

## *Microorganisms in fruits & vegetables*

*Some bacteria & molds may attack of fruits & vegetables during the growth of the plant, harvesting time, transport, storage & cause spoilage.*

- If the M.Os can penetrate the fruit or vegetables from outer layer (natural pores on its surface) ---→ can grow quickly, reproduce & spoiled the plants.*
- M.Os can enter from water, soil, air.*

### *The important characters of spoilage by M.Os*

<i>Microbial Causative Agent</i>	<i>Nature of Spoilage</i>
<i>Rhizopus</i>	<i>Cottony growth+ black spots.</i>
<i>Erwinia</i>	<i>Watery &amp; bad odder .</i>
<i>Coliforms, Lactobacillus</i>	<i>Vegetable souring.</i>
<i>Penicillium</i>	<i>Bluish-green coloration.</i>
<i>Aspergillus niger</i>	<i>Black growth</i>

### *Lab work*

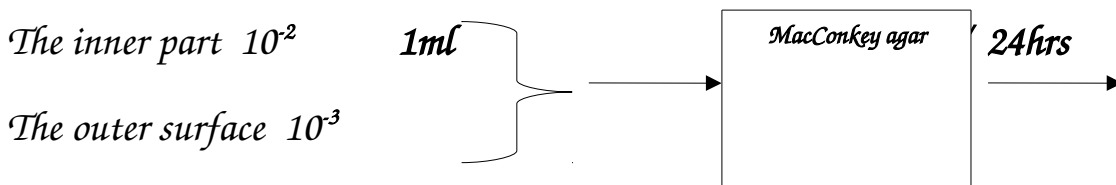
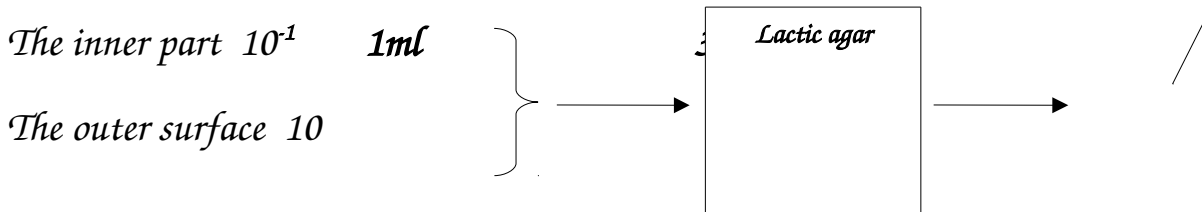
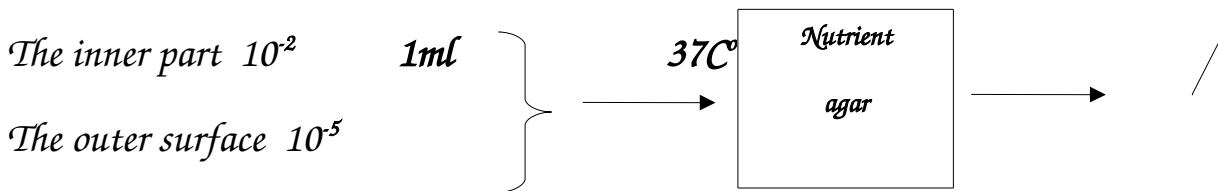
*Procedure:*

# Food microbiology

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Ten gram from Internal parts or external layer of fruits or vegetables are transferred to sterile container, mash the contents with 90 ml of D.W by mortar to get the emulsion to give a  $10^{-1}$ , the mixture is left for 3-5 min just before making other dilution.

## General medium (aerobic plate count)

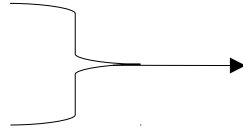


# Food microbiology

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*The inner part  $10^{-1}$*

*1ml*



*37°C / 24hrs*

*The outer surface  $10^{-2}$*

