The mites entered among samples of wild flies collected at several trappings in Mexico City. In order to eliminate the mites, the infested cultures were treated in the following manner: all contaminated bottles and instruments were heated in a furnace before washing. The instruments used to manipulate flies, as well as the microscope surface, the exterior of bottles, and the table surfaces were repeatedly washed with a solution of benzyl-benzoate (20%) in 90° ethanol. Before starting new cultures all flies were examined under the microscope, and apparently mite-free adults selected for later use. As it is difficult to avoid contaminating the new medium, the adults were allowed to lay eggs on it only during a 24 hour period. When several small hypopus nymphs either from contaminated flies or from other cultures, were found in the new medium, its surface had to be covered with a solution of benzyl-benzoate (20%) in 96° ethanol. This treatment kills the nymphs without any apparent toxic effect on the Drosophila larvae, which then develop into the adult stage unimpeded by predatory mites. The newly emerged flies were transferred to new cultures every day in order to avoid the attachment of any mites which survived treatment.

In the heavily infested cultures all of the flies died; and a crowding of mite nymphs was found among the Drosophila larvae. In this case the application of a second treatment was necessary, thoroughly washing the larvae by immersion in a solution of benzyl-benzoate (20%) in ethanol. Following the 2-4 minute immersion in the benzyl-benzoate solution, the larvae were washed with Ringers solution and then transferred to fresh vials. The pest was controlled effectively after three weeks, adhering to the above steps.

Frankham, R. Macquarie University, Sydney, Australia. Instant mashed potato as a fly food.

The instant Drosophila media available commercially are expensive and must be imported if one lives in the antipodes. They are also unlikely to be available locally to people on field-collecting trips. Instant mashed potato added to water (in 1:2 proportions by volume) with a pinch of granulated live yeast on top provides a satisfactory instant media for culturing Drosophila. It is improved if powdered agar (10g to 160g instant mashed potato) and Nipagin (1.27g to the above) are added. Killed yeast may also be added to this powder. We have found differences among brands of instant mashed potato in their suitability for culturing Drosophila. This media has been used successfully by external students carrying out Drosophila experiments at home.

Merriam, J.R. and B. Howard. University of California, Los Angeles. Mite control with caffeine in Drosophila food.

During a recent set of experiments on behavioral responses to drugs we noticed that the flasks with caffeine were less susceptible to periodic mite infestations. We tested this conclusion more directly by comparing innoculations of flies from an old mite infested culture into vials made up with and without caffeine. The vials were placed in a pan containing mineral oil to prevent the mites from spreading. Visable mite appearance was delayed by about two weeks in the vials containing caffeine although there was no change evident in the times of larval, pupal or adult progeny appearance.

We now routinely add caffeine to about 0.02% of the final concentration of food. This comes to 3.4 g per 300 half pint bottle batch (17 l. H_2O). The caffeine is added after the food has cooked (along with the propionic acid mix) and is thoroughly mixed in. A neutral red food dye is used as marker. Anhydrous caffeine is purchased from the Sigma Co. ($10 for 500 gm).

We feel that this procedure has so far helped keep our lab relatively free of mites. However, caution should be exercised in determining the amount of caffeine added by other labs. Whereas a concentration of 0.02% does not visably affect the flies in our hands, we found that a concentration of 0.05% in vials kills about half the adults within 24 hours. It is interesting that 0.05% is probably about the same concentration as the caffeine in a "strong" cup of coffee. Yanders and Seaton (1962) did not find caffeine in these concentrations to be mutagenic in flies and we have no cause to disagree with their conclusion.