

Hersh, A. H. Incubators.

A multiple temperature incubator, total length about 15 feet including an icebox at one end and at the other an electrically heated water tank fitted with thermoregulator. A long copper trough insulated with glass wool serves for heat conduction. This apparatus is slightly modified from model #3 described by C. B. Williams and T. W. Kirkpatrick (1924, Technical and Scientific bulletin # 38, Ministry of Agriculture, The Government Press, Cairo, Egypt). The thick copper trough is deep enough to accommodate 8 oz. bottles. When the hot tank is kept at about 40° C, a temperature gradient over the interval 10° to 35° can be maintained with sufficient constancy for any investigation which does not require any extensive amount of space at any single temperature.

Spencer, W. P. Incubators

In culturing many species of *Drosophila* optimum temperature conditions are extremely important and even in the case of easily cultured species such as *melanogaster*, *virilis*, or *funnebris* much of the trouble with mold, mites, and infertility would be obviated by starting cultures at the optimum temperature.

The incubators described below are not presumed to take the place of the accurate and elaborate temperature control systems developed by Bridges and Plunkett. They do, however, supply at very little expense a means of rearing large numbers of stock and experimental cultures at a temperature fluctuating not more than a degree centigrade.

A casket pack (rough box) may be secured from any funeral director for from 25 to 50 cents. This consists of a strong light wooden framework to which is tacked three ply 1/8 inch wood veneer panels. These boxes vary in size; one of average size we are using has the following inside measurements: length 7' 4", width 2' 6", depth 2' 1". The lid is hinged to the box with three or four hinges, and hooks or other fasteners provided to hold this door shut. As the wood veneer is tacked on the inside of the framework, panels of cellotex or other composition insulating material are cut of a size to fit snugly into the framework on the outside. These are held in place by one or two light lath tacked over them and to the framework. The box is set on end and may be put on castors. The first shelf is placed at least two feet above the bottom. These shelves may be made of one-half inch wire mesh tacked on wooden frames which rest on supports nailed to the framework. Each shelf, for an incubator of the above dimensions, has a capacity of 100 half pint milk bottles. Five shelves can easily be used with ample room for removing culture bottles from the back of the shelf without disturbing those in front. The heating unit consists of electric light bulbs placed in or near the bottom of the incubator. A thermostat is placed on the back wall about middle of the incubator. One light bulb of 60 watts is capable of keeping this incubator with approximately 40 cubic feet of air space about three degrees C above the room temperature. We use a 60-watt bulb in series with a bi-metallic thermostat and other