received the diets containing 9 percent protein. By the beginning of the third 28-day period all groups were laying at a comparable rate. From the third to the eleventh 28-day period, two of the groups (9/700 and 9/940) produced at a slightly higher rate than did the pullets grown on the other diets. However, during the twelfth 28-day period, the rate of lay of these groups had dropped to a level comparable to the other groups.

No difference in eggs weights was detected between the various groups at any age (Table 9). The difference between the groups producing the heaviest and lightest eggs at any given date was usually less than 1 gram, and in no instance approached a level of statistical significance.

Mortality in the laying house ranged from 15 percent for pullets grown on the 9/940 diet to 3.75 percent for those grown on the 12/700 diet (Table 10). Mortality rate could not be associated with either protein or energy level of the grower diet, therefore it is assumed that the variation obtained in this experiment is within the normal range for the number of pullets per treatment.

EXPERIMENT 2

EXPERIMENTAL PROCEDURE

Results of Experiment 1 indicate that lowering the dietary protein resulted in reducing growth rate of pullets, thus delaying sexual maturity. This experiment was conducted to further evaluate the low protein-high energy grower diet for replacement pullets. This diet (10/940) was compared to a conventional grower diet (16/940) and a 20 percent fiber diet (12/600).

A total of 120 day-old pullets were used in this experiment. The procedure from 1 day to 8 weeks of age was the same as was followed in Experiment 1.

Grower phase.—At eight weeks of age, the 120 pullets were randomized into three pens, each containing 40 pullets. One pen of pullets was fed each of the grower diets (Table 11). Slight modifications were made in the low protein and the high fiber diet from those used in Experiment 1. These changes were made in order to obtain diets which were more practical for commercial operations.

Each pen contained 120 square feet of floor space and was equipped with one bell-type automatic waterer, and two 4-foot