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FACULTY OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY

Replica plating

Replica plating is a microbiological technique in which each colony/clone is inoculated onto multiple plates according to a numbered scheme. This method allows each clone to be tested by a variety of methods, while retaining a master *plate* from which clones can be picked.

Principle

Replica plating involves creation of exact copy of master plate. The exact copy of master plate can be created with the help of sterile velvet leather, cotton or chamois leather stamp or clothes. These clothes or stamp acts as microneedle for inoculation of microbes when pressed against master plate bacterial culture.



Procedure

- ❖ Mount a piece of sterile velvet by stretching it on a cylindrical metallic block (slightly smaller than Petri dish).
- ❖ Place the block with velvet side facing upwards.
- ❖ Invert the Petri dish with the lawn of bacterial cells (master plate) and gently press against the velvet. The number of projecting fibres of the velvet (almost 1000/sq. inch) act as inoculating needles sampling every clone of the cells in the lawn.
- ❖ Remove the Petri dish and press two or more phage coated agar against the velvet in turn.
- ❖ Save the original master plate.
- ❖ Incubate the subsequent phage coated plates.
- ❖ A few colonies appear on the phage coated plates. Some of these may represent mutants that arose during the cell divisions that occurred after replica plating.
- ❖ Colonies found at the identical positions on every replica plate can be presumed to have arisen from an inoculum of phage resistant ones transferred via the velvet from the phage resistant clone on the master plate

Application of Replica plating

Replica plating is a simpler method for screening of isolates that do not have the ability to grow under specialized conditions.

Classification of colonies differing from each other in a number of known nutritional requirements, isolation of new mutant strains.

