fixation which is equivalent to fixation by the corresponding aqueous fixative. It was found 
that heptane or octane did not injure the cytoplasm unduly, while penetrating well through 
the vitelline membrane. An egg remains alive if submerged in these solvents for 10 minutes 
or more. The eggs become fixed in heptane loaded with acetic acid, picric acid, acrolein 
or glutaraldehyde, in less than one minute and can remain in the fixative for several min-
utes before beginning to shrink.

In order to facilitate the penetration of post-fixatives, colorants or dehydrating 
liquids, the vitelline membrane should be removed after initial fixation. To do this, the 
egg is transferred into the aqueous phase of the fixative and the membrane torn away with 
sharp needles. Surface tension helps to remove the membrane and the egg falls into the li-
quid. This operation can be performed best in 30% acetic acid, but after some practice, one 
can do it also in other fixatives.

Fixation in heptane containing acrolein or glutaraldehyde is quite adequate for electron 
microscopy. Cell inclusions and organelles are well fixed, the ergastoplasm has its normal 
appearance and mitochondria have well preserved cristae. The following procedure is used:

1. Dechorionate eggs.
2. Fix in heptane which has been shaken with a 10% solution of acrolein or 25% solu-
tion of glutaraldehyde, for 1 to 2 minutes.
3. Remove the vitelline membrane in a buffered glutaraldehyde solution (conventional 
electron microscopy fixative).
4. Fix in the same solution for 1 hour.
5. Wash with buffered physiological solution.
6. Post fix with osm~c acid 2 to 24 hours.
7. Further processing for embedding like any other tissue.

This fixation may be useful also in other cases where lipophilic membranes prevent the 
penetration of the usual fixatives, e.g. to fix Drosophila larvae and adults.

Félix, R. National Commission of Nuclear 
Energy, Mexico City, Mexico. A system 
for feeding liquids to adult flies.

The following method may be used as an 
alternative to injection of solutions to 
Drosophila flies, especially when several 
treatments with liquids should be tested in 
adults at separate time intervals. This 
system is particularly effective as the solution is administered during a 
period of time that may be lengthened to several days. It proved effectual for 
feeding cyclamates and cyclohexylamine to Drosophila melanogaster.

The liquid is gradually injected by means of a thin hypodermic syringe 
that goes through a hole of a rubber plug occluding the 2.8 x 9.0 cm vial, 
into a double layer of filter paper. The piece of polietilene tubing (Intra-
medic, Clay Adams, Inc.) adapted to the needle of the syringe, touches the 
filter paper, assuring a continuous delivery of the solution, when the embolus 
is pushed in.

The quality of filter paper cut to fit the bottom of the vial is important 
because it must be sufficiently absorbent to remain moist, without retaining an 
excessive amount of solution, which would drown the flies. Whatman 3 filter 
paper was used for such a purpose.

The syringe may be removed without the removal of the rubber plug, thus 
avoiding the escape, as well as the squashing of the flies, that occurs if 
the plug is removed and replaced. The amount of solution contained in the 
syringe (1.00 cc B.D. Yale turbeculin, Becton Dickinson) is enough to feed 
flies during several days. An additional pasteur pipette made at the labora-
tory with 'thin glass tube may be adapted through another hole, assuring the 
proper aeration of the vial, if the system is to be used during a period of 
several days without the removal of the flies.