

Two or Three Feeds Daily.

Opinions differ among dairymen as to which is the more profitable, feeding dairy cattle three times daily or feeding them the same quantity of feed in two feeds. One very successful dairyman will cling closely to the three feeds, while his neighbor, making equally good success, favors two feeds. Labor is a big factor in milk production under present-day conditions and anything which reduces the work of production is favorably looked upon by most men engaged in the dairy business.

To determine the result of such a system an experiment was carried out at the Central Experiment Farm, Ottawa, and the following table shows the results:

	3 feeds.	2 feeds.
Number in group, 4.	Number in group, 4.	Number in group, 4.
Average weight to start	1,337 lbs.	1,334
Average weight at end 2 weeks	1,344 lbs.	1,344
Loss or gain +	+ 7	+ 10
Meal fed group in 1 day	26½ lb.	26½
Hay fed group in 1 day	20	20
Ensilage and roots fed group		
in 1 day	256	263
Meal fed group in 2 weeks	374	367
Hay fed group in 2 weeks	280	280
Ensilage and roots fed group		
in 2 weeks	3,590	3,689
Value of feed fed group in 2 weeks	\$8.32	\$8.34
Value of feed fed 1 cow in 1 day	.15	.14.5
Milk produced by group in 2 weeks	439	506
First day's milk from group	36	37½
Second day's milk from group	36	37
Average daily yield of group during 1st week	35½	36½
Average daily yield of group during 2nd week	34½	36
Average daily yield of group during 2 weeks	34½	36
Next to last day's milk from group	34	35
Last day's milk from group	35	34½
Decrease in rate of daily milk yield in 2 weeks	1½	1½
Per cent. decrease in rate of daily milk yield	8	6

From this table it is seen that two feeds per day fed at regular hours are more profitable than three feeds, causing less labor and yielding more milk.

POULTRY.

Hen House for Winter Layers.

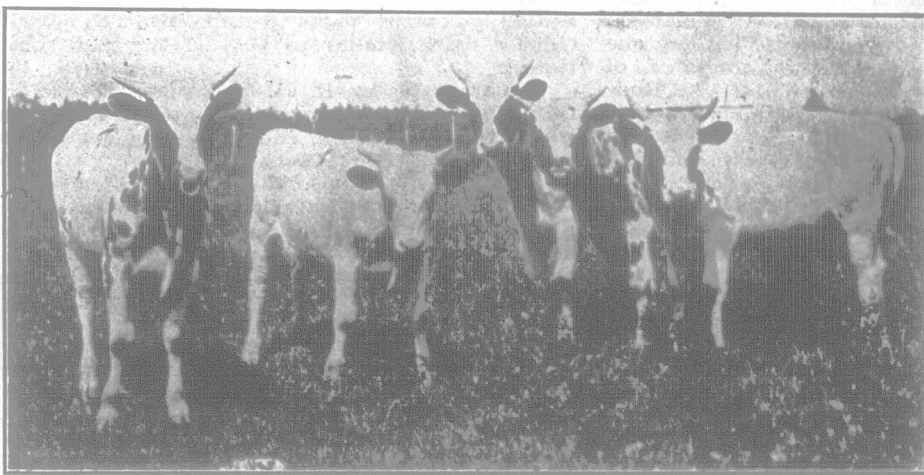
Editor "The Farmer's Advocate":

Dr. Raymond Pearl, of the University of Maine, says, in his "Biology of Poultry Keeping":

"There have been published plans for poultry houses of all conceivable shapes and sizes. Long houses, short houses, tall houses, low houses; square, hexagonal, octagonal, and round houses heated houses and cold houses. . . It only remains to discover that which is good and to hold fast to it." Such is indeed the case, and it must be remembered that what I consider an ideal poultry house might rightfully be condemned by another poultryman, and vice versa. There are some rules, however, which may be stated, I think, without fear of contradiction. The open-front or curtain-front type of winter laying house is far and away better than any other; also the long, continuous house has been proved to be better for winter use than the colony house, in that the amount of labor is so much less in caring for a large flock of hens under one roof, though separated into a number of pens, than in a number of houses some distance apart. This is true not only with regard to the feeding and care of the birds, but also the breaking of the paths through the snow in our severe climate. The next question of importance is the floors. Should the floors be of cement, boards, or earth? Cement floors are, I think, to be condemned. They are cold, likely to be damp, and unless covered with a thick layer of earth, the birds will soon wear out their "toe-nails" scratching on them. If the cost of board floors and earth floors were equal, I would say by all means, have board floors, but considering the very great difference in cost, I much prefer the earth floors, if they are properly made. A sandy soil, or light, sandy loam should

be used; it should be put in early enough in the fall to thoroughly dry out and become dusty before the hens are confined for the winter, and it should be raised at least six inches above the ground outside. In the case of old houses, two or three inches of the old earth should be taken out each fall, and new, unsoiled earth put in its place.

Having settled, to the satisfaction of the author at least, if not the reader, that the ideal poultry house is the long, continuous house of the open-front type, the details are simple. The house should not be more than sixteen feet wide, in order to allow the sunlight to get to the very back of it. The north side should be five feet high (the house should always be built facing the south), and the south side seven feet high. A shanty, or single-pitch roof is the most economical to build, but with so little slope shingles cannot be used and the roof should be covered with a heavy grade of prepared roofing, with one or two layers of heavy tar felt underneath it. The north side and the ends should be double boarded, the inside boarding being tongued and grooved, so as to make as nearly as possible a dead air space between the sheetings. The most economical outside sheeting is plain boards, carefully battened. Probably the best number of layers to keep in a flock is fifty. If your laying house is sixteen feet wide, it should be divided into pens fifteen feet long, for fifty hens. Each pen should have a glass window about four feet by five feet, the bottom of the window being twelve inches above the floor. There should also be in each pen an open window three feet by six feet, the bottom of this window being three feet above the floor. Eighteen square feet is about the proper amount of open window for fifty hens. If your pen is for twice as many hens, double the size of the window. The curtain for this window should be arranged as described in a recent issue of "The Farmer's Advocate." Both glass and open windows should be on the south side of the building. If you are building a long house, of more than one pen, the partitions can be most cheaply made of a frame on which factory cotton is tacked. A good grade of this cotton can be bought at about



A Young Ayrshire Herd in Western Canada.

eight cents per square yard. The doors between pens can be made in the same way, and if these doors are also the door by which the building is entered are in a line along the south side of the building, it makes it handier for the attendant to get through from one end of the house to the other, particularly if the doors have spring hinges to open both ways.

Along the north end of the pen is a dropping-board of tongued and grooved lumber, two feet nine inches above the floor and three and one-half feet wide. One foot above the dropping-board are the roosts, the first being nine inches from the back wall, the others twelve inches apart and the last nine inches from the outside of the dropping-board. In a pen fifteen feet long, these three roosts will accommodate as many as seventy hens if necessary. Nests should be twelve inches square and twelve inches high, but I have used orange crates, which are smaller, to good advantage. One nest should be allowed to each four hens, and they can be fastened to the side walls in tiers one above another. The mash-box can be placed below the nests, near the swinging doors, and the receptacle for water between it and the dropping boards, thus giving the greatest amount of free floor space. In conclusion, let me say that the dropping-board is a valuable addition to the house, but only if it is cleaned off and the manure carried away every morning of the year. Also air-slaked lime should be dusted on it occasionally. The whole building should be thoroughly whitewashed spring and fall.

The cost of such a house as described should not be more than \$40.00 for a pen for fifty hens. To get the best results from layers in the winter time, the laying house must be dry, well-ventilated, free from drafts and have plenty of sunlight. Durham Co., Ont. LEWIS N. CLARK.

Feeding Hopper for Poultry.

Will you kindly give a description of how to make a feeding hopper for poultry?

SUBSCRIBER'S DAUGHTER.

We can do no better than publish again the bill of material required for a double outside feed hopper. This hopper requires a more expensive cover than would one for inside use, but it serves as a good hopper inside or out. The hopper is three feet long and the base is twelve inches wide. Nine slats 1½ inches wide are placed two inches apart. The cover is made separately. The following is a bill of material required:

The lumber used is ½-inch. The slats over the front are ¾-inch.
 2 pieces ¾ in. x 12 in. x 1 ft. 8 in.—ends.
 1 piece ¾ in. x 12 in. x 2 ft. 10½ in.—bottom.
 2 pieces ¾ in. x 3½ in. x 3 ft.—bottom sides.
 2 pieces ¾ in. x 2½ in. x 3 ft.—top sides.
 18 pieces ¾ in. x 1½ in. x 10 in.—side strips.
 1 piece ¾ in. x 16 in. x 2 ft. 10½ in.—centre divs.
 2 pieces ¾ in. x 10 in. x 2 ft. 10½ in.—side divs.
 2 pieces ¾ in. x 12 in. x 3 ft. 2½ in.—cover.
 2 pieces ¾ in. x 6½ in. x 1 ft. 8 in.—cover ends.

HORTICULTURE.

San José Scale.

This is a good season of the year to be on the lookout for the San José scale. Hard to discern on the limb until it has done the damage, it can nevertheless easily be detected on the fruit.

The scale will at once be a blessing and a scourge to the fruit growers of Ontario and other Provinces in which it has gained a foothold. Nova Scotia has been fighting hard to stand off the invasion by this pestilence. The browntail moth had the fruit growers of the Province down by the sea in such a turmoil that a bounty of ten cents per nest was offered for that undesirable newcomer. Now the San José scale has introduced itself into the Peninsular Province, believably through the medium of nursery stock, but thanks to the officials in charge of Nova Scotia's agricultural resources the pest has been confined to a few localities where they are quite capable of looking after it.

In Ontario the situation is somewhat different. Southwestern Ontario knows well what the scale is like and what damage it is capable of executing. The Niagara district has

can control it on their low trees and on the high apple trees when pruning and spraying are thoroughly done. With the number of wild fruit trees and berry bushes around fence corners and on neglected farms, with all the neglected orchards and forest trees in which habitats the scale will thrive, it looks reasonable to believe that in a few short years the scale will not be unknown in every fruit-growing district in Ontario. What the outcome will be depends wholly and solely upon the fruit growers themselves.

Compulsory spraying would not be a success. It would entail inestimable trouble and expense in districts where fruit growing is not the leading agricultural pursuit, and where the spraying was forced it would be executed in such a negligent, half-hearted manner that the results would not be in any way satisfactory and could be used as an argument against the efficiency of the practice or method in controlling the insect. If coercion cannot be used to advantage then it remains with the individual to retain his fruit trees or see them destroyed by the scale in three or four years after it once appears.

To the exclusive fruit grower this pestilence will be a money-maker, in that the man who gives his orchards no care at all yet places a quantity of inferior fruit on the market, tending to reduce the price of the good article, will cease to operate. His orchards in due time will be destroyed, while the careful grower, with a little more exertion will retain his trees in a healthy state. The so-called scourge will tend to prevent over production and work out to the advantage of the fruit grower.

If a man appreciates the orchard he has upon his place, or wishes to set out a new orchard, the San José scale or its depredations should not