not give them, except in a few instances; it would require further time, and prove a difficult undertaking, yet it is claimed that in some counties they would reach \$10,000. Probably \$100,000 would not cover them in Ohio, and possibly the aggregate for all the States would reach several hundred thousand dollars."