

# CHICK REARING

Prepared by the Canterbury Agricultural College, Lincoln

Bulletin

CHRISTCHURCH, AUGUST, 1946.

No. 205

This bulletin is directed more towards the farmer's wife and the back-yarder who, though responsible for a goodly proportion of the total egg production of New Zealand, are in many cases handicapped by a lack of accommodation and suitable hatching and brooding equipment. There are several ways of securing the yearly requirements of chicks; by the broody hen, by incubator, or by the purchase of day-old or perching pullets. Where only a small number of chicks are required, the broody hen is undoubtedly the handiest as she saves the worry of mothering. Light breeds such as Leghorns or Minorcas are not very reliable sitters.

## THE SITTING HEN:

In selecting a hen for sitting, pick a physically good specimen. Poor anaemic birds rarely hatch strong chicks. See she is free from vermin. A simple method of doing this is to dip a feather into nicotine sulphate and draw it under both wings; or, dust with some good insecticide. The eggs for setting should be of strong, smooth shell, good shape and uniform, size, and not under two ounces in weight. Thirteen is a good average number to set. If setting in dry warm weather, knock the bottom out of the box or coop to be used, place on the ground where it will not be subject to flooding or interference from stock, add several inches of moist earth to the box, and cover with a layer of straw or hay, and shape so that the eggs cannot roll away from the hen. The object of setting on the ground is for the eggs to get moisture. Without this the skin just inside the shell becomes very dry and tough, and makes it more difficult for the chicks to break their way out. Evening is the best time to shift a clucking hen. If confined to a

coop, see that a dust bath is provided. This might consist of dry earth, or earth and ashes. The food for sitting hens should consist of whole grains, grit and clean water. This is all that is required. Mashies, meat and green feed are apt to loosen the bowels and cause the eggs and nest to be soiled.

## INCUBATION:

Regarding the operation of incubators, it is necessary to make a distinction between the management of the small unit machine and the mammoth type. In the small unit it has to be remembered that the heat supplied to the eggs is from above, while in the mammoth type it is all around the eggs. Therefore the temperature at which the latter must be run differs materially from that of the former. Assuming that the eggs are good, successful incubation depends upon four conditions. These are temperature, moisture, ventilation, and, in the small unit machine, position of the egg. The routine of incubator management has to do with making these conditions as favourable as possible throughout the incubation period. It varies in different localities and under different conditions. The place where the incubator is operated has much to do, also, with its success. The machine should be placed where it will not be subject to sudden changes in temperature, where an abundance of fresh air may be admitted and the gases allowed to escape, and where it is impossible for the sun to strike the machine at any time of day. The incubator should be thoroughly cleaned and washed out with a good disinfectant before lighting up for the season's hatch. A three per cent solution of any of the standard coal tar stock dips will be found satisfactory. Bring the temperature up to and maintain it at 103°



F. for about 24 hours. When satisfied that everything is in order, put the eggs in and run at 102° for the first week, increase to 103° for the balance of the hatch. Test the eggs on the 7th and 14th days, removing the infertile ones. That is remove the eggs which fail to show any development when held up to a light or candled. If eggs intended for incubation are held longer than seven days prior to incubation there is a marked decrease in hatchability which is directly proportional to the holding time.

Commence turning the eggs on the fourth day. Turn every 12 hours until the 18th day. Little ventilation is required for the first week and the amount of cooling and moisture supplied must be judged by the development of the air cell. The air cell should be about one fourth the size of the egg at the time when the new chicken begins chipping. On the 18th day close ventilators, apply moisture. If too much moisture is applied or on a very damp day, open ventilators slightly to reduce the moisture. Do not open the machine till the hatch is finished. If the chicks appear to be too warm, bring the temperature down by opening vents a little, or, if the weather is fine, open the doors of the incubator to a mere crack.

#### THE BROODER:

Successful brooding depends on careful observation, patience and willingness to pay strict attention to detail. Method in management is important. Success means not only low mortality but also a state of even growth among the chickens. Poor quality chicks bred from immature pullets, or hens lacking in constitution, are a further source of trouble. Start with good chicks, culling out all cripples and weaklings. Do not try to rear them—it is only a waste of time and food. The best forms of insurance against an outbreak of disease, or a subsequent spread of disease are cleanliness in every detail, maintenance of dry litter, especially under the brooder, frequent removal of all droppings, and clean fresh runs outside the brooder house. Whatever type of brooder is used it is essential that the owner be fully acquainted with the correct method of running it. Young chicks must have easy access to ample heat. At no time should the chicks be forced to crowd together near the source of heat, but it is equally important

that they should not be forced to remain in an overheated brooder. Both conditions will lead to chills. The actions of the chicks themselves will indicate to the observant operator whether the temperature is satisfactory. Round about 90° F. for the first few days is quite a good temperature, reduced regularly until at about four weeks the heat is no longer required, except perhaps during very cold weather when the provision of some heat may be necessary. It is no exaggeration to state that more broods of chicks are spoilt by overcrowding than by any other factor in rearing, so do not overcrowd. Rear only as many as your accommodation will hold comfortably.

In arranging the brooding quarters, it is highly desirable that the young chicks have access to direct sunlight. Sunlight is a powerful disinfectant, and aids in keeping the litter dry, and materially assists in bringing about normal bone growth.

The purchase of day-old or perching pullets does simplify matters for those who require only a small number of birds. It saves the bother of keeping cockerels and selecting breeders, etc., which would mean extra accommodation and extra attention at a time when work connected with lambing or calving or other seasonal work does not allow of much leisure to the womenfolk on the farm.

#### FEEDING:

Chicks do not require feeding straight from the incubator. Water with the chill off it, and fine grit, should first be given. Their first meals can consist of dry crumbled rolled oats, such as is used for porridge, or any of the well known chick starters. A feed of finely cracked grain should be given late in the afternoons. From one to eight weeks the following is a suitable mash if pollard and bran are available:

1½ parts pollard by weight  
1 part bran by weight  
½ part wheatmeal by weight  
1 part oatmeal by weight  
Total 4 parts by weight.

To each 100 lbs of this mixture add:

5 lbs milk powder  
5 lbs meat meal  
½ lb common salt (fine)  
1 lb carbonate lime.

(If skim milk is available milk powder may be omitted).



Mix thoroughly and feed dry, or moist—dry for preference for the first few weeks as it keeps the chicks busy for a good part of the day getting their fill. As the little ones grow, increase the size of the grain until they can manage whole wheat. If they are not getting much direct sunshine, a little cod liver oil mixed with their grain and fed in troughs will help them. If possible, let the birds out on a clean run of grass or orchard which has not recently had hens on it. If confined to a shed, see they have plenty of green feed after the first week. Silver beet, lawn clippings, or any other greens available are suitable.

#### REARING:

Put perches in the shed after about three weeks. This will encourage them to perch, and with a little help they should all be off the floor at six to seven weeks. Where up to 80 or 100 pullets are reared the type of colony house, or ark, which can be seen in use at Lincoln College, is recommended. This moveable building is about 8ft. long by 6ft. wide, with netting sides, ends and floor, the gable roof coming lower at the eaves than the perches which are arranged on both sides. The young pullets at Lincoln College are put straight from the brooder house to the arks and are thus compelled to perch since the wire floor and sides make it rather uncomfortable. They have no option but to go up on the perches. Besides saving the trouble of teaching perching, the arks, if built on skids, can be shifted to a clean patch of ground every season. The young birds can be left in this till they are ready for the laying house.

#### THE LAYING PULLETS:

Before putting them in a house that has been occupied by older birds, clean the house out thoroughly, spray the walls, paint the perches, and if the floor is of earth remove several inches and put in

fresh earth. Have the nests as secluded as possible, about one nest to every five or six birds. The pullets must be brought in and well settled down in their new quarters before they are ready to lay, and whatever method of feeding is adopted it must be maintained without change. Nothing will check laying more than a change in feed, or shifting at this stage. At the present time the feed situation for next season looks far from bright, and if pollard and bran are difficult to obtain, the soaked wheat method of feeding poultry is quite satisfactory when carried out correctly, though it does require a small quantity of bran.

#### SOAK WHEAT FORMULA:

For 100 lbs dry weight, which is sufficient for 1000 adult birds for one meal, when soaked, use:

Wheat, 80 lbs  
Bran 10 lbs  
Mealmeal 8 lbs (reduce to 5 lbs  
at 4½ months)  
Salt 1 lb  
Lime flour 1 lb.

Soak wheat for a minimum of 24 hours but not longer than 36 hours otherwise fermentation may set in. Use two containers, one for morning and one for evening meals, or if wheat is soaked 36 hours three containers. Strain off water, add mealmeal and minerals, mix thoroughly then work in bran. For young stock up to about ten weeks old, halve quantity fed per bird. Increase the amount to the full ration per head as indicated above as the birds mature. The mid-day meal may consist of dry oats, barley or wheat or a mixture of any of these.

In conclusion it is suggested that a survey of the flock be made and those birds which do not look as if they will give a good return culled. Cull heavily. Keep only the good birds and save that extra bit of feed. More eggs will be obtained and at lower cost. After all this is only good business.

Copies of this Bulletin may be obtained from the Secretary, Canterbury Chamber of Commerce, P.O. Box 187, Christchurch.