

brought 2-3 cents per pound more than butter made from sour cream, although the sweet cream did not make quite as much butter as the sour cream. The sweet cream, direct from the machine, was immediately cooled to 56° or 58°, and then churned as soon as possible. He drew the milk from a circuit of seven miles. He charged the patrons 4c. per lb. for making the butter, and the milk realized them 70 to 120 cents per 100 lbs.

Western Dairymen's Association.

The annual meeting of the above association was held in Listowel on the 11th, 12th and 13th ult. There was a large attendance of dairymen and farmers; the programme contained the names of more local authorities than on previous occasions, and the foreign element was less. There was very little of anything new in the papers, and the time for discussion was very limited. Mr. W. D. Hoard, from Wisconsin, delivered a number of interesting and instructive addresses, and his remarks were listened to with rapt attention.

Mr. F. Malcolm read an instructive paper on practical dairying, dealing chiefly with dairy stock. He remarked that the Canadian cow was a milker and not a beefe, and she was better than she received credit for. The best cow he had ever seen was bought by his father for \$25, fifty-three years ago, whose blood he yet had and was the best he had ever procured. A cow like "Old Pinkey" would be worth at least \$500 as a basis for a dairy herd. Grade Shorthorns made the best use of their food, and changed it either into milk or beef. The best dairy calves should be dropped about the first of March, so that they could be fed on milk before the factory opened. He dwelt upon the desirability of liberal feeding for profitable results in the dairy.

Mr. D. Derbyshire (Brockville), went into statistics to show the enormous increase of our cheese industry. It was not desirable to build any more opposition factories, but larger and better ones should be the order of the day. In new localities, where there were no cheese factories, creameries should be established. He spoke of the desirability of cleanliness in handling the milk, and of strict attention to all the details from the stabling or pasturing of the cows to the placing of the milk into the factory can. From the standpoint of profit, the aim should be to produce more milk from the same capital invested.

Prof. Robertson, professor of dairying at the Ontario Agricultural College, delivered a lecture on the education of our dairymen. He was not in favor of a so-called high education for farmers' sons, but believed that they should be more thoroughly educated in their calling. His scheme was the organization of conventions of cheese-makers for the discussion of questions pertaining to the manufacture of cheese, and the handling and testing of milk. There should also be meetings of the patrons of every factory where questions should be discussed relating to the economical production and skilful handling of milk. Authorities on all these subjects should be invited to attend these meetings, aiding in the discussions, and each factory should be asked to subscribe \$10 to defray the expenses.

Mr. E. Casswell (Ingersoll), remarked that the high prices of cheese, accompanied by a falling off in consumption, fooled the buyers, and produced worse results than the drought. Ameri-

cans, on the contrary, sold their cheese regularly every week, thus supplying the demand, while the Canadian cheese was kept back from consumption. The prices of butter and meat were so low that cheese was consumed in small proportions.

Mr. W. D. Hoard (Wisconsin), delivered a lecture on the dairy cow, and presented diagrams to illustrate his points. He spoke of the dairy cow of to-day as an artificial product. He dwelt on the moulding influence of heredity, transmitting its effects to the offspring, and drew a comparison, so far as temperament is concerned, between the dairy cow and the race-horse. The part of the dairy cow was maternity—the giving faculty—while the part of the beef cow was miserhood—the retaining functions. The former therefore possessed those mysterious physiological combinations which tended to produce milk for the support of the offspring, while the latter, possessing the selfish combinations, tended to beefiness. If we enlarged these functions in the one direction, we reduced them in the other. Under the severe pressure under which dairymen at present labored, the keen competition in our home and foreign markets, the specific cow must be worked to her full capacity, and the general purpose cow must be abandoned. In other language, we must have better machinery devoted to special lines of industry. The special dairy cow was recognized by the following points: The nervous temperament predominated; she was a great eater and drinker, consuming 80 to 100 lbs. of June grass per day and 60 to 120 lbs. of water; large nostrils, indicating the inhaling of large quantities of air to oxidize the food consumed; a wide muzzle, the signal of heavy consumer; jaws strong, full, muscular, and heavy; a lean, handsome, bony head; ears thin, light and clear; eye mild and prominent; capacious brain room, indicating docility and intelligence; jointure of spine to brain must be strong; sharp shoulder; strong back bone; ribs springing out more like the rafters from the ridge of a roof than barrel-fashion, as in the beefe; straight back not required; pelvic arch should rise high; udder large, full, projecting well forward, and high in rear; constitution hardy; milk-veins should be large, but large ones were sometimes so depressed that they appeared small from an outside view; escutcheon had little or no significance; umbilical development should be strong; yellow color of skin, ear and tip of tail had nothing to do with quantity of milk, but might have something to do with quality and color of butter. In answer to some questions about milk fever, Mr. Hoard stated that the changing to grass had a great deal to do with the complaint, which could be largely avoided by letting the cows calve in September. The cow should not be milked completely dry for four or five days after calving; doing so produced a chill and resulted in milk fever. The calf should have access to its dam for the first four or five days. The bowels should be kept lax, the animal should be well housed, and light feed and warm drink should be given.

At the election of officers quite a sensation ensued through an attempt made to elect Mr. R. Cleland, Listowel, as president over the head of Mr. E. Casswell, the vice-president. We were pleased to see, however, that good counsel prevailed through stirring and sympathetic appeals made by Rev. W. F. Clarke and D. Derbyshire, and Mr. Casswell was elected president, almost unanimously. Mr. Cleland was elected 1st vice-president and Mr. J. B. Lane 2nd vice-president.

After the election of officers, the following resolution, moved by Mr. J. B. Lane and seconded by Mr. W. Symington, was carried unanimously: "That the scheme for the further education of dairymen, as outlined in Prof. Robertson's address, be accepted as worthy of our endorsement, and that the directors of this Association be instructed to take steps to secure the services of competent cheese-instructors and milk inspectors; and resolved that we invite the co-operation of the dairy department of the Ontario Agricultural College, and recommend that the patrons of each factory be urged to contribute \$10 each to a fund to be administered for the foregoing purpose."

W. A. Macdonald, of the FARMER'S ADVOCATE, gave an address on the various methods of testing milk, pointing out those which would be most suitable for cheese-factories. He gave the cost and expeditiousness of the most suitable methods, calculated from his own experience, and concluded that accuracy could be attained with little loss of time or money, but the tests should be under the control of experienced and competent inspectors, otherwise the farmers would suffer a great deal from injustice and annoyance. He related his experience with fifteen factories where he had tested the milk, and expressed the opinion that action should be taken to establish standards and check the tendency to skimming and watering the milk.

Mr. Robert Ferguson, Listowel, delivered an address on cheese fairs. He objected to the system of conducting cheese fairs as adopted in Western Ontario, and advocated the system by auction, in which the buyers made public bids for the cheese offered for sale.

Raising Calves without Milk.

The calf is taken from its mother at two days old, taught to drink, and fed two weeks on fresh milk from its own mother. Skim milk is then added until, at the end of four weeks, the fresh milk is all taken away, and a little flax-seed jelly is added to the skim milk. The calf at four weeks is thus taking about two gallons of skim milk with two tablespoonfuls of jelly added, and is kept in a box stall with other calves (which are tied), and is also tied after three or four weeks, by which time it has learned to eat dry food with others. When it is tied, feed regular bran and oats, what it will eat, before feeding milk. Always keep clover hay in rack before it. When it will eat well, which is at the age of about eight weeks, milk is entirely taken away; bran, oats, and oil meal are fed dry three times a day, with plenty of clover hay in summer. They must have water always before them in winter. Twice a day they are let out to exercise and drink; the smaller ones will follow the larger ones to the water trough. A little salt is added once a day to the feed.—[Wm. Fisher in Country Gentleman.]

The Department of Agriculture in its December report makes the following comparisons of average prices of various commodities now and a year ago: Corn, 43.8 cents per bushel, against 36.6 cents in 1886; wheat, 69c., against 68.7; oats, 30.7c., against 29.8c.; barley, 52.2c., against 53c.; buckwheat, 56.1c., against 54.4; potatoes, 68.5c., against 45c.; hay, \$9.34 per ton, against \$7.36.

Keep your mind and implements bright for the spring work.