Profitable Business of Poultry Raising in America

The incubator is a necessity on the commercial poultry plant and a convenience to the amateur poultryman. A good machine, properly operated, will hatch chicks of satisfactory quality at any season of the year.

The more important details of incubator management are outlined by Professor Stoneburn in his accompanying contribution.

BY PROF. FREDERIC H. STONEBURN.

THE truly remarkable development of the poultry industry during the last quarter of a century is due, in no small measure to the improvement made in incubators and brooders. Of course, many other factors have had great influence, have materially assisted in this development, but with all our up-to-date knowledge of methods of breeding, housing, feeding and managing our stock, few of us would care to attempt to operate a good-sized commercial poultry plant if we were compelled to depend upon hens to hatch and rear all the chicks.

The great popularity and wide use of the non-sitting breeds has followed the perfection of apparatus for hatching and rearing the chicks. Imagine, for a moment, how extremely difficult it would be for a Leghorn breeder to maintain a flock of a thousand birds without incubators and brooders.

Then consider the vast number of establishments where that or a greater number of Leghorns are kept, and you will instantly realize what a debt of gratitude the American poultry industry owes to the pioneer investigators in the fields of artificial incubation and the men who have followed in their steps and brought the indispensable hatching machine to their present state of perfection.

Incubators Possess Advantages.

It can scarcely be claimed that the best incubators are superior to good sitting hens in the matter of the quality of the chicks produced. It is difficult to improve upon Nature. But it is true that the machines have many advantages over the hens—from the standpoint of the poultryman—in that they will do their work at any season of the year, and when many chicks are hatched it is easier to care for machines of given capacity than for the number of hens required to cover the same number of eggs.

In the comparatively recent past there existed a general prejudice against incubators. The common belief was that the machines were unreliable, needed almost constant watching and produced chicks which were weak and of little value.

Today the pendulum has swung to the other extreme, and a very large number of people seem to think that the incubators really run themselves, producing a strong chick from virtually every fertile egg, no matter how little attention is paid to the work by the operator. Probably this change is due to the great improvement made in devices for regulating temperature and ventilation, and to various automatic contrivances designed to relieve the attendant of much detail work.

It is unfortunate that such an impression is so widely entertained, because many who hold it will be disappointed when they attempt to operate their machines. The writer has had experience with a great number of incubators of many types and makes, has seldom, if ever, been able to hatch every fertile egg, and has always found that best results are secured only when all details of management have been carefully attended to during the entire period of incubation. Neglect of any of these may bring disaster.

There are many different makes of incubators, ranging in size from the tiny machines holding but two or three dozens of eggs to the great mammoth hatchers with a capacity of thousands of eggs. The manufacturer of each usually states that his particular model is superior to all others of similar type, and points to certain details of construction or operation which theoretically are improvements over anything offered by other manufacturers.

In all this clamor the amateur is at a loss to know which particular machine he should secure. No one wishes to make a mistake in this matter, since an unsatisfactory incubator may be the cause of heavy loss.

Choosing an Incubator.

Possibly the best advice one can give in this connection is about as follows: Visit a number of successful poultry plants in your own neighborhood and ascertain what particular incubator has given the greatest degree of satisfaction. Then secure a machine of that make, because it has shown that it will hatch well under the conditions existing in your locality and you will be able to obtain help from experienced operators if anything goes wrong.

Having purchased the incubator, plan to give it a fair chance to do its best work. If it reaches you in a crate, unpack it with care and set it up in exact accordance with the accompanying sheet of instructions. Study this carefully. Do not attempt to assemble the various parts without knowing exactly where each goes and what it is for. The manufacturer probably knows best, so follow his directions and conduct experiments at a later date.

Place the machine in a room where there is free ventilation, a fairly even temperature and considerable moisture. Sluggish ventilation, excessive fluctuation of room temperature and bone-dry air will adversely affect results. The machine should not be placed in a direct draught, since the lamp will give trouble under such conditions.

Set the machine level to insure even temperature in all parts of the egg chamber. Then run it for a few days before putting the eggs in, so that the proper care of the lamp and the adjustment of the regulating device may be learned. After these points have been worked out, and only then, the eggs may be put in.

Selected Eggs Hatch Best.

Now, a word about eggs of proper quality. Big hatches of sturdy chicks are to be secured only through the use of selected eggs. Better to operate the machine two-thirds full of really good eggs than to fill up the remaining space with those of doubtful quality. The egg cost per chick will be less in the former case, and there will be a smaller proportion of weaklings, which are of little or no value anyway.

Hatching eggs should be secured from well-matured, healthy, vigorous breeding birds, which insures strength in the chicks. They should be of good size, not abnormally large, since the chicks will be larger and heavier when hatched and will usually retain this advantage over those from small eggs until maturity is reached. They should be of good shape and free from serious imperfections in shell, as such appear to hatch better than those which are very round, extremely pointed, or have ridged or mottled shells.

They should be fresh, as hatchability decreases steadily with age. They should be collected frequently during cold weather to prevent possible chilling, which is always injurious. Finally, the eggs in each machine should be from fowls of the same general type, as mixed lots from Leghorns and Brahmas, for instance, do not hatch evenly.

Virtually all modern incubators are self-regulating, so far as temperature is concerned, and when once adjusted will maintain the proper degree of heat, unless the temperature of the room fluctuates violently. The proper incubating temperature, as indicated by the thermometer, varies according to the location of the latter. When the bulb is suspended at the level of the top of the eggs, the temperature should average 103 degrees for the entire three weeks, running slightly higher at hatching time.

Some operators prefer to keep the temperature at this point continuously. The writer has had best results from holding the temperature at 102½ degrees during the first week, 103 degrees the second week, 103½ degrees the third week and 104 to 105 degrees when the chicks are hatching.

The machine should be running evenly at the required heat before the eggs are put in. When ready, place the trays of eggs in position in the morning. They will heat up during the day and give apportunity to make any regulator adjustments before bedtime arrives. When the eggs are placed in the machine at night, there is more chance of things going wrong because of the absence of the attendant.

The eggs should be turned once every 12 hours, beginning 36 to 48 hours after they are placed in the machine. The exact method of turning them is of little moment, so long as their relative position is changed and they are partially rotated. It is not necessary to turn each egg squarely over.

Turn Eggs Regularly.

More frequent turning, say three to four times daily, often increases the number of chicks hatched, but the increase is so small that few incubator operators consider it worth the trouble to turn oftener than twice daily.

By the evening of the 18th or 19th day, some eggs will be pipped, and after that, turning should be discontinued.

At the end of the first week the eggs should be tested, and those which are infertile or contain dead germs should be thrown out. The testing may be repeated on the 14th or 15th day so none but eggs containing live embryos will be left on the tray.

Some poultrymen make a practice of leaving the eggs out of the machine for a time when turning them in order to "cool" them, claiming that the sitting hen cools her eggs when off the nest securing her food. Personally, I do not think that "cooling" is necessary, unless through accident the eggs have become overheated. In the case of machines which have little or no ventilation, and in hot weather when the movement of the air through all machines is very sluggish, it is advisable to remove the trays and air the eggs once or twice per day; otherwise the accumulation of carbon dioxide in the egg chamber may have a bad effect upon the developing chicks.

It is a simple matter to care for the incubator lamp, but there is both a right and a wrong way to do it.

Care of the Lamp.

The oil used should be of the best quality. Poor oil throws off fumes, causes a heavy crust to form on the lamp wick and may fill the heater with soot. The wick should also be of good quality and a new one put in at the beginning of each hatch. Otherwise it may get short and the lamp go out during the night, thus lowering the temperature and injuring or spoiling the hatch. I prefer to fill the lamp in the late afternoon. This insures a freshly trimmed wick and an ample supply of oil for the night. If the lamp goes out during the night, it may not be noticed for several hours, but if this accident occurs during the day it is very likely to be noticed before serious harm has been done.

At hatching time, leave the machine closed. If for any reason it becomes necessary to open the door, close it again as quickly as possible. Chilling the chicks is disastrous just at this critical time.

Also, keep the interior of the egg chamber dark when the chicks are coming out. Light attracts and disturbs them. What they need most is warmth and rest, and they will be the better for it if kept comfortable and quiet.

Chicken Chatter.

The secret in feeding laying hens is not to get them too fat.

Fresh meat and bones cut with a bone cutter will make hens lay when other feeds fail.

When you see poultry scratching in the scratching pen it is a sign of thrift.

If properly managed, an incubator may be made to pay for itself in the first hatch. It depends on the operator, however, as much as the incubator.

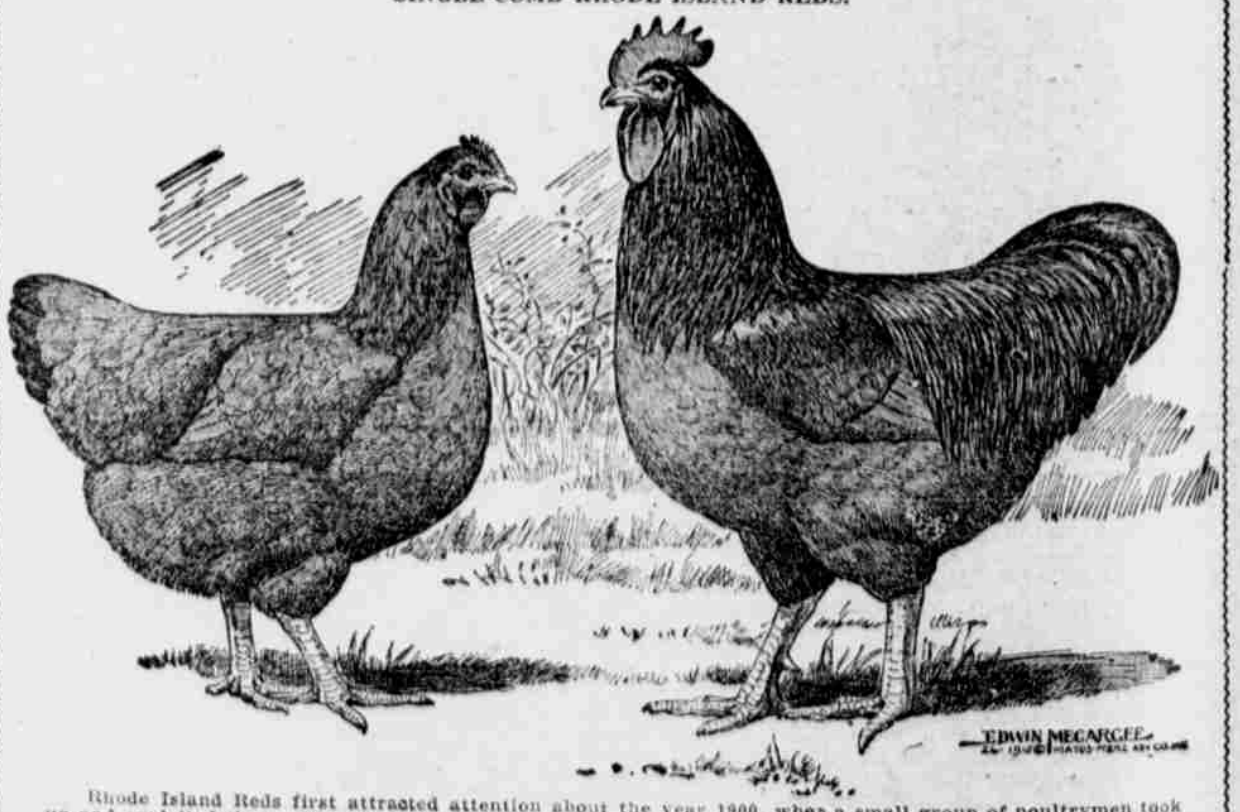
To renew the vitality of the flock get male birds of the same strain but of another family. Don't raise mongrels.

Drafts are bad for poultry. Your trouble will be found in keeping cold out rather than letting it in.

Provide plenty of grit. The want of grit in the crop and gizzard is to a fowl what the lack of teeth is to the human. Broken earthen ware, sand, gravel, etc., should be on hand at all times and easy of access. Good grit is usually on sale in every town.

Drafty and damp quarters mean colds; colds mean roup; roup causes trouble. Stop the trouble by preventing the cause.

SINGLE-COMB RHODE ISLAND REDS.



Rhode Island Reds first attracted attention about the year 1900, when a small group of poultrymen took up and exploited them. For half a century prior to the above date these birds had been commonly bred by egg-farmers located in the southern part of Rhode Island, being popular because of their hardiness and egg-producing ability. Today the Rhode Island Red occupies a position among the most popular breeds, due both to its beauty and its business qualities. The color is rich, mahogany red, with a small amount of black. Popular weights are as follows. Cock, 8½ pounds; hen, 6½ pounds; cockerel, 7½ pounds; pullet, 5 pounds.