

building and agricultural hall for the accommodation of the working dairy. In addition to the churn, worker, printer, Babcock tester, etc., which constituted the utensils for the regular work of the dairy, there was a Laval Baby Separator, No. 2, which took the cream from the milk supplied by persons having cows at the Exhibition. This was a source of wonder to a great many who were under the impression that the only way to obtain cream was to set it in pans, pails or creamers, and allow it to stand for some time, when the cream could be secured, but not otherwise. The separator hastens the process by the application of centrifugal force. The mode of operation was to obtain a quantity of milk (100 to 200 pounds) from the herdsmen, and at 10 a. m. to run this through the separator. The cream was immediately cooled to 40 degrees by having the cream can packed with ice, which insured a speedy cooling. The cream was allowed to stand at that temperature for one hour, when it was heated to 63 degrees, and two per cent. of thickened skim-milk was added to it to hasten the process of ripening. The skim-milk was prepared by heating about one-half gallon of the separator milk to 90 degrees, and placing it in a Boyd fermenting can, and at the end of twenty-four hours it would be thick. About two inches of the top of this was skimmed off, and then a sufficient quantity of it put through a fine strainer so as to break it into small particles that it might be the more evenly distributed through the cream. At the end of twenty-four hours it was found to be in just the right condition for churning.

Beside the cream separating in the forenoons, there was also milk testing by the Babcock method. Great interest was taken in this. A number of breeders brought samples of their cows' milk to be tested. To show the value of this tester, one illustration will suffice. One man brought samples from two cows in his herd, one of which showed 2.5 per cent. of fat, and the other 6.5 per cent. Here was a difference of 4 per cent. in the two cows of the same breed. The lesson to be learned is obvious.

In the afternoons the cream of the previous day's separation was churned, washed, salted, worked and put up in tasty pound prints, thus showing those who were interested, not only how to make good butter, but also how to put it up in a neat and attractive form for market. During the whole day numerous were the questions asked regarding the whole field of dairying, showing that our people are alive to the importance of this great branch of Ontario farming. That each one might carry home something that they could refer to in case of difficulty, small circulars containing a few of the more important points to be observed in the manufacture of butter were given to all those interested in the making of a good article.

By having such exhibits at the fairs, dairymen are enabled to gain useful knowledge in the art of butter-making, as well as being encouraged to produce better stock from which to obtain the milk necessary to make butter by seeing good dairy stock. The two, improvement of stock and improvement in methods of manufacture, must go hand in hand to remove the stigma from Canadian butter.

Western Fair.

DAIRY DEPARTMENT.

For the first time in the history of the Western Fair did dairying and dairy products occupy anything like the prominence which the magnitude of the industry in this Province (Ontario) warrants. We can fairly congratulate the management of the exhibition upon the effort made and the success attending it, though we may find it necessary to allude to defects and offer further suggestions. This department of the exhibition embraced three features—1. Exhibits of cheese and butter; 2. Dairy apparatus (mainly for butter-making, cheese factory utensils being conspicuously absent); 3. Demonstrations in actual butter-making and lectures on dairying by the Travelling Dairy from the Agricultural College, Guelph.

The display of butter was about double that of last year, a refrigerator room with glass front being provided for its reception, but we had

looked for a larger display, as valuable prizes were offered. That more exhibits were not forward was probably due to the fact that the provision of the refrigerator room was not generally known. It was full, however, and the Fair Board will require to provide much larger quarters for next year's butter show. There were twenty-one kegs of creamery butter and seven lots of creamery prints, the balance being private dairy butter; most of the latter was in hand-made rolls, and several of the baskets and cloths were anything but attractive looking. In a closed refrigerator room, why should the rolls be secreted from view under a big towel? Private butter-makers should also learn that working up the tops of kegs or rolls into elaborate fancy designs, not only injures the grain of the butter, but really detracts from its appearance. Make the packages uniform in size and appearance and as plain as possible, using a printer, with some simple design or initials on the top. A good form is oblong. By all means let the quality tell. Flavor, grain and firm texture are the main points. With liberal premiums the butter room will require to be doubled at least in size for 1892.

There was an immense exhibit of factory Cheddar cheese, over 500 boxes being exposed to view on the shelves, probably three times that of last year. The exhibits were about equally divided between colored and white. Taken all together it was conceded to be the best display of cheese ever seen in Ontario, and in the main the quality was highly creditable to our makers. Under other conditions, some of the cheese that were not successful might have been winners. It was a severe ordeal to take a rich cheese from a cool curing room and expose it to the dust, glare and the terrific heat of fair week. A few cheese were too highly colored, and under the trier some were found lacking in body, mainly owing to the presence of too much moisture. Makers, especially the inexperienced, must ever keep in mind that they cannot utilize whey as a substitute for butter globules in making a "fat" cheese. Milk, excessively rich in butter fat, is not an essential, as is very well known in the production of fine cheese; furthermore we have observed whey coated with butter in factories at a time when, by the inspector's test, the milk did not average 3.50 per cent. fat; more of that fat should have been incorporated in the cheese. It would, under proper manipulation, have made a richer and better cheese. Besides this, it costs the patron money to produce butter fat. It means good breeding, or selection of cows; good feeding and good general treatment. We are satisfied that thousands of dollars' worth of fat is annually run into the whey tanks of Ontario and is absolutely wasted. This should not be so. It is not fair to our dairy farmers, and makers must set themselves to stop this leakage. Some are now advocating setting at a lower temperature, say about 80 and raising to about 86, leaving the curd longer in the whey, the theory being that raised to a very high temperature, as is sometimes the case, the fat will melt and inevitably be lost, besides taking more milk to make a pound of cheese than is necessary. We recommend that this "low heating" process be carefully tested, and if there is anything in it, that our dairymen should utilize its value. We regret to hear that in some districts there has been considerable adulteration, over 100 patrons having been fined from \$5 to \$40 and costs for skimming, watering, or keeping back strippings. Factorymen and makers would do well to keep a Babcock tester in the factory, and being ready to use it any minute the effect would be salutary upon would-be dishonest patrons. Several of the cheese shown were not finished as they should have been for show cheese, the bandages being untidy and much discolored.

In apparatus, the main feature after the butter-workers, printers and churns, were the Babcock testers, for showing the percentage of butter fat, and the De Laval and Alexandra hand cream separators. The latter is the British machine that beat all competitors at the Royal Show of 1891, and was never before seen in Canada. The principle of its construction was very simple and admirable in every respect. The one shown would turn very easily, and separate over 200 lbs. of milk per hour, and do it thoroughly, for the

staff of the Travelling Dairy, who were present, tested the skim-milk and found that it contained less than one-fifth of one per cent. of fat. It is a lower priced machine, too, than the De Laval shown, but of less capacity. Where plenty of milk is available within a reasonable area, farmers would do well to put in a power separator and run a small creamery. There is no reason why many cheese factories might not be run as winter creameries.

The Travelling Dairy sent out by Hon. Mr. Dryden, Minister of Agriculture for Ontario, and President Mills, of the Agricultural College, occupied a raised platform in the centre of one end of the dairy hall, and proved to be one of the most interesting features of the fair, crowds of farmers and their wives pressing round every forenoon to witness the cream separation and milk testing, and in the afternoon, to see the cream churned, the butter worked, salted, and put up into neat packages.

Addresses were given by Mr. W. J. Palmer (in charge), Mr. Rogers, the butter-maker, and President Mills. With the temperature of the hall at about 80, even the most critical butter-makers of Westminster, Lobo and other townships were free to admit that the young men "did up beautifully." They should have a separate building, however, with seating capacity in amphitheatre form, for at least 150 or 200 persons, and if the idea is continued such provision should be made for next year. The Travelling Dairy has become so popular that there are now probably 100 applications ahead from different sections for their services. In fact, President Mills had to organize two sections—that under Mr. Palmer coming to London, Prof. Dean having gone to the eastern part of the province.

ONTARIO AGRICULTURAL COLLEGE EXHIBIT.

The exhibit from the Agricultural College Experimental Station, Guelph, was the same as exhibited at Toronto, and was certainly one of the neatest, largest and most instructive displays to be found at the Western Fair. It was situated on the south side of the dairy hall, and extended from floor to rafters, and along the side of the building for a distance of about fifty feet. Upon the wall space, which was all covered with black cloth, were most beautifully arranged in form of circles, semi-circles, triangles, etc., about three hundred varieties of grain in the head, all of which were grown at the Guelph farm during the present season. These grains, being arranged as they were, in such perfect order, and possessing a light golden appearance, showed off handsomely in front of the dark background, and made a display long to be remembered by the many thousands whose privilege it was to see it at the great shows just closed. A little to the front, and lower down, were shelving of various sizes and shapes, covered with cambrics of lighter shades, and holding some five hundred glass jars of threshed grain. These mostly represented this season's growth, but a few were the best varieties of grains as directly imported during the past four years from different parts of Europe, Asia, Africa, Australia, New Zealand and the United States. The exhibit consisted of sixty varieties of winter wheat, seventy of spring wheat, seventy of barley, one hundred and twenty of oats, forty-four of peas and eighty-six of corn, making in all the grand total of four hundred and fifty varieties, a collection, which is, perhaps, unsurpassed on the American continent at the present time as regards both number of kinds and desirable varieties for use in general farming.

We are informed by Mr. C. A. Zavitz, formerly from a Middlesex farm, who graduated at the Agricultural College in 1886, and has since been the experimentalist at that institution, that many of the imported varieties are doing remarkably well. That in a number of instances they considerably surpass the Ontario varieties, after three or four years' trial side by side. Some of the best yielders of both the imported and Ontario varieties are as follows:—

FALL WHEATS.—Imported—Dividend, Squar