

# The Principles of Artificial Incubation

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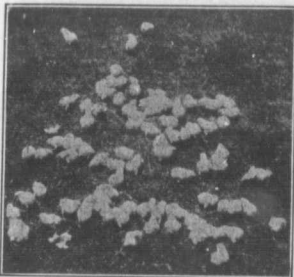
ARTIFICIAL incubation is such a big subject to put into an article of this kind that one hesitates to try to cover the ground in such a short space. It is possible, however, to cover most of the essential points so that many will be helped in getting better results, for that is what most wish to accomplish regardless of the minute reasons. Artificial incubation is extremely handicapped by being practised, as a rule, under more difficult or unnatural conditions than are usually to be found where natural means are practised. With good reason many do not do so well with the former, but those of experience see and raise so many valuable birds by it that it is an absolute necessity where large numbers are to be raised and especially if at unusual seasons.

Before one considers the actual hatching at all, it is most important to see that the incubator is given real live hatchable eggs. Some hens seem to be exceptionally successful in their hatching, but no hen could ever hatch a great many of the eggs that are put in incubators. As a usual thing, it will require eggs from more vigorous stock to get results with the incubator, because these eggs will probably be set much sooner than where biddy uses her own judgment, electing to cluck and set when instinct tells her that the time has arrived when she can safely depend on the eggs.

## Best Eggs For Incubation

There is no doubt whatever that the very best chickens will be hatched and are produced when the hens laying the eggs and the males fertilizing them are in the very best condition. At the time when we notice them wanting to sing and scratch while there is a gleam of daylight left, as though life itself depended on their getting in a few more kernels to produce those vigorous eggs from which to get the strong, live chicks, is the best time to get eggs incubating. We then get the best product from them. As a matter of fact, we have sometimes seen birds producing more satisfactory eggs during December and January than a few months later, until coming again into full lay and conditions in the late spring. The time, then, to get the good product from them is when they are at their very best, whenever that may be, and if we cannot get them into first-class condition real early, no matter if the eggs are beginning to come, good sturdy chicks cannot be expected.

One of the greatest troubles seems to be that so many let the flock get along as well as it may until such time as they are needing chickens or eggs get high and it looks like a big inducement to force the birds a little. The consequence is that even if they do begin to lay a bit, they do not have the hardy, robust constitution and vitality is not there to get eggs with strong germs in them. A year ahead is not too soon to seriously consider the matter of properly handling the flock; the whole season's growth will have had a remarkable bearing on the possibilities for early incubation. If the stock is of the greatest vigor and proper feeding is followed, so as not to allow the flock to become too fat or force them unduly, but keep them coming along in a



Healthy Chicks Are the First Essential to Success.

incubation.

Having the flock so that it is ready to supply the eggs required for hatching, proper care must be given the handling of the eggs so they will not lose any of the vitality on account of causes that might very seriously hurt their possibilities. In cold weather the eggs must be gathered at least every hour, and the sooner they can be set the better. While being saved they should be kept in a dry place, not over-warm and preferably

normal, vigorous way, there should be no great trouble with artificial incubation. Good commonsense must always guide, having ever in mind the conditions that exist when birds are normally breeding best and furnishing them with all that will help to duplicate as near as possible those conditions.

Fresh air, sunshine, light, good sound food, a proper balance, sufficient room and good clean water are the very first aids to good results with artificial

about 45 degrees. A week old is as long as early eggs should be kept, although fair results may be had a little older.

Having eggs from vigorous stock, by following closely the directions given with the incubator good results should be had. Certain rules hold good with all machines, but the best results are most likely to be had where the maker's instructions are followed carefully. We have machines where moisture is required after the first week continuously and others where moisture is practically not considered except under exceptional conditions. In a room where a fairly even temperature can be kept up is a good place for the incubator. We like good air in the room, and always plan to have good ventilation. The embryo in the egg needs almost as much as the hatched chicken air that will strengthen its growth from day to day.

## Remove Infertile Eggs Early

The infertile eggs should be taken out as soon as they can be recognized. Every day that these remain just makes the results that much less. Even under a hen a majority of infertile eggs will seriously affect the hatch, although she seems to have the instinct to keep them to the outside of the nest. When the machine is nicely regulated it usually does not pay to keep continually making readjustments, for although a considerable variation, particularly towards the end of the hatch, may not prove serious, a steady even temperature, without much fluctuation, if at the right temperature will give by far the best results.

(Concluded on page 15.)

# Turkey Rearing at Menie Stock Farm

JAS. STEWART, JR., NORTHUMBERLAND CO., ONT.

MY father was the first in our section to go in for pure-bred turkeys. When he showed a pair of spring-hatched birds at the local fair the neighbors began to believe that they were not at least two years old. He chose the bronze variety, and that is the kind we have raised ever since.

Turkeys are the most profitable kind of poultry. One year (from 12 hens) we raised 130 turkeys and sold eight settings of eggs. From the time they were a month old until the beginning of the cold weather the cost was practically nothing.

When the young turkeys arrive the pen is

couped up and the little fellows allowed to run in and out of the coop. They are fed bread and milk for a few days and then rolled oats and skim-milk furnishes the main part of the ration until they are four or five weeks old. The feed is given moist, never sloppy. I give a little wheat as soon as they will eat it.

They get no water, unless, perhaps, the dew on the grass. Water is all right if given cold, but nothing is worse than warm water for causing stomach and liver trouble. If the water is not removed immediately after the birds have had a drink, it becomes warm and soon some of the birds have diarrhoea. It is less bother to with-



Turkeys May Be Cheaply Reared Because of Their Foraging Proclivities.

—Photo on farm of Mr. Keys, Varna, Ont.

hold the water even for three years as a seem to miss it.

When the young are given their first season have the necks of the old. They receive practical freezes. We sow and allow the turk-

THE question of reduction reared self into two branches though in a way distinct from each very very closely I find the poultry tried on in this country production of eggs undoubtedly, the price the vast majority gaged in poultry keeping without doubt the able branch of business. The meat is and ever a secondary branch With practically all products coming from farms, where poultry largely as a side meat placed on the surplus cockerels lets sorted from the grown to renew layers.

In discussing eggs it will be necessary it under the head of different factors i.e., breeding, feed housing and environment these are important the maximum production is given to a

The Breeding new as a science, scientific knowledge work. While it is to breed for the particular line, the numbers of eggs, the complicated process of generations. It is a decided satisfactory flock of birds with phenomenal egg production all. Some of the mind in carrying are: What percentage strong, vigorous chicks hatched and to grow to full maturity to set and rear 75 per results are causing it is a duty of each conditions are important. In the recently dian eggs we have mind in our breed-

\*An address at the Guelph, Dec. 29, 1915.