

DAIRY.

Dairy Herd.

Sometimes that one still called "common" cows surprising that in spite of work carried on by De- Provincial and Federal, to the elimination of the g of the general average Canada, that such com- d have been made. It progress has been made gement of cow testing useless and unprofitable m the herds of the coun- have been notable im- s and some, though by in the numbers of pure- se, be a splendid thing cattle could be of pure place it is only natural s of a pure-bred animal ted to its progeny than al of less concentrated ery far before realizing, impossibility of ever great number of years. arge an expenditure of nimals, but the number er hope to convince all pure-bred females would

de then—if pure-breds ble on the whole than es, and if we dare not ur common cows with eided powers of milk d sire should be the e who aims at increas- the members of his herd. se an animal may be he will not necessarily rogeny, and that there lk production is far in red cows. All this is ter with regard to the ed many times over as es are rather the ex- and there can be no e superiority in general act, it has been proven an can be enumerated at as a general and a truth, the use of re-bred sires of only age quality is more iftable by a very con- erable margin than the of grade sires. One only to study in the st superficial manner e results of the recent survey in Oxford unt, Ontario, to ize this fact. The ft per cow over feed just tripled, due to use of pure-bred in- d of grade sires, over eriod of less than 15 rs.

For some years now eriments in the grad- e up of dairy cattle e been conducted on Dominion Exper- tal Farms System, g ordinary common s and pure-bred sires s tested dams, a adation stock. These eriments were under- en to prove the ease n which milk produc- can be increased ly by the use of a g, good individuality latter point, by the portant single point herd sire, because at the farmer can he buys will possess oped he will transmit uld not be sacrificed e latter is important, alized. Only partial eriments of the Do- ly because the work ecause the figures for tabulated. We hope these experiments as

results are available appan, N.S., an t has been conducted d by the use of pure-

bred sires with the average dairy cow. This work has been carried on with two breeds, namely, Ayrshires and Holsteins.

"From this work there is being collected from year to year some valuable as well as interesting data; not only from the standpoint of greater production realized through the use of the pure-bred sires, but likewise from the handling of the improved dairy herd to bring it up to its maximum production by feeding judiciously, but nevertheless liberally, which is, after all, economical.

"Only a few of the essential facts, which are brought out by the data so far collected can be given here. It has been found that in the case of the first cross Ayrshire heifers 71.4 per cent. of them were superior producers to their dams as two-year-olds; 28.5 per cent. as three-year-olds; 14.2 per cent. as four-year-olds, and 33.3 per cent. as five-year-olds.

"Comparing the first cross Holsteins with their dams as two-year-olds 50 per cent. were superior; 16.6 per cent. as three-year-olds, and 16.6 per cent. as four-year-olds.

"In comparing the second cross Ayrshires with their dams, namely, first cross Ayrshires, it is found that as two-year-olds 25 per cent. are superior to their dams; 25 per cent. as three-year-olds; but that none of the 1.A.2's, which are the second crop of calves from the first cross Ayrshire, excel their dams as two-year-olds.

"In comparing the second cross Holsteins with their dams, namely, the first cross Holsteins, it is found that 66.6 per cent. are superior as two-year-old producers.

"In comparing the second cross Ayrshires with their grandams, namely, the foundation stock, it is found that none of them were superior as two-year-olds, but that as three-year-olds 33.3 per cent. were superior. Further that in the second cross Holsteins when compared with their grandams as two-year-olds 33.3 per cent. were superior.

"The foregoing percentages may, to the causal reader, seem to be low. Nevertheless, the fact remains they are above the average for most breeding work done on the same scale. Furthermore, they are above the general law of breeding. Generally speaking, one may look for 25 per cent. of the progeny of an individual to be superior, 50 per cent. equal to and 25 per cent. inferior, and at the same time feel that the work has been worth while. It must then be agreed that these figures are evidence that still greater energy should be shown on the part of all farmers in an endeavor to improve their dairy herd by the use of pure-bred sires, selected from high-producing dams."

This work is, of course, under the supervision of E. S. Archibald, Dominion Animal Husbandman, with whom a representative of "The Farmer's Advocate" discussed this matter a few days ago. "At Fredericton, New Brunswick," said Mr. Archibald, "we started with a bunch of twenty common heifers. The first crop of calves were grade Holsteins, the second crop were grade Shorthorns, and the third crop grade Ayrshires. Of these, only the grade Holsteins have completed their first lactation period. The grade Shorthorns are just now starting off on their first lactation period and are, in fact, beginning much better than did their Holstein half-sisters. The grade Ayrshires are, of course, just yearlings, but they are a promising lot. The eight foundation cows in this experiment produced, as mature animals, 36,766 pounds of milk and 1,484 pounds of fat, while the two-year-old grade Holsteins, during the period following their first calving, produced 38,710 pounds of milk and 1,406 pounds of fat. You can see therefore, that the daughters of a pure-bred sire produced six per cent. more milk as two-year-olds than did their nondescript dams when mature. This is, in fact, equal to 5 per cent. interest on a pure-bred sire valued at \$800, if we only figure the milk at two dollars per hundred. But to get the real significance of this increase we should remember that a heifer in her first period will produce only 75 pounds of milk for every hundred pounds she will produce as a mature cow. This means that she increases her milk flow 25 per cent. between her first lactation period and maturity and, if we add 25 per cent. to the record of these two-year-old grade Holsteins we may expect a record at maturity about 50 per cent. greater than the mature record of their dams. Results such as this are well worth working for."

At Ste. Anne de la Pocatiere we learned that nine two-year-old grade Ayrshire heifers, reared under exactly the same conditions as their dams, also grade Ayrshires, have built up records materially in excess of those of their mothers. At Cap Rouge, grade French-Canadian cows were used, and it was here that the danger of a poor pure-bred sire was brought out. The sire in this case was a good individual with no records behind him, and his progeny were poorer milk producers than their dams, whether these were pure-bred or grade. In all these experiments pure-bred cows are bred to the same sire used on the grade cows, so that a double check may be kept on the sire. At Spirit Lake, Quebec, and Kapuskasing, Ontario, only one crop of calves have been secured thus far, so that no results are available. "From the Central Experimental Farm here at Ottawa," said Mr. Archibald, "no figures have yet been compiled, but we have a number of grade heifers and cows, the progeny of rather common cows purchased as foundation stock. With only a few exceptions the progeny and grand progeny of these foundation cows are much superior to their dams; this is true both of grade Ayrshires and grade Holsteins. As an example of grading up we have one little cow that has at least five known crosses with pure-bred sires. She freshened on January 21 and is still milking 72 pounds per day in two milkings. She gets 13 pounds of grain. We have a number of other grades milking over 60 pounds in two milkings, and some grade two-year-olds milking 45 to 48 pounds

in two milkings. Grade Ayrshires are milking proportionately well."

At Lacombe, Alberta, the experiment was started with a herd of common cows and also with some grade Holstein heifers, having two or three crosses of Holstein sires. During the first year of production the 9 common cows produced an average of 5,203 pounds of milk in 322 days, while the 9 two-year-old grade Holstein heifers produced an average of 9,939 pounds of milk in 451 days. The daughters of these grade Holsteins, by a good pure-bred bull, continue to make increased records from generation to generation.

At Agassiz, British Columbia, the work was begun in 1912 with 20 grade Holstein heifers, having, probably, two or three crosses. The increases have, according to Mr. Archibald, been very marked with each generation until the grades are producing almost as much as pure-breds. In 1918 the five most profitable pure-bred cows at Agassiz produced an average of 11,392 pounds of milk, making a profit over feed of \$94. The five most profitable grades averaged 8,918 pounds in milk production and made a profit over feed of \$82.18, or only \$12 less than the pure-breds, whereas in 1917 there was a spread in milk production of 3,825 pounds and a difference in profit over feed, in favor of pure-breds, of \$35. "This spread," said Mr. Archibald, "is wider all the way back."

Holsteins Average \$261 at Ingersoll.

W. B. Poole and A. Groves held a dispersion sale of registered Holsteins at their farm, south of Ingersoll, on Thursday, March 20. Comparatively few of the animals were tested, but the prices obtained were particularly good. It was one of the best sales of untested stuff of the season. One secret of this was that the animals were brought out in excellent condition. The daughters of Colantha Fayne Butter Baron made a high average. Mr. Groves' herd sire, Captain Snow Canary Hartog, topped the sale at \$805. His dam is Calamity Snow Mechthilde 2nd, the Canadian champion R. O. P. three-year-old, which has just completed another R. O. P. year with over 25,000 lbs. milk and 1,107 lbs. butter. She has given as high as 108 lbs. in a day. The females averaged \$261. Following is a list of the animals selling for \$100 and over, together with the names and addresses of the purchasers:

Doris Abbekerk Hengerveld, P. S. Moote, Dunnville.	\$140
Princess Wayne Artie, F. L. Blouin, Quebec City.	285
Blanche Lyons of Bellevue, J. Groves, Ingersoll.	165
Maud Lyons Mercena, Fred Pratten, London Jct.	185
Mary Wayne Abbekerk, Soldiers' Civil Service, Guelph.	320
Lady Wayne Artis Posch, J. Dickout, Salford.	150
Ruby Cubana Snowdrop, A. Douglas, St. Mary's.	220
Sadie Cubana De Kol, F. L. Blouin.	320
Countess Wayne Mercena, F. L. Blouin.	300
Nellie Abbekerk Wayne, House of Refuge, Leamington.	225
Mary Jane Abbekerk, P. S. Moote.	270
Aaggie Mechthilde Queen, J. Douglas, St. Mary's.	250
Mabel Mercena, Soldiers' Civil Service.	170
Elsie Posch Walker, F. L. Blouin.	375
Olivia Walker, F. L. Blouin.	445
Two-year-old heifer, G. E. Wright, Belmont.	215
Imperial Baroness Posch, F. L. Blouin.	420
Colantha Fayne Daisy, Soldiers' Civil Service.	350
Josie Baroness Fayne, F. L. Blouin.	400
Josie Colantha Fayne, Soldiers' Civil Service.	355
Princess Favorit Colantha, B. Taylor, Mt. Elgin.	175
Lady Aileen Hengerveld, G. E. Wright.	275
Aaggie Hengerveld Aileen, G. E. Wright.	285
Abby Pontiac Mercena, G. Nutt, Salford.	165
Belle Mercena Pontiac, House of Refuge.	265
Butterfly De Kol, R. Simmons, Verschoyle.	140
Queen Segis Kent, F. L. Blouin.	310
Lucy Mercena, G. E. Wright.	205
Two-year-old heifer, G. E. Wright.	205
Daisy Veeman Lindley, G. E. Wright.	255
Captain Snow Canary Hartog, Wilbur Lemon, Lynden.	805

The Care of the Milking Machine.

In the production of pure milk with a milking machine, great care is necessary in the handling and washing of the machine. Milk that is allowed to become dry on the parts is very difficult to get off. To avoid this, as soon as the last cows are milked and the milk emptied, but while the pump is still running, cold water should be drawn through the teat cups into the can. The machines should then be removed to the dairy and dismantled. The can covers to which the pulsator is usually attached should be washed, wiped dry and hung up. The teat cups and tubes should be washed in hot water to which has been added some alkaline washing powder. This will dissolve any fats adhering to the parts. Once a day, a brush should be used on the interior of the teat cups. These parts should now be put into a sterilizing solution until next milking time. Once a week, the teat cups and attached rubbers should be taken apart and thoroughly washed in hot alkaline water with the special brushes supplied for this purpose. The cans may be handled with the rest of the dairy utensils in the ordinary way, steaming or scalding and draining in a room free from dust being important.

On taking the teat cups from the sterilizing solution for the next milking they should be rinsed in fresh, cold water and then be assembled. At this stage, the drawing of scalding water through the teat cups into the cans would have a beneficial effect but is liable to injure the rubber. When adjusting the milker and attaching the teat cups to the cow's teats, be careful not to draw

barn air through the tubes into the can. In shifting the machine from one cow to another and changing the cans, let the milk and cans be exposed to the barn air as little as possible.

One of the best sterilizing solutions to use is composed of chloride of lime. Use fresh chloride of lime, preferably from sealed tins, and provide an earthenware crock. Into this put one pound of chloride of lime and add a gallon of cold water. Break up the lumps, stir thoroughly and then allow to settle. Cover and keep in a cool place. This is a stock solution and only the clear liquid off the top is to be used. In making up the solution for the teat cups use one pint of this stock solution to every ten gallons of water. As the sterilizing action gradually decreases, add another half-pint of the stock solution every three or four days as long as this solution is kept in use. The old solution should be emptied out and a new solution made as often as is necessary to keep it clean. A new stock solution should be made at least every two weeks.

The keeping of the outside metal parts of the teat cups and pails bright is not so important but improves the appearance of the machines.—Experimental Farms Note.

Perth District Holstein Breeders' Sale.

There was a good attendance at the second annual consignment sale of the Perth District Holstein Breeders' Club, at Stratford, Mar. 12, and fairly good prices were realized. Bidding was brisk throughout, many of the animals being purchased by men just commencing with registered stock. The Perth District Holstein Club is doing pioneer work along this line. Nine young males made an average of \$130, but considering their breeding and quality it was none too high. The females were a good lot and averaged around \$200. Cheery Grove Dolores was the highest priced cow in the sale. She went to the \$350 bid of Ira Moyer, of Beamsville. The consigners to the sale were M. A. Arbogast, J. Archibald, Wm. Bolton, Jesse Looker, McNamara Bros., G. C. McIntosh, R. S. Oliver, Rosarden Farms, Peter Smith, Wm. Steinacker, W. S. Shearer, E. Turner, W. J. Tinning and T. Wood. Following is a list of the animals selling for \$100 and over together with the names and addresses of the purchasers:

Nancy Ormsby, A. Jutzi, Gad's Hill.	\$140
Maud De Kol Ormsby, W. Ingram, Embro.	185
Flossie Abbekerk Mercena, R. Low, Stratford.	185
K. S. W. Mechthilde, W. H. Kincade, Stratford.	265
Sunnyside Dewdrop Beth, D. Wilhelm, Stratford.	145
Korndyke Clementine Lass, L. G. Cornish, Stratford.	160
Sunnyside Alcartra King, H. Purcell, Listowel.	120
Home Farm Pearl DeWitt, J. J. Innes, Stratford.	200
Pauline Dewdrop, S. King, Stratford.	140
Vernbam Lula Colantha, A. Reinecker, Sebringville.	130
Jenny Lyons Abbekerk, Geo. Hargreaves, Listowel.	130
Flora Schuiling Korndyke, F. A. Wood, Fordwich.	200
Elsie Grange, A. Reinecker.	130
S. C. Butter Rose, F. J. Knott, Carlingford.	190
Pearl Grange, Ira Moyer, Beamsville.	250
Francy Paladin, J. A. Forbes, Embro.	100
May Hartog Pietertje, G. Gill, Russeldale.	160
Alice Grange, W. A. Roadhouse, Stratford.	170
Roxie Grange, L. Seebach, Stratford.	210
Calamity Mercena Queen, Geo. Jackson, Stratford.	175
Princess Calamity, J. Gerosky, Stratford.	150
Bessie Banks Mercena, Wm. Steinacker, Stratford.	205
Ianthe Mechthilde Jewel 3rd, Henry Morrow, Stratford.	225
Ann Abbekerk, Wm. Cornish, St. Pauls.	105
King Aaggie Abbekerk, G. Studer, Stratford.	110
Ianthe Mercedes Korndyke, R. Low.	160
Cherry Grove Dolores, Ira Moyer.	350
Rosarden Johanna, H. Thistle, St. Pauls.	235
Greenfield P. W. Korndyke, W. H. Kincade.	105
Lady Paladin, D. J. McKay, Science Hill.	185
Floss of Cairngorn, F. Willows, Carlingford.	145
Cherry Grove Erma, F. J. Knott, Carlingford.	185
Calamity Lass, J. J. Innes.	225
Sadie Mercedes Wayne, F. Willows.	260
Rosarden Segis Josie, J. Davidson, Carlingford.	170
Annie Grange, F. Bell, St. Pauls.	155
S. C. Butter Jean, M. A. Arbogast, Stratford.	165
Bessie Rooker De Kol, J. K. Schwartzentruber, Petersburg.	155
S. C. Butter Bess, Arbogast Bros., Sebringville.	210
S. C. Butter Rose Alcartra, D. J. McKay.	170
Pontiac Waldorf Pietertje, W. S. Riddell, Thorndale.	150
Violet May Abbekerk, G. Morganroth, Tavistock.	295
Hengerveld Colantha Maid, W. Ingram, Embro.	225
Rhoda Cherry Korndyke, G. Morganroth.	200

Brantford District Holstein Sale Averaged \$228.

The Brantford District Holstein Breeders' Club again held a very successful sale on Wednesday, March 28. This is their seventh semi-annual consignment sale, and the average was above that of previous sales. The breeders consigned a splendid lot of individuals and after the first few head were sold bidding was brisk and the prices very satisfactory. The cattle were practically all young and showed indications of being heavy producers. The breeding was right. Several exceptionally high-quality sires are kept in the district and their progeny were in the sale. Madeline Beauty Posch, consigned by E. C. Chambers, topped the sale at \$395. She went to the bid of C. E. Smith, of Scotland. Grace Posch, from the same herd, was second highest at \$390. She goes into W. H. Hurd's herd. Thirty-