

Weight and Sale of Cream and Milk.

1. What is the weight of a gallon of cream, 30 per cent. and 40 per cent. fat?
2. What is the weight of a gallon of milk, say milk containing 4 per cent. butter-fat?
3. Which will pay the best for a farmer, to sell cream at 50c. a gallon of 10 pounds' weight, 30 per cent. fat; or milk at 14c. a gallon, 4 per cent. fat?

A. R.
Thunder Bay.

Ans.—1. One gallon of cream testing 30 per cent. fat will weigh, according to Farrington, 9.96 pounds; testing 40 per cent. fat, 9.66 pounds. Ordinarily, however, cream weighs about 10 pounds to the gallon, and the percentage of fat in the cream will make practically no difference in the weight as determined by the average scale. Cream testing 25 per cent. fat, weighs practically 10 pounds to the imperial gallon.

2. A gallon (imperial) of milk weighs 10.3 pounds on the average. It varies according to the specific gravity, but this variation would not be recorded on the average scale.

3. It would pay your subscriber much better to sell milk at 14c. a gallon than to sell cream testing 30 per cent. fat at 50c. a gallon. At the prices named, fat in the form of cream would sell for 16.6c. per pound, and in the milk at 33.7c. per pound, assuming that all the fat was taken out of the milk in the form of cream. Stated in another way, the amount of milk required to produce one gallon of cream would be about 7.3 gallons, which, at the price named, would be worth \$1.02, and the gallon of cream would only be worth 50c. Where the cream only is sold, the farmer would have the skim milk for feeding purposes, but to offset this to some extent would be the labor of separating the cream from the milk. He would need to place a very high value on the skim milk in order to make cream selling as profitable as selling milk at the prices named. H. H. D.

Soiling Experiments in Maryland.

In the Maryland Station bulletin 98 is a record of some soiling experiments which will be of interest at this season. They are not to be regarded as conclusive, but serve to bring out a few good points. In these experiments green rye gave a decided decrease in milk flow, as compared with silage fed the previous week. Green wheat, fed to 21 cows in alternate 15-day periods with green rye, gave considerably better results than the rye. It is believed that the feeding value of green rye has been much over-estimated.

In another experiment, soiling and pasturing were compared. Ten cows were fed on green corn for one week, following which period five of them were continued on green corn and five turned on luxuriant grass and clover pasture for thirty-five days. The cows changed to pasture increased in their average daily yield of milk from 15.8 to 17.2 pounds, and the cows fed corn continuously decreased from 15.3 to 14.9 pounds, a difference of 1.8 pounds milk per day in favor of the pasture. Some advantages of soiling, such as the greater quantity of feed obtained per acre, and consequently the greater number of cows that can be kept on a given area are, however, pointed out, though these advantages are doubtless offset by the greater amount of labor entailed. For the ordinary farmer, we question the economy of soiling, except as a supplement for the usual dry midsummer season, during which pasture fails to make much growth. For this period every dairyman should provide himself with silage or a couple of acres of some soiling crop, as oats and peas, followed by corn. This simple precaution will not only maintain the milk flow, but be the means of greatly increasing the stock-carrying capacity of the pasture.

Eastern Ontario Dairy Instructors.

Mr. R. G. Murphy, of Brockville, Secretary of the Eastern Ontario Dairymen's Association, advises us that the list given below will constitute the staff of syndicate instructors for the season of 1905. They are all taking an instructor's course at the Kingston Dairy School, and will commence work about April 15th. The idea of having all come together is that in addition to their excellent individual qualifications they will start out upon one general plan of operations, thereby being the better able to secure a uniform product.

G. H. Robinson, Kingston; J. B. Lowery, Frankford; R. W. Ward, Foxboro; A. H. Wilson, Athens; I. Villeneuve, St. Isidore de Prescott; P. Nolan, Philippsville; T. H. Thompson, Madoc; A. McDowell, Alexandria; W. W. Dool, Bishop's Mills; L. A. Zufelt, Chesterville; J. H. Echlin, Balderson; J. Buro, Mille Roches; R. A. Rothwell, Maxville; G. H. Bensley, Warkworth; Hugh Hawey, Belleville; W. J. Ragsdale, Merrickville; C. W. Norval, North Williamsburg; S. S. Cheetham, Gananoque; R. Elliott, South March; D. J. Cameron, Campbellcroft; D. M. Wilson, Kemptville; Robt. T. Gray, Marmora; J. F. Singleton, Newboro; Jas. Irwin, Bancroft; C. A. Publow, Picton; G. G. Publow, Chief Instructor, Kingston.

The ten instructors for Western Ontario, with Mr. G. H. Barr, Association Secretary, are taking an in-

structor's course at the Ontario Agricultural College Dairy School, Guelph. In all, Ontario will have a grand staff of 37 men engaged in the work of instruction this season.

O. A. C. Dairy School Graduates.

The class of 1905 is one of the brightest which has graduated from the O. A. C. Dairy School since its inception in 1893. Among its number are included four from the Maritime Provinces, one from Argentina, two from Wisconsin and one from Pennsylvania. The remainder are from various parts of Ontario. The School has a reputation as wide as the Ontario Agricultural College, of which it forms a part. It is a great advantage to the students of the Dairy School to have an opportunity of taking a number of lectures from many of the members of the College staff. This is especially beneficial in chemistry and bacteriology. We are pleased to hear that increased accommodation is soon to be provided in these two departments of the College work.

The term closed with an "At Home," tendered to the students and their friends by the instructors. The class presented Prof. Dean with a handsome chair. Following are the results of the examinations:

Proficiency List.—Factory Class—1, W. H. Freund, Hilbutt, Wisconsin, U. S.; 2, T. H. Lund, Guelph, Wellington, Ont.; 3, J. H. Wilson, Mountain, Dundas, Ont.; 4, J. Bower, Harriston, Wellington, Ont.; 5, H. F. Hughes, Petitoctiac, N. B.; 6, G. F. Agur, Hollen, Wellington, Ont.; 7, R. W. Burns, Butternut Ridge, N. B.; 8, W. W. Dool, Bishop's Mills, Grenville, Ont.; 9, G. P. Greensides, Atwood, Perth, Ont.; 10, R. P. Denison, Truro, N. S.; 11, F. Ballantyne, Atwood;



Sweet Eyes (Imp.) 173933.

First 3-year-old Jersey Cow at Canadian National Show, Toronto, and at Central Canada Show, Ottawa, 1904. Property of B. H. Bull & Son, Brampton, Ont.

Perth, Ont.; 12, D. F. Stewart, Hampslead, Perth, Ont.; 13, T. W. Grieve, Wyandotte, Wellington, Ont.; 14, A. A. Freund, Hilbutt, Wisconsin, U. S.; 15, L. E. Smith, Oliver, Middlesex, Ont.; 16, A. E. Barber, Grafton, Northumberland, Ont.; and W. J. Murphy, Bornholm, Perth, Ont.; 18, Miss Annie W. Green, Loyal, Huron, Ont.; 19, E. A. Hodges, Toronto, York, Ont.; 20, W. T. Harris, Condersport, Pa., U. S.; 21, H. V. Godoy, Buenos Ayres, South America.

Specialists in Buttermaking.—1, D. E. McKenzie, Kinmount, Victoria, Ont.; 2, L. R. Sutherland, Six Mile Brook, N. S.; 3, R. W. Brown, Stamford, Welland, Ont.; 4, F. C. Ward, Guelph, Wellington, Ont.

Farm Dairy.—1, Lawrence Jenkinson, Toronto, York, Ont.

Moisture Percentage in Butter.

A despatch from London, Eng., contains the following: "The Weddelland Co., in their weekly market report, referring to the standard of moisture in butter, say: 'The Government has re-introduced the butter bill, which fixes 16 per cent. as the legal amount of water to be allowed in butter. If the bill becomes law, the present low percentage of moisture in colonial butter will gradually increase, until it closely approaches the sixteen per cent., for it would be more than human to expect the colonial buttermaker to wilfully lose 34 shillings per cwt. by sending it to us with only 10 or 11 per cent. moisture, when he can legally send it with 14 or 15 per cent, without at all damaging the butter.'"

Cool Curing of Cheese.

Considerable interest has been aroused among cheesemakers by the lecture delivered by Mr. D. K. Robb, of the West of Scotland Agricultural College, at Castle-Douglas. It is gratifying to find the agricultural college authorities taking part in research work, but it is most unfortunate that the public should have, as authentic and reliable, results which require explanation and a good deal of qualification before being of any practical value. Mr. Robb's experiments are only original as applied to Scotch Cheddars, as they have been thoroughly investigated and tested in the United States and Canada many years ago. The results have all gone to prove that cheese cured at a medium temperature, viz., 50 to 58 degrees F., have been more perfect than cheese cured either at a lower or higher temperature. The conditions of curing in America are different from those ruling in Scotland, and what is suitable for the one country is not always suitable for the other. In America, cheese are mostly all made from mixed milk that has been conveyed from considerable distances to the cheese factories. This starts the ripening process, and causes their cheese to ripen quicker at a lower temperature than in Scotland, where cheese are mostly made from the milk of one dairy. In this our makers have a great advantage over our American cousins, the milk being freer from harmful germs, which a low temperature keeps from developing. I think it unfortunate that Mr. Robb omitted one very important point in giving the results of his experiments to the public, and that was the price realized for those test cheese. I have been informed by those who examined them that they were not value for within 10s. per cwt. of the average price of Cheddar cheese at the time of examination. It may be of interest to a number of our farmers who do not make fine cheese to know that by keeping a secondary cheese at a cool temperature, they do not develop their bad flavors so quickly as at a higher temperature. We are not interested, however, in knowing how to make or keep a secondary cheese, as it should be the aim of every dairyman to make his cheese first-class. The writer has had over forty years' experience in this trade, and would strongly warn dairy farmers against keeping their temperature lower than from 58 to 63 degrees, as I have always found we get a number of late-made cheese that are kept far too near the 40-degree

temperature by being badly fired and cold kept. We count on an average, loss of 10s. per cwt., as on the same cheese when properly kept. At a time when our trade is being sorely pressed by the Canadians, it would be unfortunate if our dairymen should follow experiments on the lines indicated by Mr. Robb, as I have no doubt that from fuller information and experiments he will find that it is not in the present system of ripening we fail, but in the want of the fine nutty flavor that is so much prized by the public.—[Andrew Clement, Scotland, in Scottish Farmer.]

Pure Culture Starters.

The National Creamery Buttermakers' Association will consider at their next convention a proposition as follows, as a protection against impure cultures and incompetent manufacturers:

1. Only butter cultures bearing the label, "guaranteed pure cultures of lactic acid bacteria," shall be recognized as standard.
2. The association shall have analyses made annually of two or more samples of cultures from each manufacturer.
3. The analyses shall be made by an experiment station bacteriologist.
4. The results of the analyses shall be published through the press.

Minnesota dairymen are anxious to adopt a trade-mark, so that their butter, when it reaches the market, will be known as such.