

her brood. They attach the main importance to the food supplied. Good feeding is certainly an essential, but it is only one important link in the chain of management. For example, it is common to see chickens with the mother hen doing remarkably well on a class of food that would on its appearance alone be condemned for brooder chickens. The palpable lesson is that warmth—and this at a uniform temperature—is more essential than the providing of any special ration for the young birds. Herein is seen the prevailing weakness in artificial rearing. The chickens seldom enjoy that absolutely uniform degree of warmth and fresh air which they receive when being reared in a natural way. The hen studies weather conditions, and so must the poultry-keeper if he is to rear his chickens successfully.

The chief cause of brooder mortality lies in allowing the chickens to become chilled. Thousands of chickens die annually from no other cause. Chills are most commonly due to the temperature of the brooder not being maintained at a uniform degree, or to the chickens being allowed too much freedom for the first few days. Here the mother hen gives a striking lesson. For the first few days she keeps the chicks under her wings, where they are warm and comfortable, but at the same time are given an opportunity to breathe fresh air, that great essential for their welfare; during this period the time given them to feed and exercise is strictly limited. As they grow older, and providing the weather is favourable, the time given to exercise is extended by degrees, but on no account does she neglect to give them a warm-up when required.

The most pronounced sign that chickens have been chilled is the occurrence of bowel trouble, and once chicks become so affected there is practically no cure. Preventive measures at all times are really the only safeguards, and the chief of these is the maintenance of an even temperature and good ventilation in the brooder, together with strict attention to cleanliness.

There are also other details that must be observed if the young birds are to thrive and do well. For instance, the food supplied should contain all the elements necessary for healthy growth and development. Never feed inferior or musty grain because it is cheap. Do not on any account fail to provide an ample supply of succulent green material; chickens will never thrive in its absence. Keep always before the chickens a supply of fine grit, fine granulated charcoal, and clean water; dry wheat-bran should also be always within reach of the little ones. Another important matter is to see that the chicks get plenty of exercise, as they would in a state of nature. For this purpose the floor of the brooder-house should be littered with dry straw chaff (not oaten chaff) in which the dry broken grains should be scattered. To have to scratch for their food is instinctive to chickens, and if deprived of this exercise they will soon acquire such vices as toe and vent picking, &c., to say nothing of their ceasing to thrive.

FEEDING THE LAYING-BIRDS.

Now that the laying flock has settled down to heavy production the hens are apt to seriously decrease in weight, owing to the great demand on the bird's body-fat content for the formation of yolks, which largely consist of fat. Especially does this apply to pullets. Thus, if the birds are to be maintained in a healthy productive condition, sound and liberal feeding is imperative. If the birds are not well supplied with the elements necessary for the formation of eggs not only will the egg-yield decrease, but in addition the eggs that are laid will rapidly become smaller, while the yolks will not be of the desired rich colour.

The good layer is always a heavy feeder, and those who advocate keeping her on a scant ration have probably had little or no experience in profitable egg-production. The day has gone for saying that hens are too fat to lay. Where they become too fat it indicates that the food supplied is of the wrong kind, or that the birds are not concerned in heavy egg-production owing to their being of a poor laying-strain, or that they have passed their best period of production. An egg is one of the most concentrated and richest food products known. Obviously, a hen cannot be expected to lay day after day a 2 oz. product if kept in a state of semi-starvation.

There are no fixed rules that can be laid down as to the daily ration required by a laying flock. If the best results are to be obtained the poultry-keeper must have an observant eye, and must use his judgment by way of anticipating the birds' requirements.

—F. C. Brown, Chief Poultry Instructor.