70%-80% alcohol heated to 70°-80° C is poured over the well-etherized (but not overetherized) flies. By this fixing method we get a more or less normal position of wings.

Stone, P. C. and Zimmering, S. An effective mite control. The Drosophila lab at Missouri had for many years been heavily infested with mites. Complete control has been achieved by use of a new organic mitecide, Aramite-15-W, so that for the past three months no mites whatever can be found. Adult flies were transferred to a fresh food vial together with about 150 mg (the amount that can be held on a penny) of the full-strength Aramite (15% active ingredient), and shaken so that they were well covered with the powder. Cotton plugs were also dusted with Aramite. As a routine, this process was carried out for two generations. Used in this way, Aramite will kill the hypopus as well as other stages of mites, but does not seem to harm the adult drosophilae or affect their fertility. It is important that there be no free water on the walls of the vials, as Aramite will then make a paste with the water, which kills flies. This procedure was carried out in a separate room, the empty lab being, in the meantime, fumigated with a commercial mixture of 3 parts ethylene dichloride to 1 part carbon tetrachloride, about 15 pounds per 1000 cubic feet being used. Aramite 15-W is obtainable from the U. S. Rubber Co., Naugatuck Chemical Division, Naugatuck, Connecticut.

Wallace, Bruce Estimating the size of experimental Drosophila populations. In a study of either the ecology or the genetics of a population, one of the important factors is population size. Determining the number of adults in a Drosophila population by etherization and counting is a laborious task (the number may exceed 10,000), which disrupts, with possible selective effects, the continuity of a population. The result obtained is hardly more than an estimate, because several hundreds of the flies remain uncounted in the cage and moribund flies are includes in the final figure. Any technique that gives a rapid estimate of the number of adults would be a useful one.

An attempt at estimating the number of flies by sampling "fly specks" has been made with some success. The experiment completed dealt with the relation between a known number of adult flies in a population and the number of specks obtained on a sampler exposed to the population for certain periods of time. The cage used was one of Lucite and screen, 18 inches long by 5 1/2 inches wide by 4 1/2 inches high. The sampler was a glazed porcelain cylindrical electrical insulator 3/4 inch long and 5/8 inche in diameter. It was mounted on a glass rod 7 inches long, which was inserted into a rubber stopper. Samples of specks were taken by projecting the sampler through a hole in the small end of the cage and plugging this hole with the stopper on which the sampler was mounted. The sampler, consequently, was suspended equidistant from the top, bottom, and sides of the cage, 7 inches from one end. The number of specks obtained was determined under a low-power binocular microscope merely by counting and simultaneously touching each speck with the point of a pen. Specks, even when overlapping, were easily distinguishable against the white porcelain background.

The results of the experiment can be tabulated as follows:

Day	No. new flies added*	Total flies in cage#	No. specks (4-hour Exposure)**	No. specks (17-hour exposure)##
1	674	674	21	32
2	688	1362	24	53
3	1140	2502	48	185
4	1496	3998	37	142
5	2213	6211	48	270
6	1858	8069	102	407
7	1526	9595	106	386

* Obtained each day from a series of culture bottles.
\# Assuming, erroneously, that no deaths occurred.
** Sampler exposed from 12:30 p.m. to 4:30 p. m.
Sampler exposed from 4:40 p.m. to 9:40 a. m.

The slope and error of the slope of the regression of specks on flies during the four-hour interval was .0095 ± .0005 (error = 5.3% of the slope). For the 17-hour interval the corresponding figures were .0421 ± .0054 (error = 12.8% of the slope). The ratio of the slopes, .0421/ .0095, was 4.43; and the ratio of the lengths of exposure, 17/4, was 4.25.

These data indicate that this is a technique that can be used for determining the relative number of flies in a population at frequent intervals without disturbing the population unduly. Whether it can be used to compare one population with another or to estimate actual numbers of flies under various conditions is not known.

Wilson, L. Deterioration of brewers' yeast as a factor in comparative growth studies on Drosophila.

A supply of dry brewers' yeast kept in a dark bottle under ordinary laboratory conditions eventually failed to support growth in Drosophila. The yeast was purchased in October, 1949, and used for routine sterile growth studies at a concentration of 4% until August, 1950. Suddenly at that time larvae in all experiments died before the first moult. Increasing the concentration of yeast did not prevent the deaths, but a high proportion lived in 0.75% yeast. These results suggested a vitamin deficiency which was not great enough to prevent development of the slow-growing, inadequately fed flies. To test this hypothesis the yeast was supplemented with different brands of B-complex vitamins in a concentration sufficient to supply 200 micrograms of thiamin per 100 milliliters of medium. Perfectly normal growth resulted. No growth occurred if the vitamins were autoclaved in distilled water before being added to the sulture medium. It has been possible to test the rate of deterioration of strains of yeast by periodically checking the rate of growth of the larvae and the time of occlusion of the adults. A strain of yeast purchased in February, 1951, and kept continuously in the refrigerator began to show deterioration in September, 1951. It is obvious that in comparative growth studies where yeast is used in media, great care must be exercised to insure a yeast of constant nutritional value.