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to 38 degrees F., except in winter, when a somewhat higher temperature is preferred so as to reduce the trouble from freezing while on the way to the city.

Very great stress is laid on the importance of cooling the milk just as soon as possible after coming from the cow, so as to arrest at once the development of those bacteria which, in spite of the best of care, will get into the milk. The cooled milk is bottled with a patent bottling machine, which fills about a dozen bottles at once, and, in the hands of a careful operator, spills scarcely a drop.

The bottles are placed in cases, loaded into wagon or sleigh, and hauled to the city, where in summer the milk is iced again, and then taken in hand by the route drivers and delivered in attractive wagons or sleighs specially made for the purpose, reaching the customers at a temperature of about 40 degrees. Needless to say, it is always sweet and good. Milk produced at Silver Springs, cooled immediately and bottled, has been kept sweet for eighteen days in the heat of summer. No pasteurizing is done, and the only preservatives are cleanliness and prompt cooling.

The farm, when purchased, had an ordinary basement barn, none too light or sanitary. The basement stable is still used for bulls and a little other stock, but two long, one-story cow barns have since been built. The proprietor is an intelligent student of the stable question. He does not like basement stabling, which is too dark and hard to ventilate, but the next cow barn which he purposes building will have a hay or straw loft overhead. His idea is to build stable walls of some good non-conducting material, such as several layers of boards and paper, in order to minimize loss of stable heat by conduction. Then he wants a free system of ventilation to admit as much fresh air as possible. He does not believe in too high a temperature, arguing that 40 degrees is better in the long run than 60 degrees. He insists on having his stable doors thrown open for at least two hours every reasonably nice day. The men demur, arguing that it will decrease the day's flow of milk, but the reply is, "Well, supposing it does, we'll make it up in the end." In other words, overstimulating for the sake of immediate production is not the best way to secure ultimate profits. The general effect on the health and hardiness of the herd must not be lost sight of. In this Mr. Clarke has been somewhat in advance of leading dairy thinkers.

The newest cow barn on Silver Springs Farm is 38 x 104 feet, is well lighted, and holds 50 cows in two rows facing. They are fastened with swinging stanchions, and the manger front consists of a drop from the feed-alley floor. Cows and stable are kept spick and span, lime being sprinkled freely in the gutters and on the passage behind after the stables are cleaned. Land plaster might be better to save the nitrogen of the manure, but lime is a first-class deodorizer and disinfectant. The walls consist of four thicknesses of lumber and two of building paper, outside and inside layers of lumber being matched. A complete system of ventilation is in use. There are eight 2 x 24-in. intakes on each side. They open on the outside at about floor level, and, leading inside the wall, are conducted in boxes to the roof. Half of them open at the plates, and half are continued across to a point directly over the heads of each row of cows. This system of intakes helps to diffuse the air. The outlets lead from near the floor behind the cows up to the roof, having openings at the plates. The outflow of air is regulated by dampers. Water is before the cows in basins, and a system of warming it as it flows into the stable is in contemplation.

The basis of the cows' ration is corn silage, which is grown in a three years' rotation of spring grain, clover and corn. Alfalfa has been grown on some few acres of rolling land, with marked success. Three cuttings a year have been secured, the yield being 5 to 7 tons of hay per acre, and the quality of the feed unsurpassed. Last winter, however, was very severe, killing out alfalfa as well as clover and timothy. Twelve acres more was sown last spring, and the area under this crop will be increased to 20 acres. The past summer a splendid crop of corn was grown on the field where the alfalfa had killed out, demonstrating the soil-improving virtue of this nitrogen-gathering legume.

## INTERESTED IN THE DAIRY RECORDS.

Editor "The Farmer's Advocate":

I have been reading your paper every day the past few weeks, and I must say I am very much pleased with the way those farmers have kept account of their cows, and to see such a large yield from each cow. I feel satisfied there is money in good cows, and I am trying to find out the way there is the most. To my mind, it looks as if the farmer could make a larger profit out of his cows by separating his milk and shipping his cream to Toronto, and feeding the skim milk to young, growing pigs or calves. I think pigs will pay best, but have not tried it yet. Hoping to

hear from some others on this subject, and the breed of cows that will pay the best when separating and shipping cream, I would agree with the man that signs "Lazy Farmer," if he can make as much out of his cows by letting his calves suck, as it is cheaper.

Ontario Co., Ont.

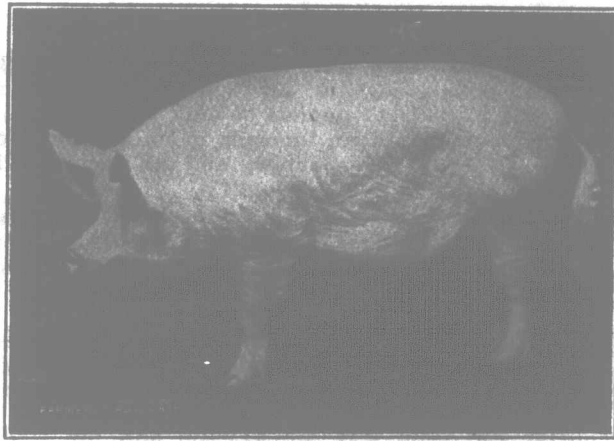
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## STRONG DAIRY COURSE AND STRONG CLASS.

The attendance at the Ontario Agricultural College Dairy School Short Course is about the same as last year, but there is every probability that a larger number will remain for the final examinations, which begin March 20th. Our students come from a very wide range of territory this year, as we have one student from Japan, one from Switzerland, two from Scotland, several from England, one from B. C., and two from Alberta, eight from the States of Vermont and New York, and the remainder from the Province of Ontario. The instructors are as follows: Messrs. A. McKay and C. H. Ralph in the Cheese Department; R. W. Stratton in charge of separators; C. W. McDougall, churning; G. R. Taylor, milk-testing, and Miss Rose in the Farm Dairy.

The lines upon which we are laying special emphasis this year are the making of cultures, or what are commonly called starters, in the cheese department, where we have installed a special box for holding the culture cans, with hot and cold water connections, etc. This is a great convenience, and one which Mr. McKay is recommending very strongly to the men who are going into cheese factories. We have also had the curd sink lined with tin in such a way that the tin may be removed, and the instructors and students are very much pleased with this form of curd sink, and consider it a great improvement over anything they have seen in this line before.

The hand separators are receiving considerable attention this year, as our factory classes are



Broomhouse Hercules (7551).

Three-year-old Yorkshire boar, winner of silver medal and championship, Edinburgh, 1906. Exhibited by W. B. Wallace.

spending half the time allotted to cream separators in the Farm Dairy, in order to become familiar with the eight different makes of machines which we have there. We have found it necessary to make this change in our work, owing to the large number of creameries which now receive cream from patrons who use the hand separators in the butter department.

We are, as usual, laying special emphasis on the importance of pasteurization, in order to make a uniform quality of butter. We have persistently and consistently preached and practiced this plan for about twelve years, and we know of no method of making butter which will give such uniformly good results as following the system of pasteurization.

We have not made very much sweet-cream butter during the term, because it is not convenient to do this in connection with other classwork.

Milk and cream testing are receiving considerable attention in the milk-testing laboratory. Dairy Chemistry and Dairy Bacteriology are in charge of Profs. Harcourt and Edwards, of the regular College staff, and our students are taking more interest than usual in these subjects this year.

In the Dairy Lectures we have laid special stress upon the importance of milk cows and proper care of them in order to obtain profit in the dairy business, as we feel that the dairy cow and her management is the foundation of all success in dairy work.

The experience of our students ranges from one to thirteen years, and I think we may safely say we never had a class which took so much interest in dairying as the students in attendance at present at our Dairy School.

H. H. DEAN.

Ontario Agricultural College.

## MICHIGAN DAIRYMEN'S ASSOCIATION.

The annual convention of the Michigan Dairy-men's Association, held in Saginaw last month, was attended by the following Canadian dairymen: Messrs. R. Johnston, Woodstock; Geo. H. Barr, London; Mr. Elliott, Woodstock. Mr. Barr gave an address on "Export Cheese, and How to Secure It."

The discussions on cheesemaking were interesting to Canadians, not so much regarding advanced ideas in making cheese as in regard to making so many different kinds of cheese, such as Soft Michigans, Porous Michigans, and Michigan Cheddars.

Statements were made that a pound of soft Michigan cheese had been made from 7½ pounds of milk. This, of course, was used as an argument in favor of this style of cheese. On the other hand, many of those present thought the trade was making a mistake in continuing to manufacture this class of cheese, as the production of cheese in the State was increasing rapidly, and these soft cheese could not be disposed of outside the State of Michigan, and they advised making cheese of firmer body, so that they could be disposed of on any market.

Their methods of making cheese are scarcely as up-to-date as the Canadian or Wisconsin methods. No one seemed to know anything about the acidimeter. The Marshall rennet test and the hot-iron are the tests used principally. "Handling Overripe Milk," was the subject of one speaker, and Canadian makers would be surprised to hear a setting temperature of 90 degrees advocated.

From 2 to 2½ pounds of salt per 1,000 of milk seemed to be the general amount used even for soft cheese. This would indicate that they leave a large amount of moisture in the curds, as that is about as much as we use in export cheese.

The whey tank came in for criticism, and it appears that they have unclean whey tanks in Michigan as well as we have in Ontario. Cement had been tried in a number of cases, and had not proven very satisfactory. One gentleman claimed that if the whey was never allowed to become sour, cement tanks would stand all right.

One of the methods advocated for distributing the whey among the patrons was to have a barrel at the factory for each patron, have these all set along in a row, with a trough along the top of them, so that the whey could be run along this trough, and the proper amount put into each barrel each evening, and in the morning each patron empties his own barrel of whey into his milk cans. This would scarcely do in Ontario, where there are 180 patrons at a factory in some cases.

The butter sessions were interesting, Prof. McKay, of Ames, giving two splendid addresses. Moisture in butter came in for discussion. It seemed to be the general opinion that from 14 to 15 per cent. moisture was a safe amount. Prof. McKay stated that in his own creamery the overrun was maintained almost constantly from 18 to 22 per cent., and so far as he was concerned, he was not at all afraid of the large central creamery plants.

There seemed to be considerable feeling between the private creamery men and the large central plants. There was apparently no effort made to make a display at the Dairy Exhibition. The butter was all put up in tubs, and was placed, apparently, in any old way. Only about a dozen cheese were on exhibition, and they were boxed and piled up.

The display of dairy utensils, dairy machinery, etc., was a creditable one, although the space was somewhat crowded. The dairymen of Michigan are good entertainers, and the Canadians felt that they had been treated right well.

## ENDORSES OUR WORDS' RECORD OF PERFORMANCE TESTS.

In a letter containing some notes on the Dairy Course at Guelph, Prof. Dean says: Allow me to congratulate you on your excellent editorial in the Feb. 21st issue of "The Farmer's Advocate" regarding the importance of proper supervision of records of performance. Your words were wise, and I trust that the points raised will receive due consideration by all persons concerned. It is very important that work of this kind shall be done in such a way as to merit the confidence of the public, and this can only be done with proper supervision by disinterested parties. No more important line of work could be taken up by any government than emphasizing the value of testing cows. I agree with you that the farm where these cows are being tested should be visited at least once a month, and the man having his cows tested should be required to take composite samples and have these tested monthly by a competent person. Having had several years' experience now in connection with this work for the Canadian Holstein Association, I feel like endorsing very heartily the main points of your editorial.