Standard Laboratory Operating Procedure #2

Quantitative Plating for Environmental Monitoring of Lab Station

Laboratory: Biotech/Bioresearch/Food Science
Location: Food Science Lab
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General: Microbes play an integral role in food safety and quality. The purpose of this protocol is to provide a standardized test to ensure the safety of lab stations in a food science lab.

Safety: Safety Glasses, Gloves

Materials:

Phosphate Buffer
pH (paper, probe or meter)
3M™ Petrifilm Coliform Count Plate
Test Tubes and Rack
Incubator
Graduated Cylinder
Sterile Sponges (2in X 2in square)
Whirlpak Bags
Micropipetter (P-1000) and Tips

Procedure:

1. Pour 99 mL of phosphate buffer into Whirlpak bag container sterile sponge. Repeat this step for each cooking surface testing in the cooking lab.
2. Label each whirlpak bag with date, initials and location with a sharpie.
3. Once in cooking lab, remove the sterile sponge and swab each cooking surface to be tested for the presence of bacteria. Make sure to change gloves for each location tested to prevent contamination.
4. Once back in the biotech lab, homogenize each whirlpak bag.
5. Set-up a serial dilution for each location to be monitored for microbial growth per diagram (see Making Dilutions with 3M™ Electronic Pipettors" on 3M™ pdf).
6. Label each petrifilm plate with date, initials, location, and dilution.
7. Plate petrifilms; when plating make sure to not touch underneath the petrifilm and allow to sit for 1 minute after plating.
8. Use a circle press or the bottom of a beaker to remove all gas bubbles captured under the film.
9. Stack no more than 20 petrifilm plates together and place in an incubator at 35 degrees C for 48 hours.
10. Clean and sanitize workstation after plating using a 5% Bleach Solution.
11. For reading plates see "Procedure for Determining Counts" on 3M™ pdf.
12. Disinfect each plate by pouring 1ml of a 5% bleach solution onto plate before disposing in trash can.