

get a great lot of valuable information, and I would say that I would not like to be without its weekly visit. (MRS.) J. A. CONBOY.
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Winter Eggs.

The profit accruing from the business of poultry-keeping depends very largely on the production of eggs during winter, the time when high prices prevail. Therefore, if we can get our pullets laying in the fall, and keep them at it during the winter, makes all the difference between profit and no profit in this line of business. Any old kind of a hen will lay in the spring or early summer, but it takes a well-bred young hen or pullet to lay in the fall or winter; and not only so, but unless this same young hen or pullet is given good shelter, proper care, and the right kind of feed, she will not lay many eggs during the cold period. And I am sorry to say that, in travelling through the country, I observe that very few of the farmers, at least, pay any attention whatever to either of the aforementioned essentials, and all the time they are wondering why their hens don't lay in the winter, or, in other words, why they lay when eggs are plentiful and prices low. But it is not always that a farmer's wife gives the excuse, as did one farmer's wife to me last winter. I had some business to do with the farmer, and, as I always do, I hunted up his poultry plant. I found them in a very nice poultry house, with doors all shut tight, all windows closed, the interior of the house all lined up with brick, and even plastered over the bricks. When the goodwife of the farmer came out to show me her hens, and opened the door, the fumes that came out were nearly enough to knock one over. It was a cold, bright, frosty, calm day. The goodwife hurried me into the house and closed the door, with the remark that she didn't want the cold to get in. I said I thought a little more cool, fresh air, and a little less steam and foul odor, would be a great deal better for the inmates. She had some very good-looking Barred Rocks and some White Leghorns, and some crosses of these two breeds. There were old ones and older ones, and young ones and younger ones, of both breeds and their crosses, all running together. I asked my friend if any of her hens were laying, and her answer was, "Oh, no, Mr. Meyers; you see, it takes so much feed to make hens lay in the winter, and I never think it worth while to feed them enough to make them lay at this time; besides, I think they lay a great deal better in the spring and summer if they don't lay in the winter. They never would lay under these conditions, no matter how much she fed them."

In order to have hens lay well in the cold weather, the first—and I was going to say, the most essential—requisite is the right kind of a house. Unless one's poultry is properly housed, it is almost impossible to have them lay well. In my visiting among the farmers, in this part of the country, at least, I find that most of them partition off part of the cow stable for the poultry apartment—the very worst place they could put them; too close, not enough ventilation, and too much heat and moisture coming from the cattle. A hen, to be in good laying condition, must be in perfect health, and, while she can stand almost any amount of cold if kept dry, she cannot withstand dampness and keep in good laying condition; that is, she cannot stand breathing a damp atmosphere, either from the breath of cattle or from damp or wet floors, such as is often found in poultry houses with earth floors. Earth floors are all right if properly made; all my houses have earth floors, but I take the precaution to have them raised above the ground outside, so that no water soaks in to make them damp. I have known hens to roost in trees and get fairly soaked with a drizzling rain, and it never seemed to do them a bit of harm, but to breathe a damp atmosphere has quite a different effect. I have had a number of different styles of houses, but the style of house I like best is what they call the Tolman open-front house, which I may describe in detail in some future issue of "The Farmer's Advocate." Hens, to be kept in perfect laying condition, must have plenty of fresh air, all the sunshine possible, and neither dampness nor draft of any kind, then I consider we have solved satisfactorily the housing problem.

The next requisite is proper care, and this, also, is quite essential, if one is to get eggs in winter. By proper care, I mean feeding and watering with regularity, and in the right manner. I always think that the person who gives the best care to fowls, or any of the domestic animals, is the person who has the liking for them, and I was going to say, makes personal friends of them, not the one who keeps them merely for the profit he makes out of them. Take an interest in them, name some of them and know them individually, and get them to know you and make friends with you. Such a person will be more likely to give them proper care than one that does not take

such an interest in them. And how much more of a pleasure it is to care for anything you really like. Regularity in feeding, cleanliness, plenty of clean, fresh water, with grit and charcoal before them all the time, constitutes what we would designate "proper care."

Now for the feeding. What shall we feed, how much, and in what way shall it be fed? I think the best way to answer this is to give my method of feeding as nearly as I can. As soon after daylight as possible, I feed about one quart of good wheat to every twenty-five fowls, scattered in litter on the floor; then, about midway between that and noon I give about one quart of crushed oats to the same number of fowls, fed in a trough. At noon I give either mangels, cabbage or alfalfa; these I feed on different days—mangels one day, cabbage another, etc. At this time I throw into the litter about a pint of scratch feed, which consists of wheat, buckwheat, Kafir corn, different kinds of seeds, such as sunflower, millet, etc., to keep them engaged in scratching for it during the afternoon. About an hour before dark I give them about a quart of cracked corn and scratch feed, or any other grain, mixed, also thrown in the litter. About three times a week I give to the same number of fowls about one pint of ground bone, mixed with a moistened mash of bran and shorts. This, with plenty of grit, shell and charcoal, ought to make them lay, if they have any laying qualities in them. Of course, a person requires to vary these quantities of feed, according to the breeds of fowl kept; the quantities given above are for the Mediterranean breeds, such as Leghorns and Minorcas, or any of the smaller breeds. For the larger breeds, such as Brahmas, Wyandottes and Rocks, a little more feed should be given. I often handle my birds to see that they are not getting too fat. A person must feed them the right quantity to keep them in nice, plump condition, and enough to make one egg per day extra.

Perth Co., Ont.

JOHN MEYERS.

Important Attention to Poultry.

Many times the sidelines of farming are responsible for the dissatisfaction of farmers with their occupation. Not that the fault lies with the sideline, but because the sideline is treated as a sideline, and during the rush with the haying, harvest or other crops it receives scant attention.

If there be any one sideline more than another that shows up the truth of this statement, it is that of poultry-raising. There is no other small feature of farming that has proven itself equal to producing such a large percentage of profit on the investment as poultry-raising. It is the only branch of stock-raising in which the individuals reproduce and develop their own kind in one-half of the year. That is perhaps better explained by saying that, if we set eggs in early spring—March, we will say—then we will have the chicks from these eggs laying, or the undesirables ready to kill and at their best in five to six months. It is not necessary to feed them, as with other farm stock, a full year before they have reached that stage in their development where they have attained their highest market value and are yielding an income from the investment. Cows are two and a half or three years before they have reached their highest market and are yielding an income as milkers, or are marketable to best advantage as beef. Horses rarely are worth their full value as saddle horses at two years, and when not valuable for saddle, are not worth their full value till broken. Do not misunderstand this statement as intended to encourage poultry-raising at the expense of stock-raising. It is explaining the former statement as to the rapidity with which poultry commence to give returns on the investment, hence an argument in favor of them as a sideline.

This being the case, that chickens are the quickest to mature to the state where they give the highest returns of which they are capable, we must acknowledge that they have the possibility of becoming a very profitable sideline. But, in order to keep hens in such conditions that they will yield their best, they must receive constant "little attentions" that, if they do not receive, makes them a most undesirable addition to the business of the farm. It is two of these "little attentions" that this article is intended to emphasize—two which, because their demands are not heeded, are responsible for much of the discouragement that exists in poultry-keeping.

Chicks that are tormented by mites can't attain full development early. Hens worried all night by the irritation of thousands of these pests can't be expected to lay. It costs as much to keep henhouses to feed the mites as it should to keep the hens in laying condition. This is so because it seems almost impossible to kill them when they get a hold, but it can be done. For example, during the heat, one house in which we had only a few birds, for lack of attention, was literally overrun with red mites. The house was needed about the end of September to

accommodate the older pullets, and had to be cleared of mites.

We tried several recommended sprays, such as coal oil, creolin, carbolic and soap, but they were unsuccessful. Finally, we tried lime-sulphur, the spray used by the orchardists so extensively. The solution was mixed with water, ten to one. The roosts were lifted out of their supports, nest material taken out and burned, and everything thoroughly covered with the spray. The next day the same process was adopted. Then we missed a day, and all the mites the spray had not affected could easily find lodging under the end of the roost poles, and another application of the spray cleaned the place. Mites never remain on the birds during the day, but simply fill up on blood and go back to the roosts. Lice are another proposition. They stay on the birds, and must be treated with an application of sulphur (which, alone, is rather strong) or insect powder, each bird being handled singly while the powder is applied. The only way to keep mites down is by regular cleaning out of the henhouse and frequent application of coal oil or lime-sulphur to the roosts, say every fortnight, or thereabouts.

The other "attention" referred to is the selection of layers. Where trap-nests are not used, the birds can only be taken by selecting the hustlers, or those seen frequently on the nests. There is no system other than the trap-nest that is even in the least reliable as a guide to the selection of the layers. Birds hatched after the 24th of May are not early enough to be profitable as layers, and should, under ordinary conditions, be used for market. Early March chicks are a risk, as they are liable to molt; then they are of no more value than old stock.

By selecting from pullets hatched between the 24th of March and 24th of May, the laying tendencies of the flock can be much improved. Without this little attention, or by the killing of the largest pullets because they are ready for the early market prices, we tend rather to destroy the laying inclination, rather than to increase it.

Trap-nests are absolutely reliable as a means for selecting the layers. Often fowls kept as layers would be discarded where the trap-nests are used. An instance of this will show what the trap-nest reveals. A pen of eight White Wyandottes were put into a winter pen. These pullets had been selected. The results obtained from two of them were most interesting. One of these was rather a large hen for this breed, and she was continually on the nest and often cackling about the pen previous to being placed in this pen. The other, a small one, was always on the floor scratching and fighting. When the records of these two were made up, the small hustler had, in four months, January, February, March and April, 20, 22, 19 and 30 eggs to her credit. The large cackler had 2, 5, 3 and 1. The others in the pen ranged from 14 to 18 eggs per month. It is easily seen from which ones we kept eggs for hatching.

These two "Little Attentions," if carefully looked after, will often transform a losing sideline into one of the most profitable and interesting, changing or helping to change the attitude of those who may feel dissatisfied with farming and the varied problems met with in handling the "sidelines."

WALTER M. WRIGHT.

British Columbia.

The Best Layers.

1. Which do you think are the best year-round layers, the Plymouth Rock or the White Leghorn?

2. How many roosters should be kept for sixty hens? Is four too many?

3. What is the best feed for hens in the winter, and how much for sixty; also, how often a day?

W. P.

Ans.—1. No particular breed of hens can be considered the best layers. Much more depends on the strain of the breed kept and upon the care feeding, housing, and age of the hens. The Barred Plymouth Rocks will likely prove the better winter layers, while the White Leghorn will usually lay more summer eggs. Much, however, depends on the strain and treatment. The Barred Rock is a favorite with many, while the Leghorn also has its admirers.

2. This depends on the breed and upon conditions. The lighter breeds do not require so many as the heavier breeds. When the eggs are not to be used for hatching, it is advisable to keep all male birds away from the hens. If the males are strong and active, and on free range, four should be enough for the lighter breeds, while one or two extra might be advisable for the heavier breeds.

3. A mixture of wheat, corn and buckwheat, in equal parts, fed morning and evening, is good. The morning feed is better fed the previous evening, after the hens have gone to roost, by scattering it in the litter, and then with a fork turning the litter over on it. The straw is then on top and the grain underneath, which makes the hens scratch, and thus exercise themselves all the following forenoon. At noon, mangels, cabbage,