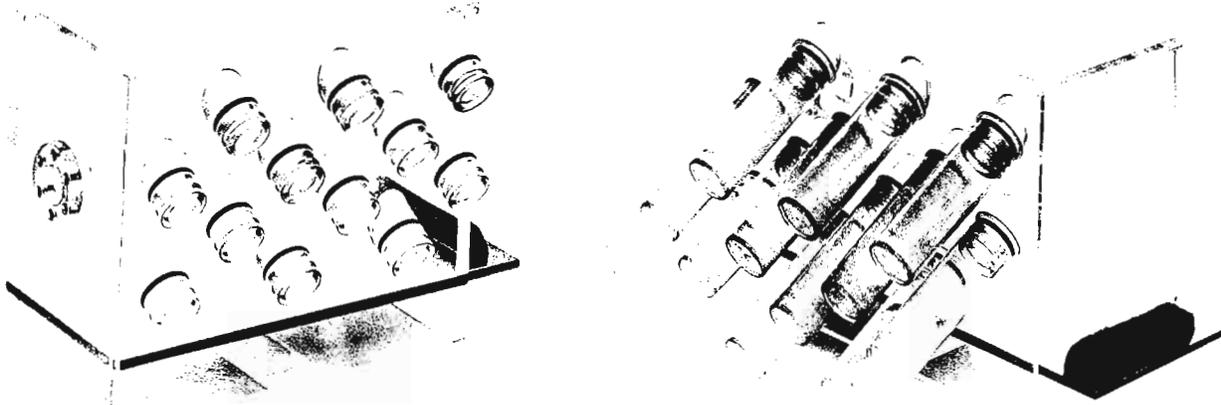


Stern, K. University of Göttingen, Göttingen-Weende, Germany. Population cage for long-term experiments.

34 Göttingen, W. Germany. The body is made of plexi-glass, the food containers are normal sexing tubes, 2.5 cm in diameter, and 10 cm in length. The bottom plate can be removed for cleaning without disturbing the population.

This population cage has been constructed for long-term experiments at the Institute of Forest Genetics of the University of Göttingen. It is available in three different sizes (6, 12 and 24 tubes) from Fa. Ernst Schütt, Laborbedarf,



TEACHING NOTE

Roberts, P.A. Oregon State University, Corvallis, Oregon. Additional uses of the "C-scan" stock.

Students desirous of learning cytogenetic techniques using *Drosophila* stocks may find this exercise instructive without being cookbookish. Wild-type males are exposed to at least 4000 R of X-rays and mated en masse to homozygous "C-scan" (sc f;al b sp;ve st ca) females. F_1 females are individually mated to several C-scan males in vials or 1/4 pint bottles and the F_2 progeny are scored for crossover suppressors on X, 2L, 2R, 3L and 3R. The details of techniques for inducing, scoring, detecting, balancing and examining the recovered rearrangements cytologically are described in Roberts (Genetics, 1970, 65:429-448). At least 1 in 4 F_1 female offspring of males receiving 4000 R should carry a crossover suppressor effective enough to be detected using this stock if care is taken to transfer females and keep down bacterial growth in the less fertile cultures which are often semisterile owing to chromosomal rearrangement. Usually the suspected rearrangements are balanced then examined cytologically because this not only preserves the rearrangement but makes it possible to pick out larvae heterozygous for the aberration. If it is desirable to shorten the procedure, half the offspring of F_2 males carrying wild type alleles in the arm or arms in which crossing over is reduced should show the rearrangement in salivary gland chromosomes. This procedure not only demonstrates radiation mutagenesis, but provides the careful student with an opportunity for the discovery of a novel crossover suppressor since each rearrangement is unique. A wide variety of rearrangements including pericentric and paracentric inversions, reciprocal and insertional translocations, (and occasionally, a duplication or transposition) has been recovered using this procedure (see the above reference).

We have also used the C-scan stock in more routine experiments with beginning students in genetics. Students are given mated F_1 females each of which is heterozygous for C-scan and a stock rearrangement and are asked to determine from the pattern of crossover suppression and (or) pseudolinkage, what sort of rearrangement is present.