

upon a small female, yet I think as a rule the chickens from a small male and large female are of greater size. This may, possibly, be due to the fact that a large female lays a larger egg than a small one, and that the chicken is hatched larger, having more nutriment in its embryonic growth, and thus gets an advantage at the start, which it always maintains. But whatever the explanation, I think the fact is as stated.

This influence is seen again I think in the constitution of the chick. Given a strong female and a weak male, the progeny will be of better constitution than when the female is weak and the male strong, for perhaps a similar reason to that given above, the embryo will be better nourished.

In respect to color, I think the female exerts as much influence as the male, and in some breeds more, and especially upon the cockerels. In the experiments referred to in the previous article, the male chickens took the color from their dams. In Plymouth Rocks it is very difficult to breed really fine colored chickens from poor colored females, the latter seemingly exercising the stronger color influence.

I am not inclined to dogmatize upon these points. I know that very little is really known about the matter, but there is no harm in stating one's beliefs and in turn culling out the facts of observation from others. If these articles succeed in doing this they will have served a valuable purpose.

In breeding the best stock, we need to obtain the best of both sexes, with their valuable characteristics so united that a harmonious combination will result. It will not do to depend solely upon the influence of either sex, but to remember that each exerts some influence on all the progeny, and that it is the sum of these influences which makes the progeny what it is. The best male in shape, size, color and

constitution, mated to the best female in constitution, color, size and shape, recognizing the breeding tendencies of the particular variety under consideration, will give the results we desire to produce, or the nearest approximation thereto, and so far as we fall short of such a mating, so far we ought to reasonably expect to fail in realizing our idea.

#### REPORT OF THE POULTRY MANAGER CENTRAL EXPERIMENTAL FARM.

A. G. GILBERT.

(Continued from last month.)

*Examination No. 11.*—From the eggs placed in the drawer of the table in office in first week of August previous. (See No. 2.) Egg quite sweet; yolk rather tender; not so easily broken up as those from incubator.

DECEMBER 31ST, 1890.

*Examination No. 12.*—An egg from those kept in the incubator since 31st October, at a temperature of 78 to 84. Egg quite sweet; air space very large, occupying one-fourth of shell; yolk partly thickened and partially adhering to the side of shell. Egg laid on 31st October.

*Examination No. 13.*—Egg part of time in incubator and part of time in cellar. (See No. 7). Yolk of egg easily broken up; air space large, occupying about one-sixth of the shell. Egg laid 15th November; quite sweet.

*Examination No. 14.*—From eggs kept in plain basket in cellar at temperature of 34 to 46 (see No. 8) since 29th October. Egg perfectly sweet; every appearance of fresh egg; yolk solid; white clear; air space small. Egg laid 27th October.

*Examination No. 15.*—From eggs packed in bran in a box in cellar. (See No. 9.) Same as in No. 14. Eggs laid on 26th October.

*Examination No. 16.*—From eggs greased with lard and packed in salt and kept in cellar. (See No. 10.) Egg perfectly sweet; every appearance of fresh egg; yolk firm and sound; white clear; air space small. Egg laid 2nd November.

*Examination No. 17.*—One egg from those placed in drawer of the table in office of poultry building in the first week of August. Yolk slightly adherent, and breaking up easily; air space large; contents perfectly sweet.

From the above experiments, it will be seen that fertilized eggs, if fresh when placed in the shipper's hands, should reach the British or any other market, in good condition and flavour at the end of several weeks, even if exposed to the high temperature of mid-summer weather.

#### EXPERIMENTS WITH NON-FERTILIZED EGGS.

On the 30th of October, 20 hens of different sorts were placed, without a male companion, in one of the compartments of the poultry house. They were so placed in order to secure non-fertilized eggs, with which to try a series of experiments similar to those described above. It was five weeks before any of these hens began to lay, so that there can hardly be any doubt as to the non-fertility of the eggs. On the 23rd December, 12 of these eggs, each one marked with the date of laying, were placed in the incubator to be kept at a temperature of 80 degrees, and to be examined from time to time and notes taken of their condition. These experiments are being continued.

[NOTE.—A further examination was made as the report was going through the press as follows:—]

24TH FEBRUARY, 1891.

*Examination No. 18.*—Two eggs were taken from those which had been in the incubator from the 31st October, 1890, till the 11th February, 1891, at which date the incubator tests ceased.