

Plating Liquid Samples onto Solid Media

The following procedure describes methods used to plate organisms in liquid samples onto solid media. This may be used for many procedures e.g. plating a dilution series of algae, plating transformations of bacteria etc. Three methods are described that each use a different tool for the spreading step; loop, spreader/hockey stick, or beads/balls. Loops and spreaders are available in pre sterilized packages whereas glass beads are autoclaved in a storage container prior to use.

Supplies required: Agar plates, liquid sample in vessel/rack, pipette and tips, label/pen, spreading tool

Procedure

1. Gather supplies and set up work station in the hood. Refer to LCxx-xxx-xx for proper use of the hood.
2. Label all plates appropriately including at least date, sample name, and initials

Loop plating

3. Place plate to be plated face up with lid on top
4. Collect sample to be plated by pipette
5. Lift lid enough to pipette sample onto center of plate, taking care not to puncture the agar media
6. Replace lid and discard tip
7. Remove a loop from package using aseptic technique
8. Remove lid from plate and place on work surface with the interior surface facing down
9. Spread sample around plate with loop by first spreading in a line across the middle of the plate and then spreading this across the rest of the plate from side to side taking care not to spread all the way to the edges of the plate.
10. Discard loop and replace lid on plate.
11. Once plate is fully dry, turn media side facing down and place in appropriate conditions

Spread plating

3. Place plate to be plated face up with lid on top
4. Collect sample to be plated by pipette
5. Lift lid enough to pipette sample onto center of plate taking care not to puncture the agar media
6. Replace lid and discard tip
7. Remove a spreader from package using aseptic technique
8. Remove lid from plate and place on work surface with the interior surface facing down
9. Touch spreader to the sample and then spread sample over plate by moving the spreader back and forth while turning the plate with your other hand until sample has absorbed into media
10. Discard spreader and replace lid on plate.
11. Once plate is fully dry, turn media side down and place in appropriate conditions

Bead plating

3. Place plate to be plated face up with lid on top
4. Lift lid and pour 5-10 sterile glass beads onto plate surface (multiple plates may be plated at once - depending on speed and comfort level 2-4 plates can be plated per hand)
5. Collect sample to be plated by pipette

6. Lift lid enough to pipette sample onto center of plate, taking care not to puncture the agar media
7. Replace lid and discard tip
8. Shake plate from side to side, allowing the beads to move over the entire surface of the plate.
9. Once sample has absorbed into media, turn plate to lid side down allowing the beads to fall onto the lid.
10. Discard beads by opening lid slightly and tipping out into appropriate trash container.
11. Place plate into appropriate conditions.