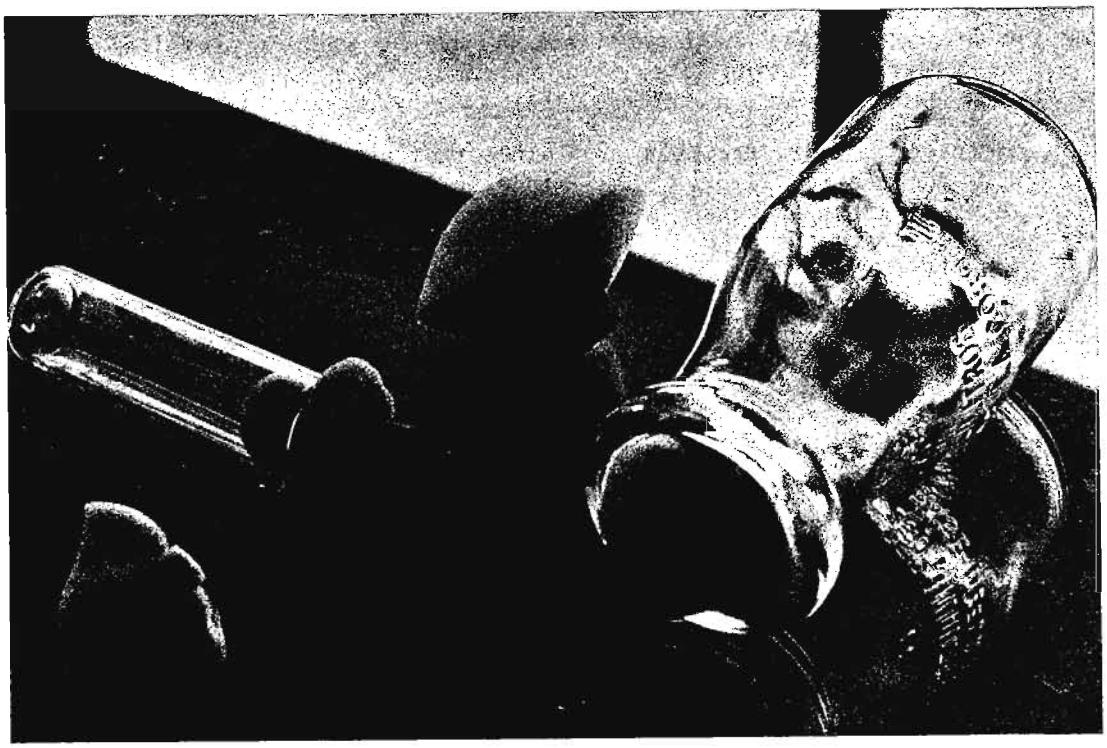
Félix, R. Programa de Genética y Radiobiologia. Comisión Nacional de Energía Nuclear. México City, México. Durable plastic foam plugs used as stoppers for bottles and vials.

Polyurethane foam plugs have been largely employed in this laboratory in place of cotton plugs, since they may be re-used for more than a year without losing their resiliency. The plugs were manufactured at the laboratory, cementing together a piece of rubber tubing with a polyurethane disc. The size of the two pieces are as follows:

	For half-pint bottles	For vials of 1x3½ inches
Polyurethane disc		
Diameter, mm.	70	60
Thickness, mm.	20	5
Rubber tube		
External diameter, mm.	20	15
Length, mm.	40	30

The 20 mm. (diam.) tubes may be obtained cutting to pieces commercial hose tubing. To cement the two pieces together we have used an adhesive employed for the cementing of sole-leather. A first coat of the adhesive is applied to both pieces leaving a circle in the middle of the foam disc without covering to assure proper ventilation of the cultures. An hour later a second coat is adhered to the first one and the two pieces are forced into the container. After a few days, when the cement is dry, the plugs are taken away and autoclaved at 120°C (248°F) when necessary. The used plugs are washed and dried in a dry oven at 75°C. They are handled more easily with repeated use.



Polyurethane foam plugs allow proper ventilation of culture bottles and vials.

The bottles and vials are sealed perfectly without excluding air and evaporation. Another advantage is the economy of re-use which makes then cheaper than cotton, and elimination of allergic responses to the irritation of cotton fibres. However, the economy of time which comes from the repeated use is the main quality that makes the fabrication of these hand-made plugs highly advisable.