

Microbiology Lab Experiment Changes

Experiment #: 3-4

Title: Simple Stains

Live Organisms: *Escherichia coli*, *Bacillus cereus*, *Staphylococcus aureus*,
Micrococcus luteus, *Enterococcus faecalis*

Miscellaneous Environmental plate bacteria

Changes: Use paper towels not bibulous paper to blot dry.

Procedure:

1. First we will practice aseptic techniques with sterile tubes. Once you learn aseptic (sterile) technique, your instructor will demonstrate how to make a (i) bacterial smear*, (ii) dry the smear on a hotplate and (iii) heat fixing the smear before performing a simple stain.
2. Bacterial smear should not be (i) not too thick, (ii) too thin and/or (iii) clumpy (no visible chunks of bacteria).
3. Each student will make at least one smear from the six bacterial cultures available. You may make more smears/stains if time permits. Heat fixed/unstained slides can be saved in your slide box for staining later.
4. You should look at the other slides prepared by your classmates. We will see all of the bacteria again when we perform the Gram stain.

Take Home Lesson: Simple stain allows you to see morphology (rod, coccus, spiral etc.) and arrangement (pairs, tetrads, chains, clusters etc.). Heat fixing kills the bacteria and attaches the smear to the glass slide. You should never hold smear directly under a stream of water when rinsing your stained smears.