

varieties beside, including the good old stand by Plymouth Rocks (White) which have their good traits too, in other respects. While saying all this in their favor, I must not omit their drawbacks as well, for they have them and so have every breed of fowl, yes and everyone of us too—male and female. No exceptions if we are only honest enough and straight forward to admit them.

My main, and I might say my only objection is that their beautiful large combs and wattles require to have a nice warm place for them during the winter; some place where the thermometer will indicate from 50 to 60 degrees, and if you have this then you have a place where the Minorca will show their powers of fecundity and will reward their owner with a nice basketful of fresh eggs during the winter.

Their young are easily raised; soon acquire that grand trait of self-reliance in looking after their own particular interests, which eminently fit them for developing into a successful and vigorous bird, and in my experience if I wanted to raise them free from that great chicken destroyer, the "louse," give me the incubator and brooder. Yes, and the "Gerred" incubator at that, and then you can raise them wholesale without loss.

I shall not prolong my remarks on them, but would only say: "The proof of the pudding is the preening o't."

H. H. WALLACE,

Woodstock, June 10th, '89.

### "THE EMBRYO"

ON the fifth day the embryo has assumed a curved form, and the rudiments of feet can be distinguished. On the sixth day the heart assumes its permanent shape, and the pericardium, or heart covering is developed. On the seventh day the stomach and rudimentary intestines may be seen, as well as a rudimentary beak, and if the egg be broken a slight movement of the limbs is perceptible.

About this time, if placed in an egg-tester, the embryo will be seen oscillating in the shell. This movement is slow and regular, and leads the observer to imagine that the little chick is jumping up and down in play. After the thirteenth day the color of the chick may be determined, and the toe-nails make their appearance. Until the fifteenth day the embryo lies cross-wise of the shell, but at that time its position is changed, and it reclines lengthwise, with its head towards the large end of the shell, where is situated the air cell, now of greatly increased dimensions. At the end of the sixteen

days the white has entirely disappeared, by reason of absorption and evaporation. At this time, if the veins in the vicinity of the air-cell, are large and well marked, the vigor of the chick may be predicted.

The yolk, owing to the continued progress of segmentation, now presents the appearance of a mulberry, on its surface, and although attached to the embryo, lies outside the abdomen between it and the shell. On the nineteenth day the chick has been fully developed, and the yolk, enveloped and divided by its net-work of veins, is drawn into the abdomen through an opening, or, more properly speaking, the navel. \* Thus does nature provide for the sustenance of the chick, for the space of at least twenty-four hours after its exit from the shell. And for this reason the feeding of chicks too soon after hatching is not conducive to the best results "

(Concluded next week.)

\*Our note draws attention to a slight difference here, viz., unless the chick is *ready to emerge from the shell on the nineteenth day* the yolk will not be drawn in, but retain its place attached to the embryo, but being outside the abdomen till the chick is on the point of exit absorption of the yolk *immediately* precedes the exit of the chick from the shell, it is the very last act in the process of incubation. The least check from cold retards this proceeds of absorption of the yolk; and this means weakness or death to the chick; and is the most forcible argument against the continual opening of the doors of incubators, just at the time of hatching.

Any of our readers who are interested in this subject can prove it by watching carefully and taking notes of their experiments. It is one of the most interesting topics, and has occupied the attention of the greatest minds in the past, and no doubt will do the same in the future. We learn something new continually and yet the subject seems only partially exhausted. So wonderful are the smallest works of the great Creator of all things.

The work in a poultry yard is not heavy, but it is almost incessant. During the winter months it is less exacting, but from the time of early incubation until snow flies there is always something to do. The fowls must be cared for regularly and with system. Boys and girls can do this work, but must be intelligent and interested in their occupation.