prices for feed usually are accompanied by good prices for dairy products. If this were not so, the profits of the dairyman would nearly vanish during a season like 1907.

COW-TESTING.

The Experiment Station takes charge of all official and semi-official tests of cows tested in the State. More than a dozen men were employed in testing the 345 cows tested during the year. This is a great showing. Breeders of dairy cattle in Ontario will be glad to know that a permanent man has been recently added to the Dairy Staff of the Ontario Agricultural College to supervise official tests.

Of the 345 cows tested by the Wisconsin Station during the past year, 233 were Holsteins, 99 Guernseys, 6 Jerseys, 3 Ayrshires, and 4 grades. The tests furnish breeders of dairy cattle with definite information as to the productive capacity of their cows, and thus enable them to plan their breeding operations systematically, with the best possible assurance of success.

The writer goes on to say: "The evident trend of opinion among progressive dairymen and students of dairying is to the effect that tests conducted for a period of lactation or an entire year are of the highest value for determining the capacity of a cow for dairy production, and for this reason we urge our breeders to make provisions for having such tests made, rather than for brief periods of a week, or even a month."

A WONDERFUL RECORD.

The record of Colantha 4th's Johanna was supervised by the Wisconsin Station. It is pointed out that this cow in 24 hours produced over 4½ pounds milk fat, equivalent to about 5 1-3 pounds of commercial butter. The ration fed to this cow was as follows: Thirty pounds corn silage, 35 pounds sugar beets, 10 pounds clover hay, 21 pounds meal, made up of equal parts, by weight, of wheat, bran, ground oats and gluten feed, and 3 pounds oil meal. If we understand the foregoing, the cow was fed 24 pounds meal daily during the seven-day test in which she produced 651.7 pounds milk, testing 4.32 per cent. fat, and produced 28.176 pounds milk-fat. If we add one-sixth to the fat in calculating the amount of butter which could be made, we have 32.872 pounds butter, or an average of over 4½ pounds butter per day for the 7 days. During these 7 days, the cow consumed in her feed, in order to produce 100 pounds milk, 45.1 pounds dry matter, and 6 pounds digestible protein, or a total of 33.3 pounds total digestible matter. To produce one pound of milk-fat she required 10.6 pounds dry matter, 1.4 pounds digestible protein, and a total of 7.8 pounds digestible matter. This is a remarkable showing, and again proves that a good cow is one of the most economic consumers of rough feed for the production of fine human food. There is food for thought in the foregoing records of feed and milk production.

H. H. D.

STABILITY IN BUTTER PRICES.

A glance over the review of the United States butter trade for the year ending April 30th, 1908, is full of encouragement for those engaged in the butter business. In the main, the conditions prevailing in Canada are likely to correspond with those in the Republic, for in both the consumption of butter will steadily increase, and the better it is, the more of it will people eat. In so far as prices are concerned, the record was the highest in twenty years, being about one cent above the previous season. There were shortages of supply in the great markets of Boston, New York and Chicago, and it was not till December that the first tub cleared from New York port for Europe, the total out-go, some 36,700 packages, being the smallest in a dozen years. The growing population and higher standards of living in America are evidently causing the demand for the finer food products of civilization to keep ahead of the supply, despite all the public attention paid to dairying. The butter business is safe.

THE SPREAD OF THE SEPARATOR.

From personal observation in the dairy districts, and by reports received, it is evident that there is this season a large increase in the number of cream separators being installed by farmers. This has been encouraged by the more uniformly satisfactory price of butter (due partly to the improved quality of the product, made possible by the use of the separator), the desire for fresh skim milk for feeding purposes, and, throughout the cheese sections, the making of the cream from Saturday night's and Sunday morning's milk into butter for home use and customers, instead of sending it to the factories.

A GOOD DAIRY HERD RECORD.

For a good many years past J. H. Grisdale, Agriculturist at the Central Experimental Farm, Ottawa, has interested himself in a very practical way in the work of dairy-herd improvement by selection. Blank ruled forms are sent out to anyone who applies, which facilitates the work of keeping track of the daily milk production of each cow, while blanks for recording the feed consumed are also available. Many hundreds of dairymen all over the Dominion have thus been interested in cow records, and from the reports supplied by them Mr. Grisdale obtains many interesting data. He has been good enough to favor us with the report of a herd belonging to L. & B. Kelly, Kelvin, Ont., for 1906 and 1907. The report affords an excellent example of what can be done by careful feeding and study of cows. It will be observed that they did much better with their cows in 1907 than in 1906, probably due to better feeding and management in the light of exact daily knowledge of what the individual cows were doing.

SUMMARY OF MILK RECORD FOR THE YEAR 1906.

Herd owned by L. & B. Kelly, Kelvin, Ont.

Cow's Name.	No. of days each cow was milked.	No. of Lbs. of milk from each cow.	Age of Cow
White Face	302	10,032	7
Dandy	298	9,574	7
Valentine	297	8,138	3
Patrick	292	7,510	3
Lill	275	9,441	7
Frank	299	8,631	7
Lill II.	283	9,185	5
Daisy	277	7,959	3
	2,323 days	70,499	

8 cows in 10 months gave 70,499 lbs. of milk.

8 cows in 10 months gave an average of 8,812 lbs. of milk per cow.

Cows milked an average of 290 days in year.

Cows produced a daily average of 30 lbs. of milk during the season.

SUMMARY FOR YEAR 1907.

Cow's Name.	No. of days each cow was milked.	No. of Lbs. of milk from each cow.	Age of Cow.
White Face	291	9,800	8
Dandy	319	10,038	8
Valentine	318	8,229	4
Patrick	280	8,692	4
Lill	278	10,427	8
Frank	357	11,504	8
Lill II.	338	11,765	6
Daisy	312	10,504	4
Schuling	249	6,064	2
	2,721	87,023	

9 cows in 12 months gave 86,385 lbs. of milk; an average of 9,670 lbs.

Cows were milked 302 days (average) during the season.

Cows produced a daily average of 32 lbs. of milk during season.

POULTRY.

BROODING YOUNG CHICKS.

[Second part of an article on Hatching and Rearing Chickens by Natural Methods on the Farm, by John H. Robinson. The part devoted to hatching appeared in "The Farmer's Advocate" of March 19th.]

For brooding chicks, the farm has great advantages, and they should be fully utilized. Even a farm too small to give fowls free range without their trespassing on neighbors, has advantages far surpassing those of the town poultryman, who must make up for lack of natural advantages by special care to provide variety in food, to maintain a healthful cleanliness, and to guard against the evils incident to the crowding of chicks on limited areas. If there is no part of the pasture or orchard available for small chicks, and convenient to house, it will certainly pay the grower of chickens to give up to the smallest of them a piece of grass land as large as they need. That would be a piece as small as they could keep the grass down on without killing it out. In an ordinary season, this would be a piece as large as required to place the coops about two rods apart each way, and have a margin about two rods wide outside the coops all around the plot. In a wet season, or where the growth was rank, the coops should be closer together; under the opposite conditions, farther apart. The loss of hay from the land given up to the chicks would be at least in part made up by the heavier crop from the piece next year, for the droppings of the chicks will distribute quite evenly over it a high-grade fertilizer.

Supposing a piece of mowing land, on which the grass is well up, is to be devoted to the little chicks. It should be mowed before they are placed on it, because, if left long, the chicks would get too wet running through it when the dew is on it in the morning and on wet days; and so it would be necessary to keep them shut in the coops more than is desirable. In respect to chicks running in wet grass, it may be said that rugged chicks are not injured by it in ordinary weather, when the sun and air dry them quickly, and when the hen, confined to the coop, keeps dry, and if wet and cold they can go to her and be quickly warmed and dried; but weakly chicks do not stand much wetting, nor can any chicks stand much wetting, if they cannot quickly dry themselves after it. Let chicks run when conditions are favorable; at other times keep them confined. When there is so much unfavorable weather that chicks would be shut in too much if this rule were followed, keep coops in the same places long enough to keep the grass short around them, and keep a dish of dry feed—shorts and meal mixed dry will answer—beside the coop, that the chicks may remain near it.

If the plot given to the chicks is convenient to the house, the chicks will nearly always get better attention than if it is at a distance, because then the care of the chicks will interfere less with other work. On some farms, where large numbers of chicks are grown, the men do the morning feeding, watering, cleaning, and heavier work, and close the coops at night, the women feeding them at intervals through the day. When it is too inconvenient to make several feedings daily, food may be kept by the chicks, but that practice is not to be recommended unless they have a much larger range than indicated by the arrangement of coops suggested.

Ordinarily, coops placed in that way should be moved their own width or a little more daily, until the original position of the next coop in line is reached, then backward or forward the length of the coop, and back toward the original position. Moving this way is done when the coops are opened or closed, and the time taken is scarcely noticed.

The best results in growth and development will be obtained by alternating hard and soft foods. Give a mash in the morning, shorts and meal in equal parts, with a little beef scraps added; a feed of grain, wheat or fine-cracked corn about 9 o'clock; mash again at noon; wheat or corn about 4 o'clock, and mash just before dusk. The grain foods may be scattered at the time the mashes preceding them are fed, if conditions are such that the chicks do not soil the grain too much before they eat it. When grain is soiled by their feet, even on quite clean ground or grass, it becomes, in a degree, poisonous, and dangerous to the chicks, just as filthy water is.

To many, the idea of feeding whole wheat to little chicks may be novel, and seem absurd, but the writer has done it for the last fifteen years, and grown as good chicks and lost as few as when only very fine grain was given early. Chicks start slower on a diet in part of hard grain, but develop better digestive capacity, and later will stand heavier feeding and develop better than those kept too long on soft food. To keep chicks free from lice, dust them with insect powder when taken from the nests, then once a week for three or four weeks.

By the time the chicks have outgrown their first piece of ground, there should be other places on the farm to which they could be transferred. For the weaned chicks, coops about three feet by six feet, easily moved about, called "roosting coops" by poultrymen, are as good as anything. These may be placed on mowing land after the first crop of grass is off, or at the edge of a cornfield, where the corn is well started, or a piece of asparagus on which cutting has ceased, or anywhere that the chicks can have room without damaging anything. In general, it may be said that, when they can do no damage, they always do good. The one most important point in growing chicks is to give them plenty of land room. Many poultry-keepers are careful to keep coops scrupulously clean, but are rather indifferent about soiled and contaminated ground. This is not strange, for the great advantage of a good range is not often apparent, except to those who compare the development of chicks on land that looks clean, though it shows the wear of chickens on it, and on land that furnishes more liberal range. After fowls are grown they will stand close confinement, but growing chicks should have room, and, if limited for room, must have special care to compensate.

The feeding of chicks after weaning should continue along the line on which they were started. Unless the land furnishes an unusual amount of food, it will pay to keep up the four or five feeds a day, until they begin to be indifferent at some of the feedings. Then omit one feed—the soft feed at noon. When this point is reached, the chickens will get along very well with no attention between the time the hard grain is given them in the morning and the time for feeding it in the evening. At both feedings it should be well scattered, and the evening or afternoon feeding should be several hours before sundown to give them ample time to eat a feed of scattered grain. Then, just before dusk give them all the