

A Cheese Experiment.

In order to obtain two cheese to illustrate the difference in the cheese value of milks for the benefit of June excursionists, all the cans of milk delivered at the Dairy Department of the College on the morning of June 3rd were tested for fat. The cans testing the lowest were put in one group, and those testing the highest in the other. From these were selected sufficient milk to make up one vat of 300 pounds testing 3.3 per cent. fat, and in another vat was put 300 lbs. milk testing 4.6—a difference of 1.3 per cent. fat in the two vats of milk. The two vats were made into cheese in the usual way. Vat "A," containing the rich milk, produced 33.5 lbs. green cheese, and vat "B," 27.63 lbs., or a difference of nearly 6 lbs. of cheese. Yet we find people who will argue that rich milk will make no more cheese than will average or poor milk.

In the case of the rich milk it required 8.95 lbs. milk for one pound of cheese. The other vat took 10.85 lbs. milk for a pound of cheese. Valuing cheese at 9 cents per pound, the rich milk was worth 100.5 cents per 100 pounds, and the poorer milk 82.89 cents, a difference of about 17½c. per 100 lbs. milk in favor of the richer milk. If the milk were mixed together and the money from the cheese were "pooled" or divided according to the weight of milk, such as is done in the majority of factories, each patron would receive \$2.75 for the 300 lbs. delivered. If the value of the milk were pooled or divided according to the fat in the milk, then A would receive \$3.20 and B \$2.30. If divided according to the per cent. fat, plus 2, A would receive \$3.05 and B \$2.45. The actual cheese values of the two lots of milk were \$3.01 and \$2.49. Dividing according to the weight of milk, A loses 26 cents and B gains 26 cents, or about 8½c. per 100 pounds. According to the fat basis, A gains 19 cents and B loses 19 cents, or 6 1-3 cents per 100 pounds. According to the per cent. fat, plus 2, A gains 4 cents and B loses 4 cents, or this system gives the actual cheese value of the milk within 1 1-3 cents per 100 pounds, still giving a slight premium to the richer milk.

After the larger problem of securing an improved physical and bacteriological quality of milk for our cheese factories is settled, and we are in a fair way to secure this in the near future, we look for a revival of interest in the question of a proper division of proceeds among patrons of Canadian cheeseries. We feel confident that the system of adding two to the percentage of fat comes nearest to justice of any simple system yet devised.

The following table gives the main points of the experiment in concise form, and is worth considering by patrons and managers of factories. The cheese may be seen at the dairy of the College by all visitors in June.

	A.	B.
Pounds milk used	300	300
Percentage of fat in milk	4.6	3.3
Percentage of fat in whey25	.23
Pounds green cheese	33.50	27.63
Pounds cheese per 100 lbs. milk	11.16	9.21
Pounds milk for 1 lb. cheese	8.95	10.85
Pounds cheese per lb. fat in milk	2.42	2.79
Value of 100 lbs. milk (cheese 9c. per pound)	100.5c.	82.89c.
Amount received, dividing according to weight milk	\$2.75	\$2.75
Amount received, dividing according to fat	\$3.20	\$2.30
Amount received, dividing according to per cent. fat, plus 2	\$3.05	\$2.45
Actual value of cheese, at 9 cents per lb.	\$3.01	\$2.49
Ontario Agricultural College.	H. H. DEAN.	

Cows a Fortnight Late in Reaching Full Flow.

Mr. Geo. H. Barr, Secretary and Chief Instructor of the Western Ontario Dairymen's Association, said, recently, to a representative of the "Farmer's Advocate" that the cows in most parts this season were nearly two weeks late in getting up to full milk flow. He attributed this to the scarcity of feed last winter, which was responsible for the cows coming out in this condition. The number of cows milking, he estimated as about the same as last year, though the make of cheese was generally less per factory. In some cases production has doubtless been decreased by the high price of butter, which has also, Mr. Barr thought, induced some creamery patrons to make their butter at home, it being readily salable at a good price at local points.

Dairy Cows for Japan.

(Ottawa correspondence.)

K. M. Koyu, and his secretary, W. Iijima, two Japanese gentlemen, were in Ottawa a few days ago conferring with Dairy Commissioner Ruddick in connection with their visit to Canada to purchase about forty Canadian dairy cows for experimental purposes on Mr. Koyu's dairy farm in Japan. Mr. Koyu conducts a modern dairy farm in the land of the Mikado, and wishes to give Canadian cattle a trial. In his search for suitable animals, Yr. Koyu has been aided greatly by Mr. Ruddick, who says that the forerunner has an excellent idea of what constitutes a good dairy cow. Ayrshires and Jerseys are being purchased principally.

Ice-cream Making at Creameries.

According to the Dairy World, a new line for money-making in the creamery business is being proved lucrative by the growing demand for ice cream during the hot weather. Already, it appears, several extensive creameries in the United States have taken up the business as a side line, and are well satisfied with results. As a rule, a ready market has been found, in some cases in the towns and villages in the immediate neighborhood of the creameries; in others—by using a first-class packing system—as far as 200 miles away. In the vicinity of some of the largest cities, however, it has been found necessary to work up a trade by distribution of samples as, in such places even the ice-cream trade has come under the domination of "trusts." That it has been possible to work up a demand in the face of such competition has been due to the superior quality of the creamery article, as, with all of the necessary "goods" at hand, and opportunities for keeping them in the best possible condition, the creameries have been easily able to turn out an article second to none. Only pure cream has been used, not mixtures of milk and cornstarch, such as is too often found on the tables of ice-cream parlors in our towns and villages.

The method of making ice cream, given by Mr. F. W. Culbertson, of Mt. Pleasant, Mich., winner of the prize offered by the Produce Review for the best article on ice-cream making, is as follows:

"The first thing we do is to scald and rinse the mixing and packing cans, freezer and utensils in pure, clean water. We use good pasteurized cream, of about 25 per cent. butter-fat. Good cream makes that smooth, good body, and gummy kind, so much desired by the connoisseurs, and it increases our trade. 'The memory of quality lasts long after the price is forgotten,' is true of luxuries. Cream that is over one day old will freeze up fluffy, and not grainy, and hence will give a larger yield. Gelatin and cornstarch will not compensate for the absence of pure cream, although they can be used in thin cream with good results.

"I cannot give any definite rule, as different flavorings vary, but to each gallon of cream 1½ pounds of granulated sugar is about the proportion used, making it rather sweet, as the freezing deadens the sense of taste to some extent. We use the best flavoring extracts obtainable.

"Strawberry cream is the popular favorite. We use fresh, ripe, clean berries; we mash them up and put the sugar over them and let them stand for an hour or two for the sugar to dissolve, then we squeeze them through a cheese cloth, which takes out the seeds and gives a rich, smooth body to the cream. We use a gallon of berries to one of cream. A few choice whole berries are generally put into the cream. We always strain the mixtures into the freezing can, allowing about one-half of the space for the "swell" of the cream.

"Good results are obtained by having the ice crushed uniformly fine, mixing the salt evenly and using one part of rock salt to about three parts of ice. The mixture should be thoroughly chilled before starting the freezer, or it may become churned enough to spoil the body of the cream. When chilled we run the freezer at a medium speed, increasing it rather fast toward the last of the freezing, and the cream will be light, feathery and swell in bulk. It is best to stop the freezer as soon as the ice cream begins to roll up on the stirrer, for if the freezing is carried too far it becomes granular and the cream is spoiled. Never stop the freezer under any circumstances after it is once started until the cream is frozen. A little cold water thrown around the freezer can allow it to empty without waste into the packing cans, as it is warmer than the cream and will not injure the gloss as when hot water is used.

"Ice cream that has stood an hour or two will harden, ripen and blend into a perfect whole, and is more desirable, but it should not be kept long before use or it will not have that light, fluffy appearance of the freshly-frozen cream preferred by the connoisseur, or the large yield.

"Steel cans, porcelain lined, are used for packing, these having a tight cover fitting over the outside of the can. We set them inside of the cedar packing tubs with enough salt mixed with the ice so that the ice cream will not get too firm, or melt and be ruined. Blankets and burlaps are used to cover the packing tubs of cream.

"When the freezer, mixing and packing cans are empty we thoroughly wash and steam them.

"Often before closing the creamery in the evening, or after opening up in the morning, it is necessary to put more ice and salt in the packers to keep the cream in perfect condition."

In closing, it must be said that in ice-cream making, as in all other manufactures, some practice is necessary for the production of a choice article. In most cases it has been found most advantageous to hire an expert to teach the business rather than to trust wholly to the result of one's own experiments.

IF YOU HAVE A FARM FOR SALE OR WANT A SITUATION, PUT AN ADVERTISEMENT UNDER THE HEADING OF "WANT AND FOR SALE" IN THE "FARMER'S ADVOCATE."

POULTRY.

Mixing Breeds.

To the Editor "Farmer's Advocate":

One of the commonest mistakes made by poultry-raisers arises from the widespread belief that mixed chickens lay better than pure-bred fowls. This fallacy is the worse because it grows out of a truth. It is true that frequently if you cross two breeds, each of which has been bred with egg production uppermost in the mind of the breeder, and they chance to nick so that the offspring inherits the laying tendency from both parents, the cross will lay more than either breed; but if one breeds from these crosses the pullets produced lack the laying qualities of the first cross. In order to get the desired result, one would have to keep two breeds pure, and raise his layers by a fresh cross each year.

But the most important fact which is overlooked by these believers in mixing is, that it requires more knowledge of breeding to produce prolific crosses than to raise pure stock, for everything depends upon how the breeds that are crossed will nick. It is a well-known fact that when two animals are mated which have been bred in different lines for generations, the offspring receives the characteristics of both parents, but has them mixed up sometimes in a grotesque way. When a very large, well-built stallion is bred to a neat little pony, in the hope of producing a medium-sized horse, very often the colt has his father's large head and his mother's little body, or his father's heavy legs attached to his mother's light body. Again, after two breeds have been breeding uniformly for generations, if they are crossed, the offspring may revert to earlier types, while occasionally two well-bred lines will combine the good qualities of both; in such a case they are said to nick. Among fowls the breeds which will nick are much less numerous than those which will not, and though it is possible to produce a good layer by crossing, it is useless to expect to do it by accident, and none should attempt it without a wide knowledge of breeding poultry. While some crosses lay better than either parent, some do not lay so well as either, and these are the more numerous class.

Very often the cockerels introduced with a flock, to improve the laying by an infusion of new blood, are the sons of poor-laying hens, and must reduce the laying qualities instead of improving them. If one were going into dairying, the first thing he would want to know about his bull would be whether he was from a good milking strain or not, and the first thing one should know about a cock is whether or not he is from a laying strain, if eggs are wanted. The man who understands crossing may profit by it, but the average poultry-raiser will do better with a straight-laying breeds. It is well to remember that some strains of any breed lay much better than others, and if they can be obtained at reasonable prices, cockerels from a bred-to-lay strain, in which the record of each hen is kept, will more than pay for themselves in the eggs of their pullets, besides raising the laying qualities of the flock every year.

Debating this matter is of no use. In this day of science we believe in experiment. Let anyone who raises mixed chickens buy a half dozen hens of a bred-to-lay strain whose eggs he can distinguish—say Wyandottes of a strain known to lay very brown eggs, or Leghorns which lay white ones. Let him keep count of their eggs and see how many the six average, and keep account of all other eggs and see how many the mixed hens average. The man who tries the experiment will have mixed hens to sell in the fall.

W. I. T.

Give the Chicks Attention.

Careful attention should be given now, during warm weather, in order to obtain all the growth possible before the short days and cool nights of autumn are here. If we would have heavy producers next winter we must be on the alert and faithful to our trust now. We cannot expect prolific layers if the pullets are only half grown. Not only ample feed is necessary, but it should be given in such a manner as to induce as much exercise as possible, which gives strength of frame, adequate digestive capacity, and begets that activity so essential to good laying qualities.

Neither should we neglect the roosting quarters and coops. If the fumes of these compel holding one's nose, good results cannot come. Supposing the fowl to be free from vermin, they cannot remain so long under these conditions. Clean out often, sprinkle with lime, and supply fresh litter or remove to fresh ground. Do anything and everything necessary to keep their homes fresh, sweet and comfortable. We cannot have profits at any given time if the essentials are neglected during other portions of the year. We must supply the daily wants of the little chicks, and in return they will supply our tables with the best quality of poultry and eggs in abundance.

J. R. H.