

For the first two-month period of the experiment the averages for the two strains coincide. But in the next period there is a divergence, the plus showing a greater reactivity by a small margin. In successive two-month periods this divergence is in general increased. There are considerable fluctuations in the curves as are indicated by the facts,—that for two two-month periods, nineteen months after the experiment was begun, the minus strain was actually the more reactive of the two; and that during three other later two-month periods the mean for the minus strain approached that for the plus strain. But in general the means indicate increasing divergence in mean reaction time throughout the main portion of the experiment until for the last nine months the mean for the plus strain was just half that for the minus strain and during the last three months it was less than one third that for the minus strain.

It can be stated with assurance that with this material there is little, *if any*, relation between vigor and reactivity to light and that in line 757 the effect of selection was not due to changes in the relative vigor of the two strains.

70 (1445)

Exhibit showing the results of selection for a new Buff Race.

By C. B. DAVENPORT.

*[From the Laboratory for Experimental Evolution,
Cold Spring Harbor, N. Y.]*

A self-colored race of poultry was first produced in China about 1,500 years ago. All buff races of poultry have been derived from this Chinese race, the Buff Cochin. An attempt has been made to create a uniform buff race out of the Jungle Fowl. In 1907 a Jungle Fowl was crossed with a White Leghorn. This gave offspring in which the red of the Jungle Fowl appeared on a white ground, the black of the Jungle Fowl being hypostatic to the white. The birds showing largest amount of red were selected for breeding. During the first two years no progress was made but after that more highly colored red males and more

uniformly colored red females were produced. From 1909 to 1918 no evident improvement in the uniformity of the red coloring has appeared. The reason for the marked improvement in 1909 was due to the fact that, unintentionally, blood from the Dark Brahma (also an Asiatic breed) was introduced. This race has no Buff Cochin blood but a type of pattern which is more diffuse than that of the Jungle Fowl and hence permitted the buff pattern to break the limited bounds proscribed by its position on the Jungle Fowl.

Owing to the great amount of inbreeding which the experiment has necessitated and the increasing sterility and weakness of the offspring it will be necessary soon to bring the experiment to a close. The results obtained, however, speak strongly for the impotence of selection in an inbred line, with few genetical factors, unless new mutations afford new foundations upon which to advance. It is quite clear that the original Buff Cochin was not made by slow selection from a bird with the Jungle-fowl type of coloration. The Buff Cochin probably originated as a xanthic sport.

71 (1446)

The influence of parental alcoholism upon habit formation in albino rats.

By **E. C. MACDOWELL** (by invitation).

[*From the Station for Experimental Evolution,
Cold Spring Harbor, N. Y.*]

This report presents the training records of the children and grandchildren of a pair of rats heavily alcoholized daily for more than two months before the birth of the young. These alcoholized rats came from the same litter; another pair from this same litter was chosen on the basis of equal weight as the parents of the normal controls. All matings were between sibs in the same litter. Habit formation was tested by training on a Watson maze and the Yerkes multiple choice apparatus. The results of the maze training have been calculated on the basis of the last twelve trials of the training proper as well as twelve memory