

test. As yet the experiments are not complete, but he has hopes of obtaining satisfactory results in the near future.

FEEDING DAIRY COWS.

J. G. Taggart, B.S.A., district representative of the Ontario Department of Agriculture for Frontenac County, dealt with this important branch of the business from a producer's viewpoint. He showed how milk was produced and the necessity for feeding the cow up to her capacity to produce milk at a profit. The cow must be capable of heavy production, and this is reached by good breeding. The feeder must calculate carefully the amount of feed necessary to maintain the animal and the composition of milk, and the amount produced should guide him in feeding for production. A large amount of protein-rich feed is necessary. Foods were discussed from the standpoint of the constituents—protein, starch and sugar, and fat. For a cow weighing 1,000 lbs. one pound of protein is necessary for maintenance, and also from 8 to 10 lbs. of digestible carbohydrates. For a cow producing 50 lbs. of milk per day, 2½ lbs. of protein is necessary over and above the 1 lb. for maintenance. He recommended buying a little oil-cake or cotton-seed meal to supplement the crops grown on the farm, of which he thought clover, alfalfa, ensilage corn, oats, and perhaps peas, most profitable for the dairyman. With a good ration of these, supply all the water the cow will drink, and if she is a producer, good returns should be obtained.

GREEN CHEESE AND GREEN BOXES.

Considerable trouble was experienced during the past summer with the cheese being shipped too green, and also shipped in green boxes, due to a certain extent to the extremely wet weather of the latter portion of the season. Many of the speakers urged the makers to cure their cheese before shipping out.

SCALES AND WEIGHTS.

For years there has been a difference between makers and buyers as to the weights received at Montreal. A Royal Commission has been appointed to investigate this matter, and the three men forming the commission were present at the meeting. R. A. Pringle, K.C., chairman, discussed the work of the commission at great length, and laid a good deal of the trouble to poor scales at the factory. Where the scales at the factory were correct, the weights at Montreal corresponded with them very closely. He referred to New Zealand, where all cheese are officially graded and officially weighed. He favored the appointment of an official referee at Montreal, and that of another competent man to certify to the quality of the cheese.

Two other matters were looked into by the commission. One-quarter of a pound per box is allowed for greases, dirt, etc., and often the cheese weighs more than required by a fraction of a pound, the cheese going at the even weight, allowance being made for under-weight and not for overweight. What is wanted is that overweight. He considered, as well as underweight. One other point was that cheese buyers should be bonded. He showed clearly that the price of bonding the buyer must come out of the cheese. These are the three bones of contention with which the commission are dealing.

Mr. Hodgson, a merchant of Montreal, also discussed this matter, urging the appointment of a referee and also imploring the cheesemakers and producers to get into closer touch with the buyers. He considered that makers and merchants were each to blame for marketing green cheese and emphasized quality very strongly. The longer distance cheese comes to Montreal, the better the quality. From Kingston West 1575 cheese lost only 104 lbs., while from North and Eastern Quebec 3052 cheese lost 715 lbs., and from Ontario, east of Kingston and Quebec west and south, 5154 cheese lost 4638 lbs. The latter cheese were shipped greener.

In connection with bad weights, Mr. Wiggins gave a very interesting scale demonstration showing how easy it was for a poor scale to give wrong weights. He urged users to keep their scales clean, and recommended for factories a standard galvanized scale. On a poor scale, or one which is rusty, it often takes from one to one and a half pounds to put the beam down. He showed how a poor scale makes a difference of over 1½ lbs. in the weight when placed on each corner as against the weight placed in the center of the platform, and urged the makers to use nothing but a good standard scale.

All the speakers favored a much more frequent inspection of scales than every two years, which is now in vogue, many advocating yearly or bi-yearly tests.

Geo. H. Barr, chief of the Dairy Division, outlined the work carried on at the two combined creameries and cheeseries established this year, giving details as to the construction of the factories and the work accomplished.

EVENING MEETINGS.

Two largely attended evening meetings were held at which some very noted speakers took part, Mayor Hoag, in a few well chosen words, welcomed the convention to Kingston.

Geo. A. Putnam, Superintendent of Farmers' Institutes for Ontario, thought something should be done to lessen the margin between the price for milk which the producer gets and that paid by the consumer. He urged more intensive methods, saying that comparatively few farmers are making the success possible, citing the case of a man who cleared \$3,500 in one year, all practically coming off five acres of apple orchard, in which he also kept bees and poultry. He believed a combination of dairying, fruit and poultry, or dairy ng, fruit and apiculture, properly looked after would be most profitable. Dairy-men still have plenty room to improve, as shown by a census recently taken of 272 farms in a township in Middlesex Co. Seventy per cent. of the farmers cool their milk in a tank, and only ten per cent. had ice. Fifteen and one-half per cent. made no attempt to cool the milk whatever. Of the fifty most successful men 49 are growing corn and 29 have silos. Those with silos have on an average 17 cows each, and those without silos, 13 cows each on 100 acres. If the silo increases the capacity of the 100-acre farm by four cows, even where corn is grown it surely pays.

A significant point was brought out by Arch. Rankin, M. P. P., when he said there were 30,000 acres of arable land on Wolfe Island and only one silo. We have opportunities near at hand for great improvements in methods.

C. F. Bailey, Assistant Deputy Minister of Agriculture, gave a brief resume of the work as it is being carried on by the Department, paying special attention to what the District Representatives are doing in underdrainage, school fairs, short courses, orchard demonstrations, poultry demonstrations and all other phases of scientific and practical agriculture.

Dr. W. T. Connell, Bacteriologist at Queen's University, by a short lantern-slide talk showed the right and wrong way to take care of the water supply, as received from wells, springs or streams.

W. F. Nickle, M. P., Dr. A. E. Ross, M. P. P., Dr. Edwards, M. P., and others addressed the meetings.

Dr. Torrance, the Veterinary Director General, spoke on tuberculosis in the dairy cow. He reviewed the immense losses which countries sustain from it and showed that tubercular cattle and hogs were increasing in Canada, and urged that co-operative efforts be made to stamp it out.

A NATIONAL SURVEY OF THE DAIRY INDUSTRY.

Exports of butter from Canada, during 1912, were the smallest since 1850, said Dairy Commissioner J. A. Ruddick. Those to Great Britain have become practically nil. Our butter imports have, indeed, greatly exceeded our exports. Exports of cheese also showed a marked decrease, twenty-eight million pounds, which is double the decrease of 1911 as compared with 1910; exports of cream and casein showed a large decrease attributed to the satisfactory condition of our markets for butter and cheese.

In the face of these declining exports, Mr. Ruddick confidently asserts that there has been as much increase in milk production, taking Canada as a whole, during the past decade as there was during any other similar period in the history of the industry. Our estimate of the situation is often wrong because we fail to realize how much it takes to provide an increased population of say two and a half million people with milk and milk products, nor have we taken into account some new demands which have lately arisen. In one way and another Canadians are consuming between thirty and forty million dollars worth a year more dairy produce than ten years ago. The West, though producing much more butter, is now drawing heavily from Quebec and Ontario. Population in the East has also increased, entailing similar increase of home consumption.

There has been an enormous increase in sweet cream consumption in the towns and cities, and great development of the ice-cream business during the past six or eight years. In 24 cities, throughout Canada, the quantity of cream used during 1912 in the manufacture of ice cream was equivalent to nearly 2,000,000 pounds of butter, and a further large quantity is used in the smaller towns. The managers of establishments from which returns were obtained, say their trade in 1912 showed an increase of 15 to 20 per cent. notwithstanding the cool season. Adding to the increased consumption of butter and cream, the enormous increase in milk for home use, to say nothing of the condensed milk business, Mr. Ruddick was satisfied that our home consumption

of dairy products was easily up to the hundred-million-dollar mark.

Cheese and butter producers in Canada have so far had every reason to congratulate themselves on the low cost of distributing their products, the producer's and consumer's price being less than for almost any other article produced on the farm. This, however, applies more particularly to cheese and butter retailed in Britain than to that portion retailed in Canada. Best "Brockvilles" were being sold in the retail shops in London, a few weeks ago, at 15½ to 16 cents per pound, while consumers in Ontario were paying 18 to 20 cents and even more. Differences in retail circumstances explain the disparity only in part, and Canadian dairymen will do well to watch the disposal of their products in the home markets, to see that the cost of production does not become still more excessive. It is decidedly in the interest of the producer that the cheese which he sells at say, 12 cents per pound, should retail at 16 cents rather than at 20 cents.

Surveying world markets Mr. Ruddick found no ground for pessimism as to price prospects. The statistical position would, on the whole, appear to be rather better than last year. The announcement that the whole of the New Zealand output for 1912-1913 is to be shipped on open consignment may have had a bearish effect upon the market, but this weak feature will probably have disappeared by the time our new season begins. It is a fair assumption that there has been an increase in the annual yield of milk per cow, some credit being reasonably attributable to the cow-testing movement.

Quite a large number of milking machines have been installed in Canada, and Mr. Ruddick is of opinion that the time has come when a more general use of milking machines in herds of 20 cows and over would be of advantage to the dairy industry.

Resolutions of sympathy with the families of the late J. H. Singleton, the late Edward Kidd, and the late M. K. Everetts were passed, also one favoring the establishing of a National Dairy Show in Canada.

OFFICERS ELECTED.

The following are the officers for the ensuing year: Hon. Presidents, Hon. Senator Derbyshire, Brockville, and John R. Dargavel, M. P. P., Elgin; President, G. A. Gillespie, Peterboro; 1st Vice-President, J. A. Sanderson, Oxford Station; 2nd Vice-President, Nelson Stone, Norham; Treasurer, James R. Anderson, Mountain View; Secretary, T. A. Thompson, Almonte; Directors, Henry Glendinning, Manilla; Geo. Gillespie, Peterboro; Nelson Stone, Norham; T. J. Wright, Picton; Willet Farley, Cannifton; Thos. Thompson, Madoc; Jos. McGrath, Mount Chesney; J. V. Walsh, Albert; Geo. Legatt, Newboro; Wesley Willows, Carleton Place; J. Campbell, Finch; Capt. John Gillies, Glen Norman; Neil Fraser, Van'leek Hill; J. B. Ferguson, Renfrew; Fred Dillworth, North Gower; W. H. Olmstead, Vars; Jas. A. Sanderson, Oxford Station. Auditors: John Hyatt, Picton, and M. Bird, Sterling.

Henry Glendinning, James Sanderson, Nelson Stone, G. Legatt, Jos. McGrath, N. Fraser and T. H. Thompson, form the executive committee. Senator Derbyshire, of Brockville, in a few well-chosen remarks closed one of the most successful meetings in the history of this convention. Prof. Dean's and Mr. Zuffelt's addresses will appear next week.

Ice Storage.

In storing ice, avoid, if possible, the use of fresh green sawdust. This heats and tends to melt the ice; or, rather, it fails to preserve it so well as older sawdust would do. We used fresh sawdust at Weldwood last winter because we could get no other, and experienced in some degree the difficulty mentioned, although other conditions of storage were reasonably favorable. When green sawdust must be utilized, it is just as well to avoid having too great a thickness of it, since a mass eighteen inches or two feet thick is likely to generate much more heat than a smaller quantity. Two leading, experienced ice firms in London do not use sawdust about the ice at all. They rely on a well-insulated building, with sawdust between the two thicknesses of wall boards. The ice is packed closely together in blocks and well covered with several feet of wheat or other straw on top. Between the mass of ice and the board walls a space of about three inches unfilled is left.

Please find enclosed order for \$1.50 for renewal subscription for "The Farmer's Advocate, etc." (I find it very instructive and elevating.) Wentworth Co., Ont. ALEX. CHRISTIE.