

It was then found that rearing the flies in a 15 G. incubator gave better results. Of 60 single pair matings set up, only 2 were sterile. The average number of flies per fertile bottle was 168 and the time for emergence, 28 days. The addition of 0.05% of Nipagin to the food was found successful in preventing the molds at the low temperature. Before being set up in the culture bottles, the flies have to be held in mating vials; the tests carried out have shown that the best results are obtained after the flies have been held in the vials for 5 days.

<u>Parker, D. R.</u>	Method of carrying	The early method of carry-
stocks.		ing stocks in this institu-
		tion was to keep them in

bottles, merely shaking them from the old one into the new one at each change, with occasional etherization and examination of them. Last year, however, we adopted a new method which seems to be far more efficient. The stocks are now carried in vials, keeping one old vial and mating three new ones at each change. The four are fastened together by means of a rubber band to which is attached the tag label. The flies are etherized by means of the mass method of Altenburg.

The advantages of this system are: (1) The flies are examined at each change, and (2) by making 3 new vials the chances of loss by contamination are greatly reduced. It is possible by this method to practically rid all of the stocks of mites, provided there are no adverse conditions of temperature.

This method takes a bit more time than the older one, but it will perhaps repay the loss with better stocks.

Parker, D. R. Moldex-A as a mold inhibitor. Tests were run recently to find a substance to inhibit the growth of mold. The

compounds tried out were Moldex-A, Nipagin-M, and Nipagin-T. These were added to our regular banana food in the ratio of .15 grams of anti-mold substance to 100 c.c. of food. Twenty vials were made of each of the above compounds, as well as twenty vials of plain food.

One half of the vials were inoculated heavily with mold, and the other half left uninoculated. One pair of flies was placed in each vial. Moldex-A was the most efficient in the prevention of mold. However, in the uninoculated series, the Moldex vials gave a slightly lower yield of flies than did the plain food. Egg counts were then run to see the possible effect that Moldex might have on hatchability. Out of approximately 3000 eggs, 98.7% reached the adult stage. This is about 7% higher than the usual hatch on plain food.

Not only is Moldex more efficient than Nipagin-T and Nipagin-M, but it has also the additional advantage of being much more economical. It may be obtained from the Glyco Products Co., 949 Broadway, New York, N. Y.

Schweitzer, Morton D. Collecting 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 ♂♂). 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.

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