

Gravett, Howard L. Thermal control system. Temperature is controlled with great exactness in the Experimental Zoology

Laboratory at the University of Illinois. Electric incubators are housed in especially constructed high- and low-temperature rooms. While experiments are being run it is possible to keep these rooms from varying more than one degree from 25° and 15° C. Under these conditions the incubators housed in them can be held constant to within 0.3° of the required temperature.

The incubators used are made by the Chicago Surgical and Electrical Company. The heat unit is a high resistance wire coil and contact is accomplished by the bending of a diaphragm. A twelve-inch General Electric dish fan with lengthened shaft so that it could be installed with the motor outside and the blades inside of the chamber has acted in a satisfactory manner in keeping the air stirred. The only attempt to control the humidity is to keep an open vessel of water in each incubator. A Thycoos, ribbon type, be-record thermometer made by the Taylor Instrument Company of Rochester, New York, is used for a continuous record of the temperature.

The constant temperature rooms are cooled by air blown over brine coils and the high-temperature room is varied by steam coils. Both systems are under automatic control installed by the Johnson Service Company of Milwaukee.

Department of Biology, Amherst College. Constant temperature and humidity control.

With the assistance of a grant from the Rockefeller Foundation, the laboratory has now com-

pleted the installation of a constant temperature room especially designed for Drosophila work. The room is about 15' x 8' x 8' and is built into a storeroom on the basement floor. The walls and ceiling are 3" cork insulation attached on the inside of 4" studding, and two coats of water-proof cement plaster are applied over the cork. The outside is covered with fir sheathing, so that a 4" air space is enclosed. The room is air conditioned by an air duct on the end wall, and outlets on the side walls. The air conditioning apparatus was furnished by the Carrier Co. and is capable of maintaining the room at any temperature from 5° C to 50°  $\pm$  2° C with a relative humidity of from 20% to 100%  $\pm$  5%. At present the room is being maintained at 15° C with a relative humidity of 65%. Water and electric current are available within the room.

Within the room are placed 12 unit incubators, similar to the two shelf type developed by Bridges and Plunkett. Each contains an 8" fan run at low speed. Temperatures from 16° C to 40° C can be maintained over long periods within any of these units. The heating elements are electric bulbs and the thermoregulators are toluol or alcohol filled, controlling the heating elements by single relays amplified by a vacuum tube. The relay apparatus was furnished by Lovett Garceau, Diamond Hill, R.I., at \$20.00 each. The temperature at any point in these incubators varies not more than 0.2° C over an indefinite period.