

made per cwt. of milk, hence the skimming of milk by one patron of a factory defrauds all the other patrons, except in those factories where the Babcock test is employed in dividing the proceeds. In short, skimming of milk reduces the quantity and quality of cheese made, defrauds fellow patrons of the factory, and is illegal, according to both Ontario and Dominion law. Those who fail to appreciate the force of other considerations, may be impressed by the fact that for skimming milk they are liable to a fine of five to fifty dollars, and that some forty prosecutions have been made in Western Ontario this summer by the official specially employed for the purpose, while an officer with like mission has been similarly active in the East.

DAIRY POINTERS.

Do not turn the milch cows out on wet nights, or the milk pail will be low. Nothing will shorten the milk output more than for the cows to get chilled and wet.

It is agreed that a silo is a good investment. The question now is how big to make the silo.

Give the stable a thorough cleaning before putting the cows in for the winter. Replace all broken lights in the windows, and clean all the windows.

Have you any "boarders" among your cows? The scales and Babcock test will tell you. Try it, and weed out the poor cows.

What does it cost to produce the milk? Better commence keeping account of all feed consumed by the cows.

Don't send your butter to market in "any old way." Invest in some butter paper with your name and address on it, and also get a butter printer.

One dairyman claims that to keep the calf on the cow until it is a month old gives the largest profit. What say you?

Generally speaking, the best results are obtained from cows that freshen late in the fall or early winter. R. H. C.
York Co., Ont.

PROFITABLE AND UNPROFITABLE COWS.

Practically every farmer who keeps cows for milk production has animals which do not pay for their board. Many cows are kept at actual loss. To bring the question clearly before the farmers, a Massachusetts Experiment Station bulletin gives figures showing the returns from a profitable, and also those showing the returns from an unprofitable, cow.

The profitable cow had, as a year's record, 6,975 pounds milk testing 4.87 per cent. fat, equal to 340 pounds fat, equal to 396 pounds butter. Food cost of one quart of milk 2.76 cents; one pound butter, 22.9 cents. Profit from milk, at 3½ cents a quart, \$31.38; from butter, at 30 cents a pound, \$31.31.

The unprofitable cow had, as a year's record, 3,141 pounds milk testing 4.33 per cent. fat, equal to 137.4 pounds fat, equal to 165 pounds of butter. Food cost of one quart of milk, 4.53 cents; one pound butter, 39.2 cents. Loss from milk at 3½ cents per quart, \$11.27; from butter at 30 cents per pound, \$15.22.

These figures may not represent maximum and minimum returns from the Canadian herds, but there are hundreds of cows boarded every season that come below the record of this unprofitable animal. It costs practically as much to feed and care for her as is required to keep the other kind of cow. Why should she be given a place in the herd?

After asking the question, "Which kind of cows are you keeping?" the Station submits the following plan by which the farmer can, with a minimum outlay of time and money, ascertain the profitable and unprofitable cows in his herd:

"Begin when the cow is fresh, and weigh her milk for three consecutive days in each month, preferably about the middle, and record the weight on previously-prepared ruled paper. The sum of the amounts produced for three days multiplied by ten gives the amount produced for the month. The amount of milk produced in a portion of a month can be estimated by weighing the milk for one or two days and multiplying by the proper number. Continue the weighing for one year, and from year to year, if you would know the whole truth. Preserve yearly summary in permanent record book.

"Any spring balance or scale will do for weighing, but a balance with the scale graduated into pounds and tenths, and with a movable pointer, so that when the empty pail is suspended the pointer may be made to indicate zero, is to be preferred. Such scales cost \$3.00 at any dairy-supply house.

"Sample the milk of each cow in the second, fourth and seventh month after calving; any time during the month will do, but the middle is to be preferred. The average of the three tests will be a fair index of the quality of the milk during the milking period. Thus, if the milk tests 3.8, 4.2, and 4.8 per cent. fat, the average would be 4.27 per cent. for the entire period. A pint jar for each cow, a small coffee cup or long-handled gill

dipper for taking the sample, a box of bichromate of potash or corrosive sublimate tablets for preserving the sample, to be procured on any dairy supply house at a cost of \$1 to \$1.25 per box, are necessary utensils. In sampling, powder fine with a knife one-half of a tablet, and put in each jar. Milk the cow dry, and pour the milk as carefully as possible from one pail to another three times, in order to mix it. Do not allow any more frothing (air bubbles) than possible. Dip out a cupful of the milk at once and pour into the jar. Mix the milk with the preservative by a careful rotary motion. Do not shake or turn the jar upside down. Proceed in this manner for four consecutive milkings (two full days). Be sure to mix the milk by the rotary motion each time a sample is added to the jar, and keep the jar tightly covered. The jar should be marked with the name and number of the cow.

"The samples may be tested by the owner of the cow if he has a Babcock machine, glassware and acid, or it may be taken to a creamery, or, in exceptional cases, sent to an experiment station or college laboratory."

Canadian dairymen may have had experience in other methods of cow-testing. They may have worked in co-operation with other members of a cow-testing association. But, no matter what the plan, something should be done whereby the unprofitable cows can be located, and a speedy disposal made of the same. Now, during the fall and winter months is a good time to get into the habit of testing and keeping records. More time is at the disposal of the owner now than during spring and summer. Besides, the progressive dairyman has cows freshening during December and January, so that tests according to directions can be made. Prepare for accurate work in this regard. The disposal of even one unprofitable cow may save in a single year the entire cost of testing apparatus. The best and wisest plan is to weigh every cow's milk at every milking, as the daily records are an aid and a stimulus to better feeding, milking and general care, but weighing three days a month is much better than not keeping records at all.



Dorothy.

Registered English Shorthorn dairy cow, seven years old. First by inspection, first in one-day milking trial (milk yield 68.7 lbs.), champion of the London Dairy Show, 1908.

KEEN DEMAND FOR MILKING SHORTHORNS.

That the milking Shorthorn cow is popular with the farmer and the small dairyman of the Eastern States, is shown by the keen demand for such stock. Those farmers who supply milk to cheese factories or creameries frequently have large herds of one of the dairy breeds, but jobbers, who buy cattle in the Western States to supply the demand of dairymen who produce milk for Eastern cities, assert that the supply of the dual-purpose cow or milking Shorthorn never equals the demand. The average man wants a cow which will give liberal returns at the pail, and one which, when her days of usefulness in milk-production are gone, can be fattened and sold to the butcher at a figure almost sufficiently high to procure a substitute, and whose male calves can be profitably used to convert farm roughage into first-class beef.

With this demand for the milking Shorthorn in the Eastern States, it is regrettable that breeders of the West have not directed their energies more largely to the production of milking Shorthorns, which are altogether too scarce. However, since a keen demand for a commodity generally has the tendency to increase the supply, it is expected that many stockmen will follow the example of the few who have not overlooked the milking propensities in building up their Shorthorn herds. Those breed-

ers who have striven to develop the milking tendency have not regretted it. The present demand and the fact that others are following their lead, shows they were not astray.

POULTRY.

MANAGEMENT OF HENS FOR EGG PRODUCTION

From U. S. Farmers' Bulletin 287, by G. Arthur Bell.

The problem of feeding is one of great importance, and should be carefully considered, for on it depends, to a large extent, not only the general health of the fowls, but also the economy which promotes success. It is a subject, however, which should be studied with a large amount of common sense, for there are no hard-and-fast rules which can be laid down as applying to every case. The price of feeds and general environment should be considered in determining the right rations.

For the largest profit, a good proportion of the eggs should be secured during the winter. If two extra eggs per week can be obtained from each hen, a good profit will be made, while if the product is increased by only one egg per week in winter, this one egg will pay for all the feed the hen eats. To obtain this greater production, not only should the fowls be young, and of a good laying breed, but the feeder should have a full knowledge of the proper feed and its preparation.

The nutriment in the feed of laying hens serves a twofold purpose: to repair waste and furnish heat to the body, and to supply the egg-making materials. As only the surplus over what is needed for the body is available for egg-production, the proper feeds should be fed in sufficient quantities to induce this production.

In supplying feed to fowls, there are three kinds of constituents which should be present in certain, fairly well fixed proportions, if the desired results are to be obtained most economically. These constituents are mineral, nitrogenous, and carbonaceous, all of which are contained in corn, wheat, oats and barley, but not in the right proportions to give the greatest egg yield. In addition, some animal feed and green feed should be supplied.

In feeding poultry, a valuable lesson may be learned from nature. In the spring, the production of eggs on the farm is an easy matter. Fowls which are at liberty to roam find an abundance of green and animal feed on their range, which, with grain, furnishes a perfect ration for laying hens. In addition to this they get plenty of exercise and fresh air. So far as lies within his power, then, the feeder should aim to make the winter conditions springlike.

SYSTEMS OF FEEDING.

There are two systems in use for the feeding of

fowls, in one of which all the feed is given dry, and in the other of which one or more of the daily feeds consists of a moistened mash. For convenience, they may be termed the "dry-feed" system and the "mash" system, although, in the "dry-feed" system a dry mash is often fed. Dry feeding is used by many where it is not convenient to make and feed a moistened mash. The greatest advantages to be derived from the dry system are the saving of labor, and the lessened danger of bowel trouble resulting from sloppy or soured mashes.

DRY FEEDING.

In the dry-feed system for laying hens, as successfully practiced on a New York poultry farm, the whole grains fed are as follows, in the proportions indicated: 200 pounds cracked corn, 360 pounds wheat, 130 pounds oats.

This mixture is scattered in the litter early in the morning, and again at about 11:30 a. m., and thus induces abundant exercise.

A hopper containing a dry mash is hung against the wall. The mash is made up of the following ingredients, in the proportions indicated (by measure): 22 parts corn meal, 30 parts meat (animal) meal, 2 parts ground alfalfa, 2 parts oyster shell, 1 part bone meal, 1 part charcoal.

The hopper containing this mash is opened