

possibly third) mitotic wave also appears, starting at about 28 hours. Thus, even in the slowly proliferating forestomach, cells which have divided once have a certain tendency to divide again within a very short time. (Research carried out at Brookhaven National Laboratory under the auspices of the U.S. Atomic Energy Commission and supported by U.S. Public Health Service Fellowship No. CF-14, 272 from the N.I.H.)

WUNDERLICH, JOHN R., and LEONARD A. HERZENBERG, Department of Genetics, Stanford University School of Medicine, Palo Alto, California: *A second gamma globulin isoantigen (allo-type) in the mouse.*—A gamma globulin isoantigen was reported to be present in serum from the inbred mouse strains "BALB/c," C3H/He and "Champagne-Glaxo" but absent from the serum of "C57BL" (KELUS, A., and J. K. MOOR-JANKOWSKI, *Nature* 191:1405, 1961). We have found a second gamma globulin isoantigen demonstrable by immunoelectrophoresis on cellulose acetate. Antiserum from BALB/c animals immunized with the globulin fraction of C57BL/6J serum forms a single precipitin line in the gamma globulin region of the electrophoregram with serum from C57BL/6J and also from C57BL/Ka, C57BL/10J and B10-D2. It does not react detectably with serum from BALB/c, or A/J, C3H/Sn, DBA/2J and CBA/J. The antigen is present in all tested F<sub>1</sub> progeny from the mating of a positive by negative strain. Appropriate backcrosses have been set up.—A sensitive test has shown this isoantigen to be associated with antibody activity. When a C57BL/Ka antiserum to the collphage T2 is used as antigen in reaction with the BALB/c antiglobulin serum, a specific loss of the phage-neutralizing activity results, indicating that the isoantigen is on antibody molecules.

YAMADA, YUKIO, and A. E. BELL, Purdue University, Lafayette, Indiana: *Selection for 13th day larva weight in Tribolium under two nutritional levels.*—Selection for large and small 13th-day larva weight in *Tribolium castaneum* has been investigated in order to evaluate the effectiveness of various selection methods and the importance of genotype by environment interaction under two different nutritional levels. In addition to an unselected control population, there were eight experimental populations as follows: GL = selected large based on sib record under the good level each generation; PL = selected large under poor level each generation;  $\overline{GPL}$  = selected large on average performance under both levels; GPL = selected large under good and poor levels in alternating generations; and similar four populations for small direction. Each population was reproduced by 40 single pair matings each generation under standard wheat medium. Selection was made on the basis of full sibs reared either under good, poor, or average of both levels, depending on the selection methods. After choosing the best eight families out of 40, five males and five females from each selected family were taken from the standard medium. They were mated at random with the restriction that full-sib matings are avoided. Therefore, each family has full-sib records under both environments, and any specific environmental carry-over effect through parents is completely removed by the use of sib selection from the standard medium.—Heritability of the selected trait in the base population both under good and poor levels of nutrition was estimated to be roughly 20–25% and the genetic correlation was about 0.50 (HARDIN 1962).—Effectiveness of the selection methods and role of interaction will be discussed. (Supported by a grant from the National Science Foundation.)

YANAGISAWA, KEIKO, (Introduced by FRANCIS J. RYAN), Columbia University, New York, New York: *The simultaneous accumulation of RNA and of a repressor of  $\beta$ -galactosidase synthesis.*—The methionine-requiring mutant, 58–161, of *E. coli*, continues to synthesize RNA even after being deprived of all exogenous methionine. The effect of methionine starvation on the formation of  $\beta$ -galactosidase was studied using this strain. After methionine starvation, a long lag was observed in  $\beta$ -galactosidase formation, although total protein started to increase immediately upon restoration of methionine. This delay was not observed in *E. coli* 15 *his-met*<sup>-</sup>, in which RNA is not synthesized during methionine starvation. If the former strain was deprived of a carbon source along with methionine, RNA did not increase during starvation and no delay was