

in enough moisture to either give life or drown the chick, you will soon give up the whole business in disgust. I would again emphasize that the only way to succeed is to buy the best machine there is to be bought.

Again, there are other causes why eggs do not hatch. Stale eggs—eggs from sickly or inbred stock, over fat hens, lack of vigor in cocks, lack of uniformity in egg shells. In fact, to sum it all up, the breeding stock is as important as the machine.

After the 18th day the machine ought to be closed and not opened again on any account until the hatch is complete. I always leave my chicks in the incubator at the least 24 hours after they are out of shell and find they do so much better. They dry off and gain strength, and get as bright as gold buttons ready for their first meal. Sometimes I give first meal in incubator. Another thing I have found very beneficial is to sprinkle mica crystal grit, chicken size, on bottom of incubator. At about 17 or 18 days you will be surprised how readily the little fellows will eat it, and it seems to set their teeth on edge for a good meal. Try it next time.

As to brooding and feeding I have not space enough allowed me in this article to go into that. I will just add this: keep brooders at a temperature of about 100 degrees, gradually lowering it as chicks grow older, don't neglect to keep them clean, and feed no wet sloppy food, and don't let them get wet from their drinking water.

ARTIFICIAL INCUBATION.

THE CHOICE AND CARE OF EGGS BEFORE INCUBATION.

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IN dealing with the subject of incubation, no matter whether it be natural or artificial, the detail which seems to first present itself is that of the eggs to be operated upon. The next question is that of the incubator and it will greatly assist to a proper understanding of what is required of both eggs and incubator before incubation if we can properly define to ourselves what we look for as the result of their being brought together. You will doubtless

remember that in my letter last month I told you that we had hatched 87 chicks from 100 store eggs but the difficulty that brought us up against was this: these chicks were of all makes, sizes, shapes and colors; in four to six weeks they were completely feathered but they could not stand the forcing feed that brooder chicks must stand if they are to pay their owner a profit, so as soon as we began to rush them they developed leg weakness and kindred troubles while quite a lot died. Those that live will simply take their own time about arriving at maturity and before they get there will have cost as much or nearly so as we shall get for them so I put this in simply as an object lesson of what to avoid. To get strong and profitable chicks the eggs must be good, such as will produce chicks of one breed so that they they will be uniform as to size and color when killed, and of constitution so strong that they will be able to digest a quantity of food that will bring the cockerls to 3 lbs. weight at 3 months of age and the pullets to laying at 5 to 6 months. To this end the hens that produce the eggs should be neither very fat nor very old, nor should the eggs have been kept too long, and while upon the subject of keeping eggs I would like to warn your readers against too implicit faith in what I fear is largely a myth, viz. the idea that eggs kept for hatching should be kept on their small ends. This is not necessary and I doubt if it is not positively injurious to eggs that they should be kept in such an unnatural position. No hen ever left her egg lying that way nor is it possible to easily call to mind any family of birds who do so deposit their eggs. The natural position is on the side and eggs for hatching should be so placed. Neither is it necessary to turn them at intervals; what is important is this: no current of air should be allowed to touch the eggs from the time they are laid until they are put in the machine; we ourselves take the trouble to wrap every individual egg in a separate piece of paper and put them in a drawer in a room that is very little used, always trying to arrange matters so that they need not be kept more than fourteen days, for, as to whether one is successful or not in artificial hatching depends largely upon their skill in judging from the size of the air space in the egg the rate of evaporation of its contents. Now, so soon as the egg is laid, its contents being nearly liquid, it is in the nature of things that it should