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from Prof. Jull, of Macdonald College, on "Farm Poultry." He illustrated his practical address with lantern slides. He showed pictures of the various utility breeds, and demonstrated on the best types of birds. He also showed the best kind of poultry-houses used at Macdonald College. These are 20 feet square, 6 feet high on south and 4 feet high on north side, double boarded on back and ends with two windows and a screen on the south side. Fowls require plenty of fresh air, but drafts must be avoided. He also dwelt on the incubation and feeding as being most important questions in connection with successful egg production. He recommended for whole grains, fed morning and noon in deep litter, a mixture of wheat, corn, buckwheat and oats, also a dry mash, fed in hopper, of two parts wheat-bran, two parts each of corn meal, middlings, crushed oats, and beef scrap. This gave the necessary protein required in egg production. If fed wet it should be mixed with sour milk, and a smaller quantity would do. Quebec egg producers had a splendid market at their door, as Montreal imported many thousands of dozens of eggs each year. It was for farmers to double the number of poultry kept, improve their stock by selection, give them better care, and the market could be captured and held by them. He advocated the formation of egg circles, and cited cases where quite an increase had been made in the increased output of eggs and of better quality. Thus would the income of our farmers be considerably increased.

The feature of the evening session was the interesting address on "The Bad and Good in Dairying," given by Mrs. Laura Rose Stephen, of Huntingdon. It was illustrated by 70 fine slides, which brought vividly before the large audience the important points made by the speaker. Splendid specimens of the different breeds of dairy cattle were thrown on the screen, and many cows famous for their production were introduced. Pictures of a scrub bull, and the \$50,000 Holstein bull, were a sermon in themselves as to what selection, breeding and feeding can do. That like produces like was strongly demonstrated by the pictures of the champion Ayrshire bull of Canada, Hobsland Masterpiece, and his son, Hobsland Perfect Piece, the champion Ayrshire bull of the United States. Both had the identical characteristics which place them at the top. The bad and good in barn locations and constructions, the interior of barns with special reference to ventilation, lighting, mangers, etc., were shown. Great emphasis was laid on the atmosphere being clean when milking is going on. There should be no putting down of hay or cleaning out of stables just before or during milking. An interesting slide was one showing a section of a cow's udder. Mrs. Stephen described the theory of milk secretion, and convinced her hearers that the milk was almost entirely secreted during the actual process of milking. The cow collected the materials, but it takes the nervous action excited by the hand pressure on the teats to secrete the fluid, gentle treatment of the cow and quick, firm milking do much in adding to the milk flow. The slide showing how easily the farm well may become contaminated from the surface drainage should cause the farmer to think of the dangers that may assail the water supply. Another educational picture was the milk route of a town, showing an outbreak of scarlet fever in about 50 homes which could be traced to one farm where there was a case of the fever. A slide showing the bacteria on just one dirty cow hair emphasized the need of clipping the hind quarters and keeping the cow's flanks and udder clean, and for having hooded milk pails.

The efficacy of cooling milk was demonstrated by showing the small life development found in milk cooled quickly by water, while milk allowed to cool naturally abounded with germ life. Looking for the best, keeping the best, doing the best were the key notes of the hour's talk given by Mrs. Stephen.

The cow, she said, was God's richest and best gift, in the animal kingdom. To man no other animal contributed so largely to our health, comfort and prosperity. The cow of the right sort and handled rightly will bring a great degree of pleasure, and a goodly profit to her owner. She is the foster mother of the world, and the animal that is making the Quebec farmer happy and prosperous.

Prof. Barton in summing up the Convention, said it was a big day, as the discussions had all grouped around the "old farm." The following resolution was unanimously passed:

Moved by David Pringle, seconded by Neil Sangster, that whereas, we have learned with regret that the management of our splendid agricultural institution, Macdonald College, have announced that they are compelled, owing to lack of funds, to close the offices of the College Demonstrators, situated in eight counties in the province on the 30th of April next.

That, whereas, it is recognized that these representatives have done much progressive work in the Province, and their withdrawal would be a set back to agricultural advancement.

That, whereas, in several of the other provinces of the Dominion the District Representatives are maintained through a special apportionment of the Federal Grant to the Province.

That, therefore, be it resolved that we, the members of the Huntingdon Dairyman's Association, embracing the counties of Huntingdon, Chateauguay and Beauharnois, at an annual session assembled, are of the opinion that it is in the best interests of the farmers of our Province, that these offices be kept open, and that

we respectfully ask the Department of Agriculture of Quebec to allocate a special amount from the Federal Government to the Province to Macdonald College for the continuance of the District Demonstrators' work, and that we respectfully ask the Hon. J. E. Caron, Minister of Agriculture, to give this matter his immediate and favorable consideration, and that a copy of this resolution be forwarded to the Hon. Minister of Agriculture, the Provincial Treasurer, and all the Members representing those counties where offices of the College Demonstrators now exist.—Carried unanimously.

The following officers were elected: President, D. H. Brown, Beith, Que.; Vice-President, R. R. Ness, Howick, Que.; Secretary-Treasurer, W. F. Stephen, Huntingdon, Que. Directors—Alf. Alseph, Valleyfield, Que.; Neil Sangster, Ormstown, Que.; D. A. McCormick, Allan's Corners, Que.; John McDougall, Ormstown, Que.; Hector Gordon, Howick, Que.; M. M. McNaughton, Huntingdon, Que.; David Pringle, Huntingdon, Que.; Geo. Bustard, Jr., Vicars, Que.; R. T. Brownlee, Hemmingford, Que.; and Geo. Tennant, St. Louis, Que.

A Common Ailment of Calves.

Young calves are subject to the disease known as "scours"; hence every precaution should be taken to avoid the calves becoming affected, as it gives them a set-back from which it takes considerable time to recover. It is claimed that indigestion is really the disease and scouring the symptom. The trouble may arise from several causes, as over-feeding, feeding the milk too cold, or feeding it in dirty pails. Dirty, damp stalls, or endeavoring to substitute unsuitable feeds for milk, before the young animal's digestive system is strong enough to stand the change, may cause the trouble. The feed ferments in the stomach, rather than digests, and products which are formed irritate the intestines, causing the calf to scour. When the feed is not properly digested and assimilated, poisons are produced which become absorbed into the system causing the calf to weaken. Treatment should be given when the first symptom of sickness is shown. First, find the cause of the trouble and remove it. Then, give a dose of from one to two ounces of castor oil to remove any irritating material from the intestines. It is claimed that a teaspoonful of blood meal or lime water added to the milk at each feed is beneficial. Raw eggs have been given after the oil, with satisfactory results. The following treatment is recommended: Powdered chalk, 2 ozs.; powdered catechu, 1 oz.; ginger, ½ oz.; opium, 2 drams; peppermint water, 1 pint. Give one tablespoonful of this mixture in milk night and morning.

Young calves are frequently lost by being affected with "white scours," which is believed to be caused by a germ entering the system through the navel cord. The calf so affected frequently dies when three or four days old. In this case every effort should be made to prevent infection. Have the cow due to freshen placed in a clean, well-bedded stall, and when the calf arrives, disinfect the navel cord with a five per cent. carbolic acid solution. This should be repeated until the navel cord dries up. The first internal treatment is a dose of one to two ounces of castor oil in milk, followed by the Formalin treatment, which consists of diluting one half ounce of formalin with fifteen and one half ounces of water. The calf is fed a teaspoonful of this solution to a pint of milk three or four times daily. The water should be boiled before using, and the solution kept in an amber-colored bottle to prevent chemical changes taking place.

It is possible to avoid many of the troubles affecting young stock, and prevention is always easier than effecting a cure.

Rennet Supply for Canadian Cheese Assured.

Editor "The Farmers' Advocate".

For some time, cheesemakers and those interested in the continued development of the Canadian cheese trade, have been anxious about the supply of rennet, which is an essential factor in cheese manufacture. The European war cut off large supplies of rennet or calves' stomachs from Europe. The home supply has been neglected. A local butcher told the writer recently that he used to be able to sell the stomach from slaughtered calves at fair prices, but during recent years he had not saved any of these, because it did not pay.

The Dairy Department of the Ontario Agricultural College has been in touch with several firms on this matter for some time. We are glad to be able to announce that one of the largest and most reliable manufacturers of rennet supplies has assured us that if there is any danger of Canadian cheesemakers not being able to get a full supply of rennet, they will be prepared to start a branch factory in Canada at short notice.

We expect to make some investigations during the coming summer on home-rennet-supply, and have already arranged with a local butcher to save us calves' stomachs during the coming season. It would be wisdom on the part of all cheesemakers to conserve, so far as possible, all rennets in the home locality, so that they might be utilized, if necessary, for rennet manufacture. We do not advise cheesemakers to use home-made in preference to commercial extract, but home-made would be better than none. The price allowed per stomach, by the manufacturers of commercial rennet, is about twelve cents each. Assuming there were 50 to 100 calves killed in a neigh-

borhood or by the local butcher, this would mean six to twelve dollars for very little labor. After cutting free from the other parts, the stomach should be sprinkled with salt and packed in a barrel or cask.
O. A. C., Guelph, Ont. H. H. DEAN

What Does it Cost to Raise a Dairy Cow?

In cheese-factory districts many dairymen have made a practice, in the past, of selling all their calves when a few days old, and have depended on buying mature cows to keep the herd to the required number. Men who disposed of whole milk at a good price considered it was more expensive to raise a calf than to purchase a mature animal, but, to-day the problem of buying suitable cows at an ordinary figure is becoming acute. The high price obtained for dairy products during the past few years has influenced many farmers in retaining all promising heifers and cows in their own herds. Dairymen are realizing that if the size of the herd is to be maintained and the productive capacity increased, the most satisfactory solution is to rear all strong, heifer calves from high-producing cows in their herds.

It was only a few years ago that good two-year-old heifers could be purchased for \$30 or \$40, and mature cows around \$55 or \$60. The cost of raising cows has an important bearing on the economy of milk production. The question arises: what does it cost to raise a heifer to the productive stage? It is believed that it costs more to raise the average cow than is ever returned in profits. It is essential therefore, that well-bred, strong, healthy calves that will make good use of the feed consumed, be raised. The amount and kind of feed and care received are important factors in the cost of raising the heifers. It is possible to raise them quite cheaply by skimping the amount of milk used, and in feeding ordinary roughage and concentrates which are handy, rather than studying the particular requirements necessary to grow strong, thrifty calves. The actual cost of raising calves will depend very much on the amount of whole milk and skim-milk used, and the amount of high-priced concentrates which are fed. Rough estimates are frequently made regarding the cost of raising calves, but few farmers are so situated as to be able to keep an accurate account of all feeds consumed by the young animals. Besides the feed, there are other expenses which must also be considered. Several years ago records were kept of a number of calves being raised at Macdonald College, Quebec, and during the first six months the average amount of feed consumed was 228 lbs. of whole milk; 2,699 lbs. of skim-milk; 91 lbs. of linseed meal; 92 lbs. of oats; 188 lbs. of hay; 204 lbs. of roots and silage. At the end of this period the average weight of a calf was 372 lbs. At the present market price, these feeds would cost about \$13. During the second six months \$18 would be a fair estimate of the cost of feeding a calf, or a total of \$31 for the year, and to this would have to be added value of the calf at birth, cost of labor, bedding, housing, interest and taxes, which would amount to possibly \$13 or \$14. Crediting the calf with \$3 as value of manure the net cost of a yearling would be about \$42.

At several Experimental Stations in the United States, extensive work has been carried on in an endeavor to arrive at a fair average cost of raising heifer calves on feed grown on the average farm, and figured at market prices. At the Wisconsin Station records were kept of all expenses incurred in the rearing of heifers to two years of age, and the net cost was \$16.41, 12.5 per cent. of this was for labor, 22 per cent. for other costs, and 65.5 per cent. for feed. At the Connecticut Station the average net cost of rearing a heifer to two years of age was \$66. At the Ohio Agricultural Station C. C. Hayden, M. S., Chief of the Dairy Staff, has completed extensive investigation work along this line and his deductions are to the effect that Holstein Friesian heifers cost \$82.54 to raise them to two years of age, and other breeds were about the same. As heifers do not usually freshen until they are 30 to 32 months of age, the cost of raising them to the productive stage is materially increased above the figures given. The figures for the three stations vary considerably due, largely, to the value placed on calves at birth, the kind of feed fed, and the ruling market price. The factors considered by Prof. Hayden on arriving at these figures, were the value of calf at birth, feed, labor, housing, interest, insurance, taxes, and service fee. It was rather difficult to put an average value on labor in looking after calves, as the cost varies with the number cared for, local labor conditions and class of labor employed. The item of taxes and insurance varies with the tax rate and value of heifers, which depends on the breeding and demand. The investigation work reported in Bulletin 49 of the U. S. Department of Agriculture Bureau of Plant Industry, shows that the labor requirement for heifers one year of age is 7.13 minutes per day, and for heifers one to two years of age, four minutes per day. A laborer's time is figured at 15 cents