

Hunt, D.M., University College London, England. A comparison of the effect of acid amides supplemented to yeasted and sterile synthetic culture on the expression of the Bar phenotype.

and it is this change that in turn influences the expression of the B phenotype. Certainly, the expression of ey (Sang and Burnet, 1963) and ant (Gordon and Sang, 1941) are extremely sensitive to variations in culture conditions. To clarify this point, the effect of acetamide and lactamide supplemented to normal yeasted culture and to a sterile synthetic medium was examined. In the latter case, germ-free larvae were used to completely eliminate the microflora normally present in *Drosophila* cultures. Mean eye size is taken as a measure of gene expression. No significant changes in body size were recorded throughout this series of experiments.

In Fig. 1, the results of increasing concentrations of acetamide supplemented to yeasted

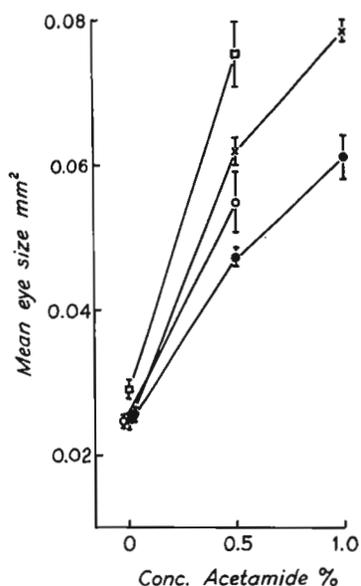


Fig. 1

Relationship between acetamide (Fig. 1) and lactamide (Fig. 2) concentration and mean eye size. x males, ● females in live yeast medium, □ males, o females in sterile synthetic medium.

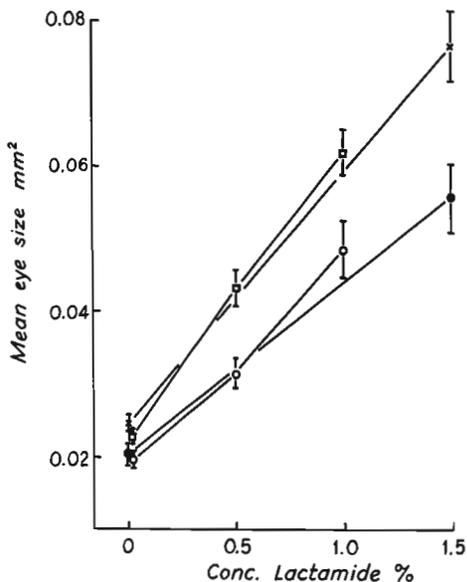


Fig. 2

culture and axenic synthetic culture are presented. In both cases, a marked increase in mean eye size is obtained, although equivalent concentrations are more effective in synthetic media than in yeasted culture. A concentration in excess of 0.5% proved toxic in synthetic culture. Increasing concentrations of lactamide also produce an increase in eye size (Fig. 2) in both types of culture media and, in this case, equivalent concentrations are equally effective. A concentration of lactamide in excess of 1.0% is toxic in synthetic culture.

From these results, it is possible to conclude that high concentrations of acid amides directly affect the expression of the B phenotype, presumably by interacting with a biosynthetic process important for eye development. However, the presence of yeast populations in the supplemented cultures does considerably reduce the toxicity of these compounds.

References: Gordon, C. and Sang, J.H. 1941, Proc. Roy. Soc. B130: 151. Kaji, S. 1960, Mem. Konan Univ. 4: 1. Sang, J.H. and Burnet, B. 1963, Genetics 48: 1683.

Grossfield, J. Purdue University, Lafayette, Indiana. Crossing over between white alleles of *D. auraria*.

D. melanogaster. The F_1 heterozygous female is phenotypically w^{saf} and progeny of this type of female and w males revealed 2 wild type males among 3802 F_2 individuals scored. The indicated recombination distance of .01 is tentative since no outside markers were available to verify the crossover origin of the wild-type males.

EMS treatment of *D. auraria* Type A (a member of the melanogaster species group) has produced two eye color mutants w and w^{saf} (see report on new mutants for description) which appear to be homologous with the white locus in