

Control of microorganisms

The term control of microorganism refers to the reduction in numbers and/or activity of the total microbial flora.

Why need to control

Control of microorganisms is essential in order to

- prevent the transmission of diseases and infection,
- stop decomposition and spoilage, and
- prevent unwanted microbial contamination.

Methods or ways to control microbes

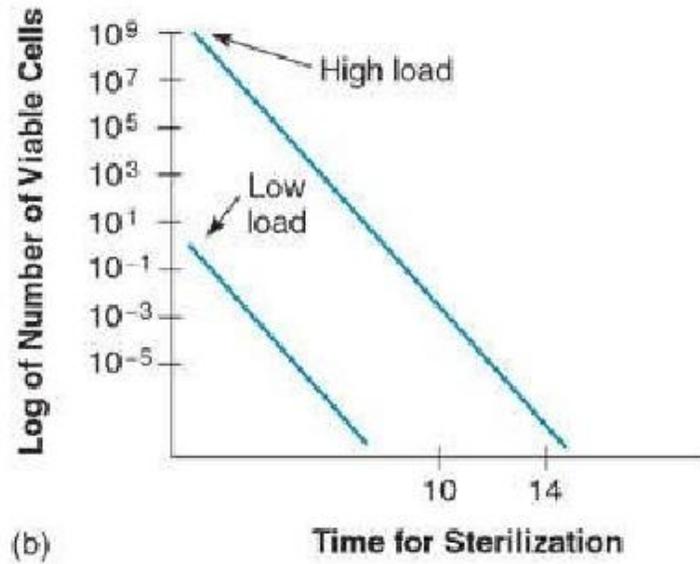
Microorganisms in a given area are controlled by removing, inhibiting or killing by means of physical processes, physical agents and chemical agents.

A. Physical agents include such methods of control as high or low temperature, desiccation, osmotic pressure, radiation, and filtration.

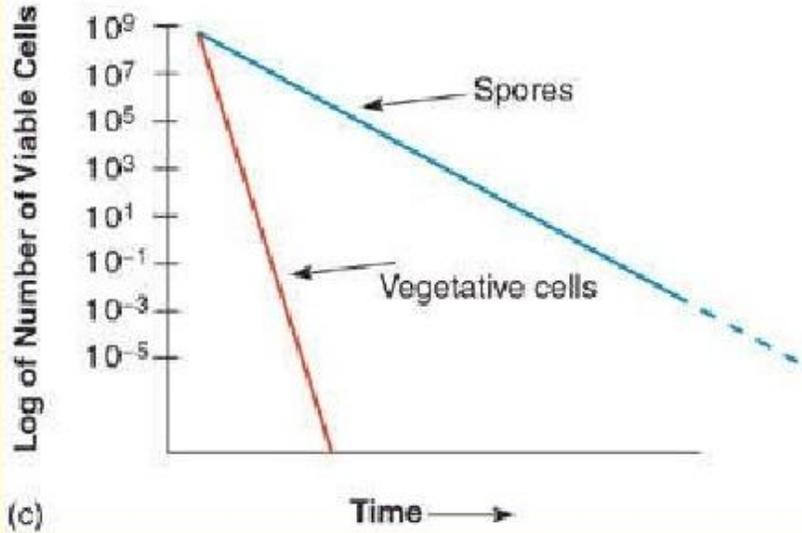
B. Control by chemical agents refers to the use of disinfectants, antiseptics, antibiotics, and chemotherapeutic antimicrobial chemicals.

Factors that influence action of antimicrobial agents:

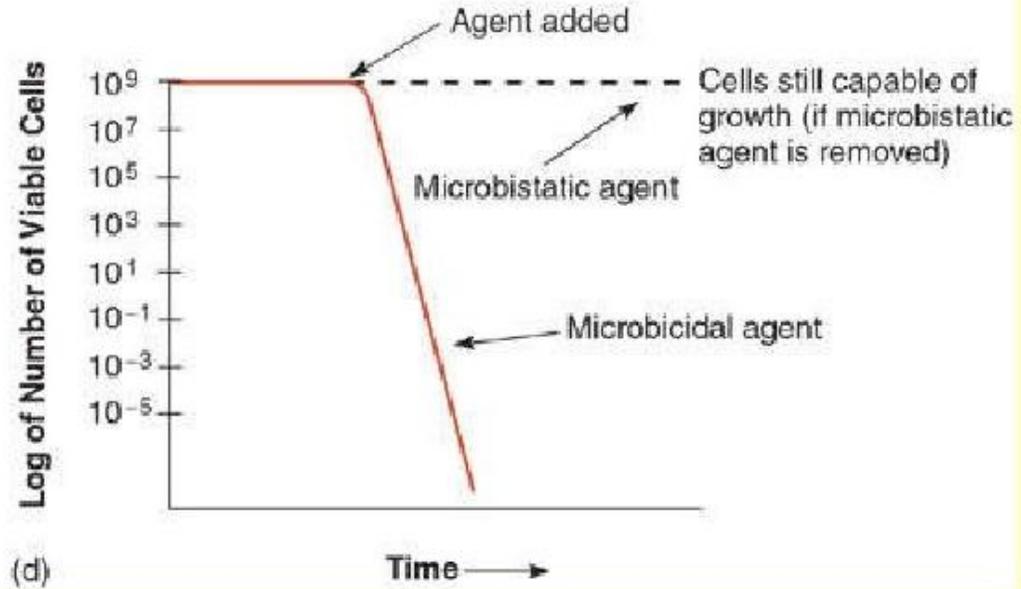
1. Number of microbes
2. Nature of microbes in the population
3. Temperature & pH of environment
4. Concentration or dosage of agent
5. Mode of action of the agent
6. Presence of solvents, organic matter, or inhibitors
- 7. Physiological state of cells**
- 8. Moisture**
- 9. Oxygen level**
- 10. Exposure time**



(b)

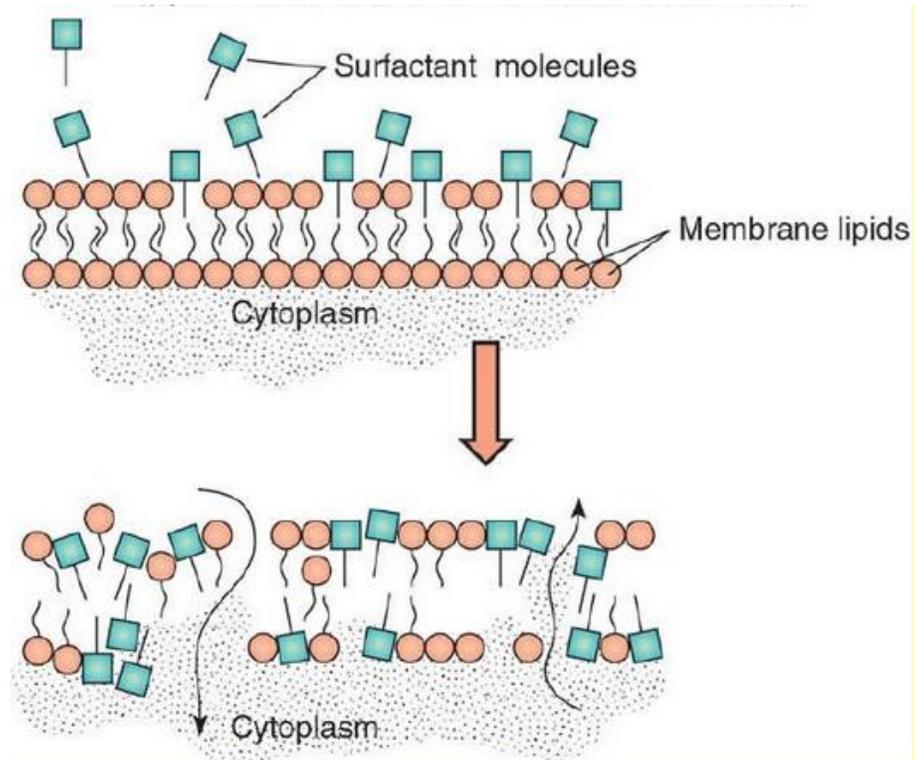


(c)



(d)

Mode of action of agents



Cellular targets of control

1. Cell wall
2. Cell membrane
3. Cellular synthetic processes (DNA, RNA)
4. Proteins

