

as follows:—54:46; 61:39; and 56:44. The average number of females was thus about 57 in the hundred. In the first brood, by feeding one set with beef, Yung raised the percentage of females from 54 to 78; in the second, with fish, the percentage rose from 56 to 92. That is to say, in the last case the result of high feeding was that there were 92 females to 8 males.”

The care of bees is also cited where, as every apiarist knows, the larva which would develop into a worker bee, one incapable of reproducing the inmates of the hive, can by being fed on plenty of royal diet develop into a queen who can become, in a perfectly literal sense, the mother of a whole swarm. Indeed many illustrations are used drawn from highly different subjects and all tend to the one end, that abundant nutrition leads to an increase of females, while the reverse leads as invariably to an increase of males.

But it would be impracticable to condense within the limits of this paper the argument of this work, itself sufficiently condensed, which occupies more than three hundred pages of type. I can only state that the conclusion seems inevitable that at least to a very considerable degree sex depends upon nutrition, and that the better the embryo is nourished the greater its chance of becoming a female.

Applying this principle to the regulation of the sexes among our chickens, how can we secure a sufficiency of nutriment within the egg to cause it to hatch a pullet when we wish pullets, and how can we decrease the amount of nutrition so that we can have cockerels when cockerels are desired. And this brings us face to face with the queries, do eggs differ in amount of nutriment and does this difference, in any degree, depend upon the method of feeding? Now I think there is no doubt that eggs do differ somewhat in the amount of nutriment they contain. I think, for example, a Leghorn egg is less nutritious than a Brahma egg; its contents are certainly a bit more watery and the proportion of yolk to white varies somewhat. But this doesn't help us much, for what we wish to know is whether the eggs of the same individual fowl differ in nutriment. It would not be surprising to me to learn that they did, though I confess I have no adequate means of establishing the fact. Then if the difference exists, is it due to feeding? I can see no good reason why a fowl fed on highly nutritious foods, with capacity for digesting the same, should not lay more nutritious eggs than one fed more scantily and on less nourishing material. Of course there is a bare possibility that the only difference between the two hens is that the one better fed, will lay more eggs than the other, but that the eggs will be alike in contained nutriment. Still the hope of controlling sex seems to lie in feeding, and careful experi-

mentation in that direction is highly desirable. The public institutions devoted to the promotion of agricultural interests, equipped with every appliance and in charge of competent experimenters, can do no greater service to the poultry interests than to ascertain if there is any practical method of controlling the sex of chickens, and what that method is. It is unnecessary for me to indicate the proper method of carrying on the experiments for this purpose, but I could outline the method I should pursue had I the means at hand for conducting the experiments.

NOTES.

BY BUCKEYE.

IT is a good plan to select shapely medium-sized eggs for hatching. The extremely long or round eggs, or eggs showing a flat shape or other deformity should be avoided.

Experience shows that a liberal amount of green bone meal fed to the breeding fowls increases the fertility of the eggs. It also increases their number very materially.

Never limit yourself to a single male bird. Have a fine extra bird ready to go into the pen in case the male heading the pen should die or meet with an accident. It is also a good plan to put a new and fresh male bird into the pen after the middle of the season.

The late Secretary of Agriculture “Uncle Jerry” Rusk had a warm appreciation of the importance of the poultry product. He placed the value of fowls sold from American farms at \$200,000,000 per annum, but there is little doubt if the immense number of fowls consumed by the producers be added the total will not fall short of \$600,000,000. In spite of this vast production 10,000,000 dozen eggs are annually imported at a first cost of \$2,500,000.

These figures point to the fact that an over-production of fowls and eggs is not in the near future. Mr. Rusk advocated more recognition of this important industry from the Government as follows: “The economics of rearing and feeding, the peculiar adaptation of the breeds to specific uses, merit more official attention than has heretofore been given to the subjects.”