

conveniently be removed at desired intervals from the food surface and be transferred to appropriate containers. Straight-sided finger bowls containing about 130 cc of food and closed with cheese-cloth held on with a wide rubber band, can be satisfactorily used for growing up to 100 larvae. The food surface should be heavily seeded with fresh yeast.

Crow, F. A. E. Egg Counts

For counting daily egg output of single females a modification of the spoon technique is used. Small slices of cornmeal agar food cut from suitable blocks are placed on the spoons with a seeding of yeast. These have the advantages of being easily examined, readily detached and possessing a rough surface.

Mickoy, George H. Collecting eggs.

Our (Austin, Texas) routine method of getting eggs is to keep a single female and two or three males together for a few hours in a vial containing a spoon of food. About 4:30 or 5:00 P.M. the spoon is replaced with a fresh one in which the food has been poured and sprayed four or five hours earlier (in order to allow the yeast to start its growth) with a heavy suspension of fresh Fleischman's yeast containing a drop or two of glacial acetic acid. The food should be more fluid than that ordinarily used in food vials and is improved for the purpose of seeding the eggs by adding enough powdered lamp black to color it a dark gray. The flies lay better if they have not been etherized for at least 24 hours; they also lay more rapidly in the dark about 6 P.M. The vials should lie on their sides to give a horizontal laying surface.

The spoons are cardboard picnic spoons with the handles clipped off, the sides trimmed to fit the vials and the tips pointed in order to reduce the surface which may touch the bottom of the vial and crush the flies.

Schweitzer, Morton D. Collecting eggs.

During the past year various techniques of collecting eggs have been tried. The following method has regularly yielded 100-600 eggs per culture per four hour period, with an average of 300. Not infrequently, on the first day of collection, the yield has been as high as 800-1300 in a four-hour egg-laying period. (*D. melanogaster*, *pseudo-obscura*, and to a small extent *affinis* and *miranda*)

The important precautions to be observed for optimum yield of eggs are:

- (a) The females should not be etherized at any time prior to use for this purpose.
- (b) The medium should be seeded with yeast at least 6 hours and not over 24 hours before use.
- (c) The surface of the medium should be slightly roughened just before being placed with the flies.

- (d) The surface on which eggs are to be collected must be ventral to the flies.

The details of the procedure I have followed are as follows: Young flies, not over 24 hours old, are transferred to fresh food without etherization (20-40% and over). Two or three days later they are transferred to fresh food. At this time the medium on which the eggs are to be collected is prepared. It consists of ordinary cornmeal-molasses-agar with lampblack added to give contrast to the white eggs. The cornmeal is sifted before cooking. The food mixture is poured onto the ordinary type of paper milk bottle caps, leaving a margin of 1 cm. all around. When cool, the surface is uniformly seeded with fresh yeast. (Caps for 24 hours are prepared at one time.) The next morning the surface of the food on the caps is scraped with a metal tissue lifter. The flies are transferred to empty half-pint bottles which are capped with the prepared paper caps. The bottles stand with the caps down. New caps are substituted at appropriate intervals.

Eggs have been collected by this method continuously for a week or more at intervals of 2, 4, 6, 8, 12 hours. If the rate of oviposition falls off after a few days it may sometimes be renewed by transferring the flies to regular food bottles for 2-3 days. Strains that do not reach their optimum rate of egg-laying as early as the fourth day may be kept on regular food longer before beginning the experiment. (*D. pseudo-obscura* does well after 7-10 days from hatching, *affinis* and *miranda* even later.)

If properly fitting caps are used (diam. = 1.625" for Bridges-type bottle, and 1.640" for most others), they may be washed and reused indefinitely. (Copied from DIS-4:65-66)

Schweitzer, Morton D. Handling eggs and larvae.

When eggs are collected in the manner outlined above the usual high mortality due to handling and yeast overgrowth may be minimized by several precautions. After counting, the entire slab of food (or a segment containing an appropriate number of eggs) may be transferred to the surface of regular unyeasted food. If the surface of the food on the cap is sliced off with a scalpel just before use, the danger of yeast overgrowth is much reduced. An alternative method of transfer, that has given high percentages of imagines, is to allow the eggs to hatch on the food while it is still attached to the cap. The young larvae are transferred with a fine scalpel. In transferring larvae, an efficient method is to gently touch the scalpel to a larva, then touch the larva to a second one, etc. until 25-75 are adhering to each other. In this way the larvae are subject to a minimum of direct handling. (Copied from DIS-4: 66-67)

Hoover, Margaret E. Eggs for larval observations.

In studies involving the embryological stages of *Drosophila*, the use of a synthetic medium may be found useful; especially if it is necessary to watch growing larvae day by day, a transparent food