JOURNAL OF BACTERIOLOGY, June, 1965
Vol. 89, No. 6

Automotive Pistons for Use as Bases in Velveteen Replication

JAMES N. ADAMS

Department of Microbiology, School of Medicine, University of South Dakota, Vermillion, South Dakota

Received for publication 23 February 1965

Relatively large numbers of velveteen replicators are frequently desired for use in the laboratory, for example, when an extensive screening program is undertaken as a research endeavor or as a microbial genetics laboratory exercise employing the indirect mutant selection technique (Lederberg and Lederberg, J. Bacteriol. **63**:399, 1952). An adequate number of these bases is not usually available for such purposes, because the bases upon which the velveteen pads are mounted are too expensive when made by the scientific apparatus shop and are not easily prepared from lathed wooden dowelling or molded plaster.

Aluminum automotive pistons are satisfactory bases for velveteen pads; they are inexpensive, readily available in large quantities, essentially unbreakable, and easy to handle. Discarded automotive pistons, perfectly usable as bases, can be obtained at very low cost at any "junk yard." Pistons of 8.0 to 8.2 cm in diameter (common sizes) were found to be most suitable as bases for use with standard 100-mm petri dishes. Figure 1 illustrates such a replicator prepared for use as well as a simple crimping method for preparing the band used to hold the velveteen pad in place.

Pistons from truck or tractor engines may be found in diameters suitable for use with larger than standard-size petri dishes. The use of the larger diameter pistons eliminates the necessity of using 100-mm petri dishes in extensive screening programs and facilitates examination by indirect selection of a proportionally larger number of colonies per plate.

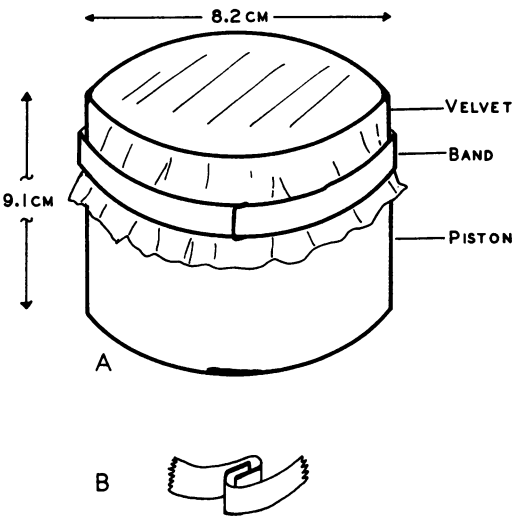

FIG. 1. *Piston base replicator set up for use. (A) Sterile velveteen pad secured to piston by spring-steel band. For use, the plate to be replicated is inverted onto velveteen pad and colonies are transferred by means of gentle pressure evenly applied to plate base; the master plate is removed, and subsequent replications are similarly carried out. (B) The appropriate length of the spring steel band used to secure the velveteen pad is determined. Pliers are used to place crimps in the band ends as indicated, and the band is completed by tightly closing the crimps.*

This investigation was supported by Public Health Service research grant GM-12008-01 from the Division of General Medical Sciences.