

change too suddenly in their methods of farming. It takes capital to change a cheesery into a creamery and it takes capital to raise live stock. Capital is the chief thing which our farmers lack in the development of their business.

Take the case in question. To purchase the necessary extra machinery and make necessary alterations in the factory building to change from cheese to butter manufacture means a capital expenditure of not less than \$1,000, assuming that the steam boiler of the cheesery is in good condition and that present vats, pails, etc., can be used after making the change. In all probability there is no engine in the cheese factory, or one which is not powerful enough to drive a churn. This means purchasing a steam engine of 8 or 10 horse power.

To hire \$1,000 capital involves at least \$60 per year for interest—possibly \$70 or \$80. There will also be considerable additional expense for salt butter-wrappers or packages, shipping boxes, etc., and considerable loss resulting from inexperience in the manufacture of butter, which is a quite distinct line of goods as compared with making cheese.

The further point of purchase of creaming apparatus by the farmers has to be taken into account. It is no longer considered advisable to set milk in pans or cans for the cream to rise. Patrons of creameries are expected to purchase a modern cream separator at an average cost of

about \$100 each. We are not "knocking" cream separators; because we consider the application of centrifugal and centripetal forces by means of a separator to the creaming, or what farmers call the "skimming" of milk, as one of the greatest inventions of the age on dairy farms, yet we cannot close our eyes to the fact, that in order to equip 100 patrons of a cheesery, with modern cream separators, means a capital expenditure, or its equivalent in notes, of about \$10,000. This is quite a large sum to be spent on one machine for the farms in one neighborhood, yet it is probably less than is spent for binders which are used on an average 100 acre farm in Ontario for not more than about ten days—the remainder of the year the binder is idle, taking up valuable space, and being quietly, yet nevertheless surely, eaten with rust and rot. The cream separator, on the other hand, is a machine which is used not only every day, but twice every day in the year, on well-conducted dairy farms, so that it is not like a machine which lies idle for about 355 days of each year. Farm machinery "rusts out" more often than it "wears out."

On the whole, then, it would seem that the present is not a good time to change from cheesery to creamery, but for the present to stick to the old reliable cheese manufactures. If the price of cheese sags back to its "before the war" level, then will be time enough to make a change. O. A. C.

## How the Dairy Cattle are Judged.

The talk of dual-purpose cattle has no effect on the dairy breeds. They are specialists destined for one purpose, and that is to produce milk and its products. With this aim in view the dairymen put their animals on test to demonstrate what they will do, and the public are permitted to watch their performance at the Winter Fair. Breeders are beginning to realize that they must not sacrifice type, conformation and all that goes with breed and dairy cattle generally for production. The heaviest producers this year were big, strong cows fit to go into any showing and meet competition, but, as in past years, the most typey cow did not win in every case, and we hope the aim of dairymen will be to have the show cow also a winner at the pail. This is a goal worth striving for and it should be always kept in sight.

The records this season were beyond what were attained last year, as the tabulated results will show. The winner over all, Rosie Posch, is a large, beautiful cow, and has to her credit a total of 297.48 points. This is an increase of 9.88 points over the winning record of 1913, and 44.9 over that of 1912. The test is conducted in three days, and the scale of points adhered to when making the awards is 25 points for each pound of butter-fat, 8 points for each pound of solids not fat (S. N. F.), and one point for each ten days the cow has been in milk, after the first thirty, with a limit of 10 points.

## The Dairy Test at Guelph Winter Fair.

### RESUME OF THE TEST.

	Lbs. milk.	Per cent. fat.	Per cent. s.n.f.	Days in milk.	Total points.
<b>AYRSHIRES.</b>					
Aged cow—1, Scottie's Victoria, John McKee, Norwich.....	171.8	4.5	9.12	22	240.30
Aged cow—2, Dew Drop of Menie, W. Stewart & Sons, Campbellford.....	155.9	4.0	9.1	36	199.06
Aged cow—3, Violet of Craigielea, H. C. Hamill, Box Grove.....	130.4	3.35	9.08	51	146.85
Three-year-old—1, Craigielea Peach, H. C. Hamill.....	158.9	3.8	9.27	4	196.16
Three-year-old—2, Airmount Boneva, John McKee.....	120.2	3.75	9.06	64	148.78
Three-year-old—3, Scottish Victoria, John McKee.....	129.2	3.5	9.07	28	148.22
Three-year-old—4, Craigielea Fluffyuffles, H. C. Hamill.....	92.7	4.0	9.32	59	121.53
Heifer—1, Hillhouse Blossom, F. H. Harris, Mount Elgin.....	108.7	4.2	9.32	72	148.74
Heifer—2, White Lady of Craigielea, H. C. Hamill.....	118.5	3.8	9.22	25	145.37
Heifer—3, Douglas Scottie's Sarah, John McKee.....	112.0	3.8	9.2	45	138.81
Heifer—4, Sarah Douglas, John McKee.....	107.0	3.85	9.26	55	135.23
Heifer—5, Craigielea Gem, H. C. Hamill.....	97.9	4.2	9.6	48	132.7
Heifer—6, Duchess of Hillcrest, F. H. Harris.....	100.2	3.9	9.7	59	129.91
Heifer—7, Queen Jessie of Brookside, John McKee.....	99.4	3.7	9.17	52	121.51
Heifer—8, Douglas Star's Sarah, John McKee.....	86.8	3.95	9.53	44	111.96
Heifer—9, Craigielea Snowflake, H. C. Hamill.....	82.2	3.8	9.3	52	103.23
<b>SHORTHORNS.</b>					
Aged cow—1, Gipsy, A. S. Stevenson, Atwood.....	143.7	3.9	9.15	31	179.64
Aged cow—2, Kentucky Rose, Wm. James Beaty, Guelph.....	108.5	3.4	9.1	121	130.94
Three-year-old—1, Butterfly Bloom, Wm. James Beaty.....	97.2	4.7	9.4	121	150.93
Heifer—1, Braeman Beauty, Wm. James Beaty.....	69.1	4.7	9.98	121	111.85
<b>HOLSTEINS.</b>					
Aged cow—1, Rosie Posch, W. H. Cherry, Hagersville.....	253.	3.6	9.1	11	297.48
Aged cow—2, Centre View Butter Gem, James G. Currie, Ingersoll.....	229.8	3.45	8.71	15	258.26
Aged cow—3, Madam B 3rds Alma 2nd, W. F. Walker, Port Perry.....	200.6	3.8	8.9	33	244.43
Aged cow—4, Netherland Schuiling, W. J. Biggar & Son, Jarvis.....	222.	3.05	8.8	32	228.33
Aged cow—5, Ladoga Idaline Veeman, A. E. Hulet, Norwich.....	179.9	3.8	9.6	10	222.7
Aged cow—6, Silver Calamity, Henry Welsh, Weston.....	214.6	3.05	8.5	43	220.2
Aged cow—7, Maysies Helen De Kol, J. K. Moore & Son, Peterboro.....	196.6	3.2	8.3	13	209.2
Aged cow—8, Flossie De Kol Clothilda, W. S. Shearer, Listowell.....	222.3	2.6	8.7	11	202.5
Aged cow—9, Madam B 3rds Prince De Kol, W. F. Walker.....	167.1	3.0	8.4	59	175.72
Aged cow—10, Queen Wilhelmina, W. H. Cherry.....	164.1	2.9	8.27	226	169.71
Three-year-old—1, Midnight Comet De Kol, J. G. Currie.....	212.7	4.0	8.9	24	269.64
Three-year-old—2, Highland Ladoga Mercena, J. G. Currie.....	222.9	3.6	9.06	11	263.99
Three-year-old—3, Madam Pauline Canary, A. E. Hulet.....	190.9	3.6	8.9	30	225.67
Three-year-old—4, Janthe Jewel Francy, Rettie Bros, Norwich.....	169.9	3.3	8.7	62	187.97
Three-year-old—5, Maysies Francy De Kol, J. K. Moore & Son.....	103.4	3.1	8.6	89	112.7
Heifer—1, Pontiac Atlas Francy, Rettie Bros.....	165.4	4.2	9.1	31	218.92
Heifer—2, Mutual Pauline, R. M. Holtby, Port Perry.....	153.8	3.05	9.2	45	161.28
<b>JERSEYS.</b>					
Aged cow—1, Brampton Bright Draconia, B. H. Bull & Son, Brampton.....	149.3	4.7	9.45	46	219.35
Aged cow—2, Sadie Mac of P. R. F., H. H. Gee, Hagersville.....	148.8	4.7	9.47	42	218.34
Aged cow—3, Clara That Is, Ira Nichols, Woodstock.....	98.3	5.7	9.5	92	174.43
Aged cow—4, Brampton Patricia, B. H. Bull & Son.....	99.4	5.3	9.4	116	168.47
Three-year-old—1, Springbank Butter Girl, D. A. Boyle, Woodstock.....	130.7	4.9	9.72	9	198.2
Three-year-old—2, Brampton Bright Kathleen, B. H. Bull & Son.....	121.0	4.6	9.9	11	174.97
Three-year-old—3, Brampton Bright Betty, B. H. Bull & Son.....	85.9	5.5	9.7	130	153.12
Three-year-old—4, Brampton Her Ladyship, B. H. Bull & Son.....	92.5	4.7	9.5	118	145.18
Heifer—1, Golden Lads Don Juan, Ira Nichols.....	90.4	5.4	9.7	42	149.55
Heifer—2, Brampton Stockwell Rad, B. H. Bull & Son.....	93.4	4.7	9.4	54	138.7
Heifer—3, Brampton Raleigh Cowslip, B. H. Bull & Son.....	96.2	4.3	9.4	80	135.69
Heifer—4, Brampton Rena's Glow 4th, B. H. Bull & Son.....	93.1	4.5	9.3	16	130.93
Heifer—5, Golden Maid of Don, H. H. Gee.....	83.6	4.7	9.4	50	123.93
<b>GRADE.</b>					
Aged cow—1, Beauty, G. B. Ryan, Tillsonburg.....	227.3	3.8	8.9	31	277.05
Aged cow—2, Renis, Wm. J. Beaty, Guelph.....	111.3	4.5	9.0	59	158.17
Aged cow—3, Mona, J. K. Moore & Son.....	149.7	2.9	9.07	63	152.5
Three-year-old—1, Valentine, Wm. Shearer.....	196.4	3.1	9.02	20	205.38
Three-year-old—2, May, J. K. Moore & Son.....	175.2	3.0	8.6	32	176.8
Three-year-old—3, Peg, Ira Nichols.....	66.5	6.7	9.7	184	140.8
Three-year-old—4, Princess, Wm. J. Beaty.....	67.3	4.4	9.8	89	100.68
Heifer—1, Star, G. B. Ryan, Tillsonburg.....	123.3	3.4	8.9	30	137.72
Heifer—2, Judy, Wm. J. Beaty.....	86.0	4.8	9.22	120	136.00
Heifer—3, Polly, J. K. Moore & Son.....	108.5	3.05	9.06	76	116.82

## The Cheese and Creamery Meeting at Guelph.

Editor "The Farmer's Advocate":

The annual cheese and creamery meeting, held under the direction of the Dairymen's Association of Western Ontario, took place on Wednesday afternoon of Winter Fair Week at the Dairy Building, O. A. College. There was a large and enthusiastic attendance, the class-room being nearly filled for the whole afternoon. J. B. Muir, President, W. D. Association occupied the chair, while Frank Hems, Secretary, assisted in making the meeting lively and helpful. Messrs. Barr and Singleton, of the Dominion Dairy Commissioner's staff were present, as well as representative cheese and butter manufacturers from nearly all parts of Western Ontario. The Toronto and Hamilton creameries were represented by Messrs. MacFeters, Duncan, McLean, Reesor, Forster and Westphall. We mention these to show the growing interest of large cities in the manufacture of fine butter. The Eastern creamerymen had a representative in Mac Robertson, of the Belleville creamery, who was formerly a Western Ontario Creamery Instructor. Nearly all the present staff of Western Ontario Dairy Instructors were present, and did much by helpful suggestions to make the meeting educational. It was largely an "experience" meeting.

The results of the experimental work done during the past season in the Dairy Department of the College were presented by Miss Millar and Messrs. Brown and Bird. The manufacture of cottage and buttermilk cheese was recommended for those who could secure a good market; and for those who could not, the manufacture of poultry food from these dairy by-products was advised. The solids of buttermilk can be sold for 15 to 20 cents per 100 lbs. as chicken feed.

To prevent mould on composite cream samples it is advisable not to shake when adding fresh lots of cream, nor to allow the cream to touch the side of the bottle when adding samples. Considerable discussion took place as to where the reading on the Babcock test bottle should be made—at top, middle, or bottom of the meniscus or curve in the fat column. A show of hands indicated that the majority of those present practiced reading at the bottom of the meniscus. Further work was considered necessary with what are called "red readers" before their general use can be recommended for reading cream, Babcock sample tests. Milk "overripe," or with too much acid, at the time of delivery at the cheese factory caused a loss of 6.24 lbs. cheese per 1,000 lbs. milk, according to tests made at O. A. C. during the past season. These tests emphasize the need for cooling the milk properly on the farm for good results in cheese making.

The need of cooling cream for buttermaking, especially where the cream is pasteurized, was shown by the results got at the Guelph creamery, where they found that the loss of fat in the buttermilk from pasteurized cream increased with the acidity of the cream at the time of heating. Others reported that this loss could be overcome to a certain extent by cooling the cream and churning at a low temperature which delays the turning so as to take 50 to 60 minutes to churn.

Grading cream was recommended by Mr. Robertson. The Toronto creamerymen reported that