Erk, F.C., H.V. Samis, M.B. Baird and H.R. Massie. Masonic Medical Research Laboratory, Utica, New York. A method for the establishment and maintenance of an aging colony of Drosophila.

The routine maintenance of an aging colony is highly desirable for studies involving senescence in Drosophila. A major difficulty in maintaining such a colony is the lack of coincidence between the generation time of D. melanogaster and the normal work week. In this note the details are given of a method for the initiation and maintenance of such a colony, as developed in this laboratory. The method will be described in terms of codes we arbitrarily use. Details of the environmental conditions for the maintenance of the colony are given elsewhere[1].

The original stock of D. melanogaster (Oregon-R) was obtained from the Division of Biological Sciences, State University of New York at Stony Brook. These flies, designated $_0P$ (parental), were allowed to lay eggs over a single 24-hour period; these eggs were collected on Thursday (Th). Cultures resulting from these eggs were labelled A_1P (A group, parental). Eggs were again collected on Friday (F), and these cultures were designated A_0A (A group, Aging Colony). During the following week, eggs from $_0P$ were again collected on Th, but labelled B_1P. Eggs from $_0P$ collected on F were labelled $_0B_0A$ (B group, Aging Colony). By Monday (M) of the third week, $_0A_1P$ flies had eclosed and were transferred to fresh medium. A_0A flies eclosed on Tuesday (T) and entered the aging colony. $_0P$ eggs were collected on Th and lebelled C_1P, while eggs collected on Friday were labelled C_0^0A (C group, Aging Colony). $_0P$ flies were then discarded.

During week 4, B_1P flies were collected on M and placed on fresh medium, and B_0A flies entered the aging colony on T. Eggs from A_1P flies were collected on Th and designated A_2P, while A_1P eggs collected on F were designated A_1A. The A_1P flies were then mixed with A_0A flies which were already in the aging colony; these groups of flies had the same parents. This process is repeated during week 5 and subsequent weeks. During week 5, for example, C_1P flies were placed on fresh medium on M, C_0A flies were placed in the aging colony on T. Eggs from B_1P were collected on Th and designated B_2P, while eggs collected on F were labelled B_1A.

It becomes apparent (with pencil, paper, and time) that an aging colony of Drosophila may be maintained conveniently through standardized manipulation of these 3 groups of flies, all of which were derived from common parental stock. The continued input to the aging colony (e.g., A_1P and A_0A) may be adjusted to experimental needs. Our usual input is approximately 10,000 flies (mixed males and females) per week, but is being expanded to 30,000 flies per week. This method produces large numbers of flies which are one week apart in age. In addition, the parental age of all flies in the aging colony is held constant at 11-12 days.

Reference: 1. Samis, H.V., Jr., Erk, F.C. and Baird, M.B. 1971. Exper. Gerontol. 6: 9-18.

Merriam, J.R., University of California, Los Angeles, California. A low cost disposable bottle for Drosophila culture.

Propak-California Corp., 211 N. Willow Ave. City of Industry, Ca. 91746 (phone 213-968-6447) sells 1/2 pint cylindrical milk bottles 5.3 cm in diameter, made of translucent plastic, which we use for all our cultures. The bottles are transparent enough so that the food condition and the pupae on the bottle walls can be easily seen. Although we originally bought them because of their low cost (currently $1.70 per 100 bottles) other advantages over the usual glass bottles are also important: they weigh much less and take up less space. A shipping carton with 400 bottles weighs just 15 3/4 lbs. This enables us to use low cost baskets "homemade" from welded wire fending. We plug the bottles with dispo plugs 28 x 35 mm obtained from Scientific Products. Snap lids did not work. We find it economical to clean and reuse the bottles, although other labs might want to use them for large one-shot projects or classes, or as a low cost reserve. Schools that want to set up fly keeping on a small scale or for a limited time will find these bottles especially attractive. If anyone would like to see a bottle we will be glad to send an empty on request within the U.S.