460 ml 0.05M Tris-HCl buffer, pH 7.1
40 ml 96% ethanol
25 mg NAD^+
25 mg MTT
Δ PMS

The tablets are wrapped again in aluminum foil and put in an incubator at 35-40°C in staining the homogenates.

After 20 minutes, the solution is heavily stained by the Adh^{71K} individuals, whereas Adh^F individuals will not show any activity. Heterozygotes can be distinguished by their intermediate staining.

Reference: Thörig, G.E.W., A.A. Schoone and W. Scharloo 1975, Biochem. Genet. 11:721.

Gupta, A.P. Harvard University, Cambridge, Massachusetts (present address: Cidade Universitaria UFRJ, Rio de Janeiro, Brazil.
A new technique for collecting Drosophila eggs.

Generally, Drosophila eggs are collected by having flies oviposit in bottles on spoons or in petri dishes containing colored food medium. The well fed adults are usually allowed to oviposit 24 to 48 hours to collect an adequate egg sample. It is difficult to collect eggs of sufficient sample size from a number of crosses or strains simultaneously. To facilitate collecting large egg samples from a number of crosses simultaneously over a short period of time, I modified the prevailing techniques with excellent results. The success of this technique depends upon starving the flies shortly before permitting the flies to oviposit.

Twenty-five to 30 pairs of newly emerged D. pseudoobscura were allowed to mate in vials for 5 to 10 days at 24°C under optimal rearing conditions. They were then transferred to empty half-pint milk bottles and allowed to starve for 45 to 90 minutes at room temperature. The time of starvation is determined by noting when the activity of the flies diminishes. At this time, a teaspoon containing Carpenter's medium with food coloring and covered with a thin layer of dead or live Fleischmann's yeast suspension is put into the bottle. If dead yeast is used, prepare the solution 2-4 days before use. The thin layer of yeast suspension is allowed to dry before the spoon is put into the bottle. The back of the spoon must fit firmly against the side of the bottle to prevent females ovipositing between the spoon and the bottle. These bottles are put at 24°C, and the spoons with large numbers of eggs are removed after 6-14 hours.

It would appear that the starved females retain their eggs until they once again are able to feed. At that time they lay their eggs in profusion. For a research project I had to collect 1800 fertile eggs for each of two parental and two F_1 classes, for a total of 7200 eggs, to be tested simultaneously. Using this method I had no trouble collecting the required number of eggs in a short period of time. The technique was further tested using 25 to 30 pairs of D. melanogaster. Approximately 1000-2000 eggs were collected in 1-3 hours. Thus, this technique is probably generally useful for collecting large numbers of eggs in a number of species in a short time period.

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Johnson, P. and D.E. Cowling. University of Sheffield, England.
A courtship song simulator for Drosophila.

Auditory stimuli play an important role in the sexual behavior of D. melanogaster and a number of other species (Bennet-Clark 1975). These take the form of a song produced by wing vibration by the male during courtship. The male courtship songs are species specific and probably play a role in sexual isolation. The song of D. melanogaster consists of phrases which contain two discrete wave form elements known as sine song and pulse song (von Schilcher 1976a, 1976b; Burnet, Eastwood and Connolly 1977). A simulator which allows courtship and mating to be investigated using intact females paired with wingless males in the presence of artificial song of specified characteristics is described here.