Microbiology Lab Experiment Changes

Experiment #: **4-1, 4-2, 4-4, 4-6**

Title: Selective and Differential Media

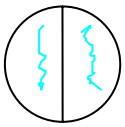
Live Organisms: *Enterobacter aerogenes, E. coli, Bacillus subtilis, Staph. aureus, Staph. epidermidis, Providencia rettgeri*

Changes:

Procedure:

Work in groups (2-3 students). Each person in your group should do at least one plate.

1. Inoculate 2 or 3 different bacteria onto each kind of medium.



MSA

Staph. aureus
Staph. epidermidis

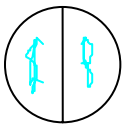
= bacteria

EMB

E. coli
E. aerogenes
Providencia rettgeri

MAC

E. coli
E. aerogenes
P. rettgeri



PEA

E. coli ***or***
E. aerogenes ***and***
S. aureus ***or***
S. epidermidis ***or***
B. subtilis

2. The above combinations demonstrate the selective and / or differential nature of each plate. If you wish, other combinations of bacteria can be tried in addition to the ones above.

3. For the sake of conformity and reducing color confusion, we have adopted the following color conventions for bacterial growth on the following agar plates:

<u>On MacConkey agar:</u>
lactose fermenters (LF) = "lavender"
non-lactose fermenters (NLF) = "colorless" (i.e., greyish, whiteish)

<u>On EMB agar:</u>
LF = "purple"
NLF = "pink"

4. Next lab period record and draw results. Note color of medium, color of bacterial growth, presence of precipitate, and the absence or inhibition of growth.

Take Home Lesson: Know the principles described in the lab manual for each type of medium. Distinguish between selective and differential media. Understand that a particular medium may be both selective and differential. Describe the selective and differential nature of: EMB, MAC, PEA and MSA. What are the components in each medium and what is each component's function with respect to the medium's selective and / or differential properties?

Print and study the Selective and Differential Media handout from the web site.